AGENDA

COUNTY OF OXFORD COUNCIL

Wednesday, February 24, 2021, 7:00 p.m.
Online via oxfordcounty.ca/livestream
oxfordcounty.ca/livestream

1. CALL TO ORDER

2. APPROVAL OF AGENDA

Proposed Resolution:

Resolved that the Agenda be approved.

3. DISCLOSURES OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

4. ADOPTION OF COUNCIL MINUTES OF PREVIOUS MEETING

4.1. February 10, 2021

Proposed Resolution:

Resolved that the Council minutes of February 10, 2021 be adopted.

5. PUBLIC MEETINGS

5.1. Resolution to go into a Public Meeting pursuant to the Development Charges Act

Proposed Resolution:

Resolved that Council rise and go into a Public Meeting pursuant to Section 12 of the Development Charges Act, 1997, to consider the County of Oxford's 2021 Development Charges Background Study and proposed Development Charge By-laws for the County-wide and nine area-specific water and wastewater Development Charges, and that the Warden Chair the Public Meeting.

Time _____

5.1.1. County of Oxford's 2021 Development Charges (Consultant Presentation)

Watson & Associates
Background Study and Proposed Development Charge By-laws for the County-wide and Nine Area-Specific Water and Wastewater Development Charges.

Link to Development Charges and Background Study and Proposed Development Charge By-laws - Speak-Up Oxford

County-wide Water and Wastewater Development Charges Presentation (Attached)

Area-specific Water and Wastewater Development Charges Presentation (Attached)

* See Report No. CS 2021-10

5.1.2. Resolution to adjourn the Public Meeting

Resolved that Council adjourn the public meeting and reconvene as Oxford County Council with the Warden in the chair.

Time _____

5.1.3. Consideration of Report No. CS 2021-10 - Development Charges Study and Update - 2021

Proposed Resolution:

Resolved that the recommendation contained in Report No. CS 2021-10, titled "Development Charges Study and Update - 2021", be adopted.

6. DELEGATIONS, PRESENTATIONS AND CONSIDERATION THEREOF

7. CONSIDERATION OF CORRESPONDENCE

Proposed Resolution:

Resolved that correspondence items 7.1 through 7.6 inclusive on the Open meeting agenda of February 24, 2021 be received as information.

7.1. Town of Ingersoll

February 8, 2021
Re: County Composition Consideration

7.2. Township of Blandford-Blenheim

February 18, 2021
Re: County Council Composition

7.3. Infrastructure Canada

February 10, 2021
Re: Plan to Permanently Fund Public Transit and Support Economic Recovery

7.4. Minister of Agriculture, Food and Rural Affairs

February 11, 2021
Re: Home-Based Food Businesses

7.5. Ministry of Education

February 11, 2021
Re: Exemptions under the Police Record Checks Reform Act, 2015

7.6. Ministry of Municipal Affairs and Housing

February 12, 2021
Re: Termination of Declared Emergency and Amendment to Orders under the Emergency Management and Civil Protection Act and Reopening Ontario Act

8. REPORTS FROM DEPARTMENTS

8.1. CORPORATE SERVICES

8.1.1. CS 2021-10 - Development Charges Study and Update - 2021

RECOMMENDATION

1. That in addition to fulfilling the statuary requirement under the Development Charges Act, 1997 to hold a public meeting for the purpose of amending the County's Development Charge Study and By-laws taking place on February 24, 2021, County Council receives public comments submitted to the Clerk as attached to Report No. CS 2021-10.

* See Item 5.1.3

8.1.2. CS 2021-11 - Federation of Canadian Municipalities' Municipal Asset Management Program Grant Submission

RECOMMENDATIONS

1. That County Council authorize staff to apply for a grant opportunity from the Federation of Canadian Municipalities' Municipal Asset Management Program to fund $50,000 of costs related to Implementing Asset Tagging;
2. And further, that Oxford County commits to conducting the following activities in its proposed project submitted to the Federation of Canadian Municipalities' Municipal Asset Management Program to advance the County's asset management program:
3. Creation and Application of Asset ID Tags in the field, and
4. Obtain Asset Tag Materials;
5. And further, that Oxford County commits $24,900 from its Capital budget toward the cost of this initiative;
6. And further, that County Council authorize the Chief Administrative Officer and/or Director of Corporate Services to sign all documents related thereto.

Proposed Resolution:

Resolved that the recommendations contained in Report No. CS 2021-11, titled "Federation of Canadian Municipalities' Municipal Asset Management Program Grant Submission", be adopted.

8.2. PUBLIC WORKS

8.2.1. PW 2021-04 - 2020 Drinking Water System Performance

RECOMMENDATION

1. That County Council receive Report PW 2021-04 entitled "2020 Drinking Water System Performance", including the attached 2020 Annual Drinking Water System Summary Reports.

Proposed Resolution:

Resolved that the recommendation contained in Report No. PW 2021-04, titled "2020

Drinking Water System Performance", be adopted.

8.3. HUMAN SERVICES

8.3.1. HS 2021-05 - 2020 Annual Progress Report - 10 Year Shelter Plan

RECOMMENDATION

1. That Council approve the 2020 Annual Progress Report of the 10 Year Shelter Plan as illustrated in Attachment 1 and as outlined in Report No. HS 2021-05.

Proposed Resolution:

Resolved that the recommendation contained in Report No. HS 2021-05, titled "2020 Annual Progress Report - 10 Year Shelter Plan", be adopted.

9. UNFINISHED BUSINESS

9.1. Pending Items

10. MOTIONS

11. NOTICE OF MOTIONS

12. NEW BUSINESS/ENQUIRIES/COMMENTS

13. CLOSED SESSION

Proposed Resolution:

Resolved that Council rise and go into a Closed Session to consider Report No. PW (CS) 2021-05 and a correspondence item from Miller Thomson LLP regarding a proposed or pending acquisition or disposition of lands by the County of Oxford and litigation or potential litigation.

Time _____

13.1. Closed Session Begins

Time _____

13.2. Correspondence from Miller Thomson LLP

13.3. PW (CS) 2021-05

13.4. Closed Session Ends

Proposed Resolution:

Resolved that Council reconvene in Open Session.

Time _____

14. CONSIDERATION OF MATTERS ARISING FROM THE CLOSED SESSION

14.1. Correspondence from Miller Thomson LLP

Proposed Resolution:

Resolved that the correspondence from Miller Thomson LLP, dated February 18, 2021 be received;

And further, that Council direct staff to retain legal counsel on the matter.

14.2. PW (CS) 2021-05

Proposed Resolution:

Resolved that the recommendations contained in Report No. PW (CS) 2021-05 be adopted.

15. BY-LAWS

Proposed Resolutions:

Resolved that the following By-laws be now read a first and second time: 6312-2021 through 6317-2021 inclusive.

Resolved that the following By-laws be now given a third and final reading: 6312-2021 through 6317-2021 inclusive.

15.1. By-law No. 6312-2021

Being a By-law to remove certain lands from Part Lot Control.

15.2. By-law No. 6313-2021

Being a By-law to amend the expiration date of By-law No. 6208-2020, a by-law to remove certain lands from Part Lot Control.

15.3. By-law No. 6314-2021

Being a By-law to remove certain lands from Part Lot Control.

15.4. By-law No. 6315-2021

Being a By-law to repeal By-law No. 5644-2014, an amendment to By-law No. 3741-98, and further amend By-law No. 3741-98 by establishing an eastbound stop condition on Oxford Road 27 at the Ontario Southland Railway Inc. grade level crossing.

15.5. By-law No. 6316-2021

Being a By-law to remove certain lands from Part Lot Control.

15.6. By-law No. 6317-2021

Being a By-law to confirm all actions and proceedings of the Council of the County of Oxford at the meeting at which this By-law is passed.

16. ADJOURNMENT

OXFORD COUNTY COUNCIL
MINUTES

February 10, 2021

Council Participants	Warden Larry Martin Deputy Warden Ted Comiskey Councillor Trevor Birtch Councillor David Mayberry Councillor Don McKay Councillor Stephen Molnar Councillor Mark Peterson Councillor Marcus Ryan Councillor Deborah Tait Councillor Sandra Talbot
Council Absent	n/a
Staff Participants	M. Duben, Chief Administrative Officer B. Addley, Director of Paramedic Services P. Beaton, Director of Human Services L. Buchner, Director of Corporate Services M. Cowan, Manager of Information Services M. Dager, Director of Woodingford Lodge G. Hough, Director of Community Planning C. Senior, Clerk D. Simpson, Director of Public Works A. Smith, Director of Human Resources

1. CALL TO ORDER

Oxford County Council meets electronically in regular session this tenth day of February, 2021 at 9:30 a.m. with Warden Martin in the chair.

2. APPROVAL OF AGENDA

RESOLUTION NO. 1
Moved By: Marcus Ryan
Seconded By: Don McKay

Resolved that the agenda be approved.

DISPOSITION: Motion Carried

3. DISCLOSURES OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

NIL

4. ADOPTION OF COUNCIL MINUTES OF PREVIOUS MEETING

4.1 January 27, 2021

RESOLUTION NO. 2
Moved By: Marcus Ryan
Seconded By: Don McKay

Resolved that the Council minutes of January 27, 2021 be adopted.

DISPOSITION: Motion Carried

5. PUBLIC MEETINGS

5.1 Resolution to go into a Public Meeting pursuant to the Planning Act

RESOLUTION NO. 3
Moved By: Don McKay
Seconded By: Mark Peterson

Resolved that Council rise and go into a Public Meeting pursuant to the *Planning Act*, and that the Warden chair the Public Meeting.

DISPOSITION: Motion Carried (9:35 a.m.)

5.1.1 Application for Official Plan Amendment OP 20-01-8 - Southside Construction Management Ltd.

To redesignate the subject lands from "Community Facility" to "Residential" and "High Density" to facilitate a 5-storey apartment building with a total of 78 dwelling units in the City of Woodstock.

The Chair asks Gord Hough, Director of Community Planning to present the application. G. Hough summarizes the application as contained in Report No. CP 2021-44 - Application for Official Plan Amendment - OP 20-01-8 – Southside Construction Management Ltd.

G. Hough, through use of a map, indicates that the application is to redesignate the subject lands from “Community Facility” to “Residential” and “High Density Residential” to facilitate the development of a 5-storey apartment building with a total of 78 units on the site of the former St. Mary’s Church in Woodstock. G. Hough indicates that the current designation was put in place for a retirement home but is now proposed as high density residential.

G. Hough indicates that the surrounding area consists primarily of low density residential homes, some industrial sites and are in close proximity to the CP railway, adding that several reports and studies have been undertaken regarding the suitability of the proposal including traffic, noise and vibration and a shadow impact study, all of which are acceptable with some construction work.

G. Hough speaks to the letters received from members of the public with regards to traffic, school bus loading and compatibility of the project. He then indicates that in the time since the proposal was considered by the City of Woodstock, staff were made aware of a former cemetery which was associated with St. Mary's Church, indicating that staff have been in contact with the Diocese of London who identified that the cemetery had been moved to the Catholic cemetery on Beachville Road but were unable to provide firm documentation. G. Hough indicates that in order to ensure the issue is appropriately addressed, City of Woodstock staff are undertaking an archeological assessment to determine whether or not there are any concerns with proceeding with the development. In closing G. Hough indicates staff are satisfied with the proposal and are recommending Council support.

The Chair opens the meeting to questions from members of Council. G. Hough responds to comments and questions from Councillors Molnar and Talbot.

The Chair invites Dave Hannam, Senior Associate, Zelinka Priamo, to speak on the matter.

D. Hannam joins the meeting via WebEx, indicating full support of the application.

The Chair opens the meeting to questions from members of Council. There are none.

No additional individuals pre-registered to speak regarding this matter.

5.1.2 Application for Official Plan Amendment & Draft Plan of Subdivision Approval - OP 20-18-7 & SB 20-06-7 - Southside Construction Management Ltd.

To amend the County Official Plan to redesignate a portion of the subject lands from "Medium Density Residential" to "Low Density Residential" to facilitate a proposed cul de sac with 16 single detached dwellings in the Town of Tillsonburg.

The Chair asks Gord Hough, Director of Community Planning to present the application. G. Hough summarizes the application as contained in Report No. CP 2021-42 – Application for Official Plan Amendment & Draft

Plan of Subdivision Approval – OP 20-18-7 & SB 20-06-7 – Southside Construction Management Ltd.

G. Hough, through use of a map, indicates this application is for an Official Plan Amendment and Draft Plan of Subdivision on the west side of Tillsonburg, indicating that the applicant is proposing to amend a portion of the subject lands from medium density residential to low density residential. G. Hough further indicates that the archeological assessment conducted on the proposed park block to the south of the proposal has identified some remains on the property. Rather than disturb the remains and due to the uncertainty as to whether or not the lands can be used for anything, the applicant is proposing that portion be retained by the owner through private ownership as a park lot in order to preserve the archeological components of that block.

In closing, G. Hough indicates that staff are satisfied with the location, road patterns and retaining the remaining lots as medium density residential and are recommending Council's support of the application adding that the matter was heard at Town of Tillsonburg Council and was supported.

The Chair opens the meeting to questions from members of Council. There are none.

The Chair invites Casey Kulchycki, Senior Planner with Zelinka Priamo and Michael Frejia, Development Manager for the Southside Group to speak on the matter.

C. Kulchycki joins the meeting via telephone, indicating full support of the recommendations as contained in the report and speaks to the ongoing dialogue between them, Town of Tillsonburg and County staff regarding the best way forward with respect to the parkland.

The Chair opens the meeting to questions from members of Council. C. Kulchycki responds to comments and questions from Councillor Molnar.

M. Freija joins the meeting via telephone, indicating full support of the recommendations as contained in the report.

The Chair opens the meeting to questions from members of Council. There are none.

No additional individuals pre-registered to speak regarding this matter.

5.1.3 Application for Official Plan Amendment OP 20-13-7 - Escalade Property Corporation & 1822094 Ontario Inc.

To amend the County Official Plan to redesignate the subject lands from "Service Commercial" to "Residential" and "High Density Residential" to facilitate the development of two 5-storey, 49 unit apartment buildings in the Town of Tillsonburg.

The Chair asks Gord Hough, Director of Community Planning to present the application. G. Hough summarizes the application as contained in Report No. CP 2021-32 – Application for Official Plan Amendment – OP 20-13-7 – Escalade Property Corporation & 1822094 – Ontario Inc.

G. Hough, through use of a map, indicates that the application is located to the north and east of Tillsonburg's central business area on lands currently designated as Service Central. The applicant is proposing the lands be redesignated to Residential and High Density Residential to facilitate the development of two 5-storey apartment buildings, each consisting of 49 apartment units, indicating that a high density designation is considered appropriate due to its proximity to low and medium density dwellings in the vicinity of the proposed development.

G. Hough indicates there is an operational rail line which runs through this area which is operated by Ontario Southland. The results of the noise impact study indicate the noise levels to be suitable and specific construction methods will need to be employed in order to reduce the noise impacts on the overall development. G. Hough further adds that the County and Town of Tillsonburg have reviewed the traffic studies and consider the results to be appropriate. In closing. G. Hough indicates that staff are recommending support of the application and that Town of Tillsonburg Council is also recommending support.

The Chair opens the meeting to questions from members of Council. There are none.

No individuals pre-registered to speak regarding this matter.

5.1.4 Application for Official Plan Amendment OP 20-19-8 - County of Oxford

To redesignate the subject lands from "Community Facility" to "Residential" and "Medium Density Residential" to facilitate a 4-storey apartment building with a total of 48 dwelling units in the City of Woodstock.

The Chair asks Gord Hough, Director of Community Planning to present the application. G. Hough summarizes the application as contained in Report No. CP 2021-45 – Application for Official Plan Amendment – OP 20-19-8 – County of Oxford.

G. Hough, through use of a map, indicates that this application is being facilitated by the County of Oxford in the City of Woodstock immediately on the south side of Woodingford Lodge on lands which are owned by the County. G. Hough indicates that the subject property went through a zoning amendment in 2019 to allow for a 7-storey retirement home, which did not proceed. The current proposal is for a 4-storey, 48 unit affordable housing apartment building which is in close proximity to previously approved affordable townhouse units which are currently under development.

In closing, G. Hough speaks to comments and concerns received by members of the public of which most are concerning traffic, indicating that City of Woodstock and County of Oxford staff have reviewed the traffic studies and are satisfied with the proposal. He further adds that the City of Woodstock voted in favour of the application at a recent Council meeting.

The Chair opens the meeting to questions from members of Council. There are none.

5.1.5 Resolution to adjourn the Public Meeting

RESOLUTION NO. 4
Moved By: Don McKay
Seconded By: Mark Peterson

Resolved that Council adjourn the Public Meeting and reconvene as Oxford County Council with the Warden in the chair.

DISPOSITION: Motion Carried (10:08 a.m.)

5.2 Consideration of Report No. CP 2021-44 - Application for Official Plan Amendment - OP 20-01-8 – Southside Construction Management Ltd.

RESOLUTION NO. 5
Moved By: Trevor Birtch
Seconded By: Deborah Tait

Resolved that the recommendations contained in Report No. CP 2021-44, titled "Application for Official Plan Amendment - OP 20-01-8 – Southside Construction Management Ltd.", be adopted.

DISPOSITION: Motion Carried

5.3 Consideration of Report No. CP 2021-42 - Application for Official Plan Amendment & Draft Plan of Subdivision Approval - OP 20-18-7 & SB 20-06-7 – Southside Construction Management Ltd.

RESOLUTION NO. 6
Moved By: Stephen Molnar
Seconded By: David Mayberry

Resolved that the recommendations contained in Report No. CP 2021-42, titled "Application for Official Plan Amendment & Draft Plan of Subdivision Approval - OP 20-18-7 & SB 20-06-7 – Southside Construction Management Ltd.", be adopted.

DISPOSITION: Motion Carried

5.4 Consideration of Report No. CP 2021-32 - Application for Official Plan Amendment - OP 20-13-7 – Escalade Property Corporation & 1822094 Ontario Inc.

RESOLUTION NO. 7
Moved By: Stephen Molnar
Seconded By: David Mayberry

Resolved that the recommendations contained in Report No. CP 2021-32, titled "Application for Official Plan Amendment - OP 20-13-7 – Escalade Property Corporation & 1822094 Ontario Inc.", be adopted.

DISPOSITION: Motion Carried

5.5 Consideration of Report No. CP 2021-45 - Application for Official Plan Amendment - OP 20-19-8 – County of Oxford

RESOLUTION NO. 8
Moved By: Deborah Tait
Seconded By: Ted Comiskey

Resolved that the recommendations contained in Report No. CP 2021-45, titled "Application for Official Plan Amendment - OP 20-19-8 – County of Oxford", be adopted.

DISPOSITION: Motion Carried

6. DELEGATIONS, PRESENTATIONS AND CONSIDERATION THEREOF

6.1 Strategy Corp.

Joint Service Delivery Review Workshop
John Matheson, Principal
Michael Fenn, Senior Advisor

* This item takes place following Item 12.0 (New Business)

7. CONSIDERATION OF CORRESPONDENCE

NIL

8. REPORTS FROM DEPARTMENTS

8.1 COMMUNITY PLANNING

8.1.1 CP 2021-44 - Application for Official Plan Amendment - OP 20-01-8 – Southside Construction Management Ltd.

RECOMMENDATIONS

1. That Oxford County Council approve Application No. OP 20-01-8 submitted by Southside Construction Management Ltd., for lands described as Park Lot 6, s/s Ingersoll Avenue, Plan 10 in the City of Woodstock, to redesignate the subject lands from ‘Community Facility’ to ‘Residential’ and ‘High Density Residential’ to facilitate a 5-storey apartment building with a total of 78 dwelling units;

2. And further, that Council approve the attached Amendment No. 256 to the County of Oxford Official Plan;

3. And further, that the necessary by-law to approve Amendment No. 256 be raised.

The Report was dealt with under Public Meetings

8.1.2 CP 2021-42 - Application for Official Plan Amendment & Draft Plan of Subdivision Approval - OP 20-18-7 & SB 20-06-7 – Southside Construction Management Ltd.

RECOMMENDATIONS

1. That Oxford County Council approve the application to amend the County Official Plan (File No. OP 20-18-7), submitted by Southside Construction Management Limited, for lands legally described as Lot 8, Concession 11 (Dereham), in the Town of Tillsonburg, to redesignate a portion of the subject lands from ‘Medium Density Residential’ to ‘Low Density Residential’, to facilitate a proposed cul de sac with 16 single detached dwellings;

2. And further, that Council approve the attached Amendment No. 253 to the County of Oxford Official Plan;

3. And further, that the necessary by-law to approve Amendment No. 253 be raised;

4. And that Oxford County Council grant draft approval to a proposed residential subdivision submitted by Southside Construction Management Limited (SB 20-06-7) prepared by Development Engineering (London) Limited, dated October 28, 2020, for lands described as Lot 8, Concession 11 (Dereham), in the Town of Tillsonburg, subject to the conditions attached to this report as Schedule “A” being met prior to final approval.

The Report was dealt with under Public Meetings

8.1.3 CP 2021-32 - Application for Official Plan Amendment - OP 20-13-7 – Escalade Property Corporation & 1822094 Ontario Inc.

RECOMMENDATIONS

1. That Oxford County Council approve the application to amend the County Official Plan (File No. OP 20-13-7), submitted by 1822094 Ontario Inc & Escalade Property Corporation, for lands legally described as Part of Lots 293, 341, 423-426, Lots 420-422, Plan 500, in the Town of Tillsonburg, to redesignate the subject lands from ‘Service Commercial’ to ‘Residential’ and ‘High Density Residential’, to facilitate the development of two 5-storey, 49 unit apartment buildings on the said lands;

2. And further, that Council approve the attached Amendment No. 252 to the County of Oxford Official Plan;

3. And further, that the necessary by-law to approve Amendment No. 252 be raised.

The Report was dealt with under Public Meetings

8.1.4 CP 2021-45 - Application for Official Plan Amendment - OP 20-19-8 – County of Oxford

RECOMMENDATIONS

1. That Oxford County Council approve Application No. OP 20-19-8 submitted by the County of Oxford, for lands described as Part Lot 17, Plan 1616 & Parts 2, 3 & 6, 41R-6983 in the City of Woodstock, to redesignate the subject lands from ‘Community Facility’ to ‘Residential’ and ‘Medium Density Residential’ to facilitate a 4-storey apartment building with a total of 48 dwelling units;

2. And further, that Council approve the attached Amendment No. 255 to the County of Oxford Official Plan;

3. And further, that the necessary by-law to approve Amendment No. 255 be raised.

The Report was dealt with under Public Meetings

8.2 HUMAN SERVICES

8.2.1 HS 2021-04 - Affordable Housing Project at 738 Parkinson Road, Woodstock

RECOMMENDATIONS

1. That County Council authorize the allocation of up to $1,122,834 from the Social Service Relief Fund (SSRF) to facilitate the development of an 8 unit affordable housing project on County owned lands located at 738 Parkinson Road, Woodstock;

2. And further, that County Council authorize the Director of Human Services and the Chief Administrative Officer to execute a Municipal Housing Facilities Agreement and all other necessary documents related to the development of 8 affordable housing units at 738 Parkinson Road, Woodstock.

RESOLUTION NO. 9
Moved By: Sandra Talbot
Seconded By: Trevor Birtch

Resolved that the recommendations contained in Report No. HS 2021-04, titled “Affordable Housing Project at 738 Parkinson Road, Woodstock”, be adopted.

DISPOSITION: Motion Carried

8.3 PUBLIC WORKS

8.3.1 PW 2021-03 - Oxford Road 27 – Eastbound Stop Implementation at Ontario Southland Railway Grade Level Crossing

RECOMMENDATIONS

1. That County Council authorize the implementation of an eastbound stop condition on Oxford Road 27 at the Ontario Southland Railway Inc. grade level crossing;

2. And further, that a by-law be presented to County Council to amend By-law No. 3741-98 to designate an eastbound stop condition on Oxford Road 27 at the Ontario Southland Railway Inc. grade level crossing;

3. And further, that Report No. PW 2021-03, along with a copy of the amended By-law, be circulated to the Township of South-West Oxford, Ontario Southland Railway Inc. and the Ontario Provincial Police and Emergency Services for their information.

RESOLUTION NO. 10
Moved By: David Mayberry
Seconded By: Sandra Talbot

Resolved that the recommendations contained in Report No. PW 2021-03, titled “Oxford Road 27 – Eastbound Stop Implementation at Ontario Southland Railway Grade Level Crossing”, be adopted.

DISPOSITION: Motion Carried

8.4 CORPORATE SERVICES

8.4.1 CS 2021-07 - Investment Activity Report and Policy Review - 2020

RECOMMENDATION

1. That Report No. CS 2021-07 entitled “Investment Activity Report and Policy Review - 2020”, for the year ended December 31, 2020, be received as information.

RESOLUTION NO. 11
Moved By: David Mayberry
Seconded By: Sandra Talbot

Resolved that the recommendation contained in Report No. CS 2021-07, titled “Investment Activity Report and Policy Review – 2020”, be adopted.

DISPOSITION: Motion Carried

8.4.2 CS 2021-08 - Council Remuneration and Expenses - 2020

RECOMMENDATION

1. That Report No. CS 2021-08 entitled “Council Remuneration and Expenses - 2020”, for the year ended December 31, 2020, be received as information.

RESOLUTION NO. 12
Moved By: Ted Comiskey
Seconded By: Marcus Ryan

Resolved that the recommendation contained in Report No. CS 2021-08, titled “Council Remuneration and Expenses – 2020”, be adopted.

DISPOSITION: Motion Carried

8.4.3 CS 2021-09 - OILC Financing Application - County

RECOMMENDATION

1. That By-law No. 6310-2021, being a by-law to authorize the submission of an application to the Ontario Infrastructure Lands Corporation for long-term borrowing through the issue of debentures in the aggregate amount of $3,968,436 for the purposes of the County of Oxford, be presented to Council for enactment.

RESOLUTION NO. 13
Moved By: Ted Comiskey
Seconded By: Marcus Ryan

Resolved that the recommendation contained in Report No. CS 2021-09, titled “OILC Financing Application – County”, be adopted.

DISPOSITION: Motion Carried

9. UNFINISHED BUSINESS

9.1 Pending Items

No discussion takes place regarding the Pending Items List.

10. MOTIONS

NIL

11. NOTICE OF MOTIONS

NIL

12. NEW BUSINESS/ENQUIRIES/COMMENTS

Councillor Molnar indicates that Infrastructure Canada has just announced the establishment of a plan to permanently fund public transit beginning in 2026. More information is expected at the next County Council meeting.

13. CLOSED SESSION

NIL

14. CONSIDERATION OF MATTERS ARISING FROM THE CLOSED SESSION

NIL

Councillor Birtch leaves the meeting at 10:23 a.m.

6. DELEGATIONS, PRESENTATIONS AND CONSIDERATION THEREOF

6.1 Strategy Corp.
Joint Service Delivery Review Workshop
John Matheson, Principal
Michael Fenn, Senior Advisor

John Matheson joins the meeting via WebEx and proceeds through a PowerPoint presentation which has been released to the County website, indicating that the workshops held at the eight area municipalities were positive experiences.

Michael Fenn joins the meeting via WebEx and was available for comments and questions from members of Council.

J. Matheson responds to comments and questions from Councillor Molnar.

In closing, M. Duben thanks the consultants for their work, indicating he will meet with the area CAO's to develop a plan on next steps. Warden Martin also thanks the consultants for their presentations, indicating this was a worthwhile exercise.

15. BY-LAWS

15.1 By-law No. 6304-2021
Being a By-Law to adopt Amendment Number 252 to the County of Oxford Official Plan.

15.2 By-law No. 6305-2021
Being a By-Law to adopt Amendment Number 253 to the County of Oxford Official Plan.

15.3 By-law No. 6306-2021
Being a By-law to remove certain lands from Part Lot Control.

15.4 By-law No. 6307-2021
Being a By-Law to adopt Amendment Number 256 to the County of Oxford Official Plan.

15.5 By-law No. 6308-2021
Being a By-Law to adopt Amendment Number 255 to the County of Oxford Official Plan.

15.6 By-law No. 6309-2021
Being a By-law to remove certain lands from Part Lot Control

15.7 By-law No. 6310-2021
Being a by-law to approve submission of an application to Ontario Infrastructure and Lands Corporation ("OILC") for the long-term financing of certain capital work(s) of the County of Oxford (the "Municipality"); and to authorize the entering into of a rate offer letter agreement pursuant to which the Municipality will issue debentures to OILC.

15.8 By-law No. 6311-2021
Being a By-law to confirm all actions and proceedings of the Council of the County of Oxford at the meeting at which this By-law is passed.

RESOLUTION NO. 14
Moved By: Mark Peterson
Seconded By: Stephen Molnar

Resolved that the following By-laws be now read a first and second time: 6304-2021 to 6311-2021 inclusive.

DISPOSITION: Motion Carried

RESOLUTION NO. 15
Moved By: Mark Peterson
Seconded By: Stephen Molnar

Resolved that the following By-laws be now given a third and final reading: 6304-2021 to 6311-2021 inclusive.

DISPOSITION: Motion Carried

16. ADJOURNMENT

Council adjourns its proceedings at 11:22 a.m. until the next meeting scheduled for February 24, 2021 at 7:00 p.m.

Minutes adopted on _____ by Resolution No. _____.

_____

WARDEN

_____

CLERK

Watson & Associates ECONOMISTS LTD.

County of Oxford – County Wide 2021 Development Charges Update Study

Public Meeting

February 24, 2021

Introduction

Public Meeting Purpose

- This meeting is a mandatory requirement under the *Development Charges Act* (D.C.A.)
- Prior to Council's consideration of a by-law, a background study must be prepared and available to the public a minimum of 2 weeks prior to a public meeting and provided on the municipality's website 60 days prior to by-law passage
- Purpose of the public meeting is to provide an overview of the proposed amendment and to receive public input on the matter

Introduction

Development Charges Update Study and By-law Amendment

- Development Charges (D.C.) Update Study prepared to amend the County's 2019 D.C. Background Study and By-law 6121-2019 for County-Wide Services
- Purpose of the proposed D.C. by-law amendment is to:
  - Reflect recent amendments to the D.C.A. made through the *More Homes, More Choice Act*, and *COVID-19 Economic Recovery Act*, including:
    - Changes to the D.C. recoverable costs (i.e. removal of the 10% statutory deduction, updates to capital cost estimates and reallocation of service specific growth-related studies); and
    - Changes to the timing of calculation and collection of D.C.s and statutory exemptions
- All other components of the 2019 D.C. Background Study and D.C. By-law 6121-2019 remain unchanged

D.C. By-law Amendment

D.C. Eligible Costs

- Changes to the D.C. recoverable costs by service include:
  - Removal of the 10% statutory deduction from the calculation of the charge for Parks and Recreation Services and Administration Studies
  - Additional capital costs for Growth-Related Studies
  - Reallocation of service specific studies and inclusion of D.C. amendment costs

Service/Class	D.C. Eligible Costs		
	2019 D.C. Study	By-law Amendment	Change ($)
County Wide Services/Classes of Service:			
Growth-Related Studies	689,941	750,449	60,508
Land Ambulance	1,803,236	2,031,251	228,015
Roads and Related	19,677,720	19,677,720	-
Library Services	1,216,714	1,288,362	71,648
Waste Diversion	228,389	253,766	25,377
Total	**23,616,000**	**24,001,548**	**385,548**

2020 D.C. Amendment

Proposed Schedule of Charges

2019$

Service/Class	RESIDENTIAL				NON-RESIDENTIAL	
	Single and Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments - Bachelor and 1 Bedroom	Other Multiples	(per sq.m. of Gross Floor Area)	(per Wind Turbine)
County Wide Services/Classes of Service:						
Growth-Related Studies	102	54	37	64	0.37	102
Land Ambulance	328	175	118	206	1.27	328
Roads and Related	2,651	1,413	956	1,665	10.22	2,651
Library Services[1]	434	231	156	273	0.40	-
Waste Diversion	31	17	11	20	0.16	-
Total County Wide Services/Classes of Service	**3,546**	**1,890**	**1,278**	**2,228**	**12.43**	**3,081**

2021$

Service/Class	RESIDENTIAL				NON-RESIDENTIAL	
	Single and Semi-Detached Dwelling	Apartments - 2 Bedrooms +	Apartments - Bachelor and 1 Bedroom	Other Multiples	(per sq.m. of Gross Floor Area)	(per Wind Turbine)
County Wide Services/Classes of Service:						
Growth-Related Studies	108	57	39	67	0.39	108
Land Ambulance	346	185	124	217	1.34	346
Roads and Related	2,795	1,490	1,008	1,756	10.78	2,794
Library Services[1]	458	244	165	288	0.42	-
Waste Diversion	33	18	12	21	0.17	-
Total County Wide Services/Classes of Service	**3,740**	**1,994**	**1,348**	**2,349**	**13.10**	**3,248**

1 The charge for Library Services does not apply in Woodstock

D.C. Impacts and Municipal Comparisons

2020 D.C. Amendment

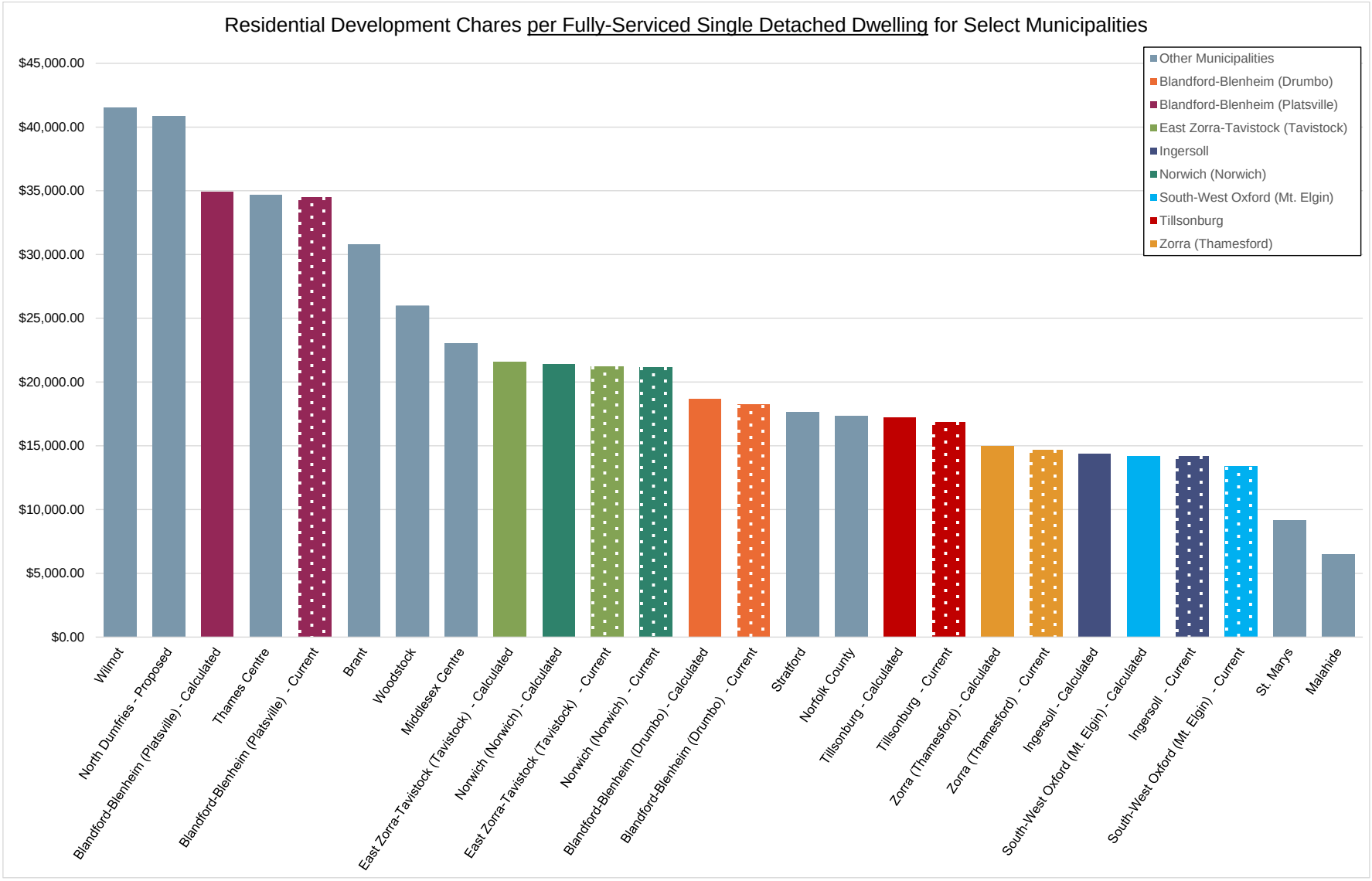
Development Charge Comparison (2021$)

Service/Class	Current	D.C. By-law Amendment	Change ($)	Change (%)
Residential Single and Semi-Detached Dwelling				
County Wide Services/Classes of Service:				
Growth-Related Studies	98	108	10	10.2%
Land Ambulance	314	346	32	10.2%
Roads and Related	2,795	2,795	-	0.0%
Library Services[1]	432	458	26	6.0%
Waste Diversion	30	33	3	10.0%
Total County Wide Services/Classes of Service	**3,669**	**3,740**	**71**	**1.9%**
Non-Residential (per sq. m. of Gross Floor Area)				
County Wide Services/Classes of Service:				
Growth-Related Studies	0.38	0.39	0.01	2.6%
Land Ambulance	1.21	1.34	0.13	10.7%
Roads and Related	10.78	10.78	-	0.0%
Library Services[1]	0.39	0.42	0.03	7.7%
Waste Diversion	0.16	0.17	0.01	6.3%
Total County Wide Services/Classes of Service	**12.92**	**13.10**	**0.18**	**1.4%**

[1] The charge for Library services does not apply in Woodstock.

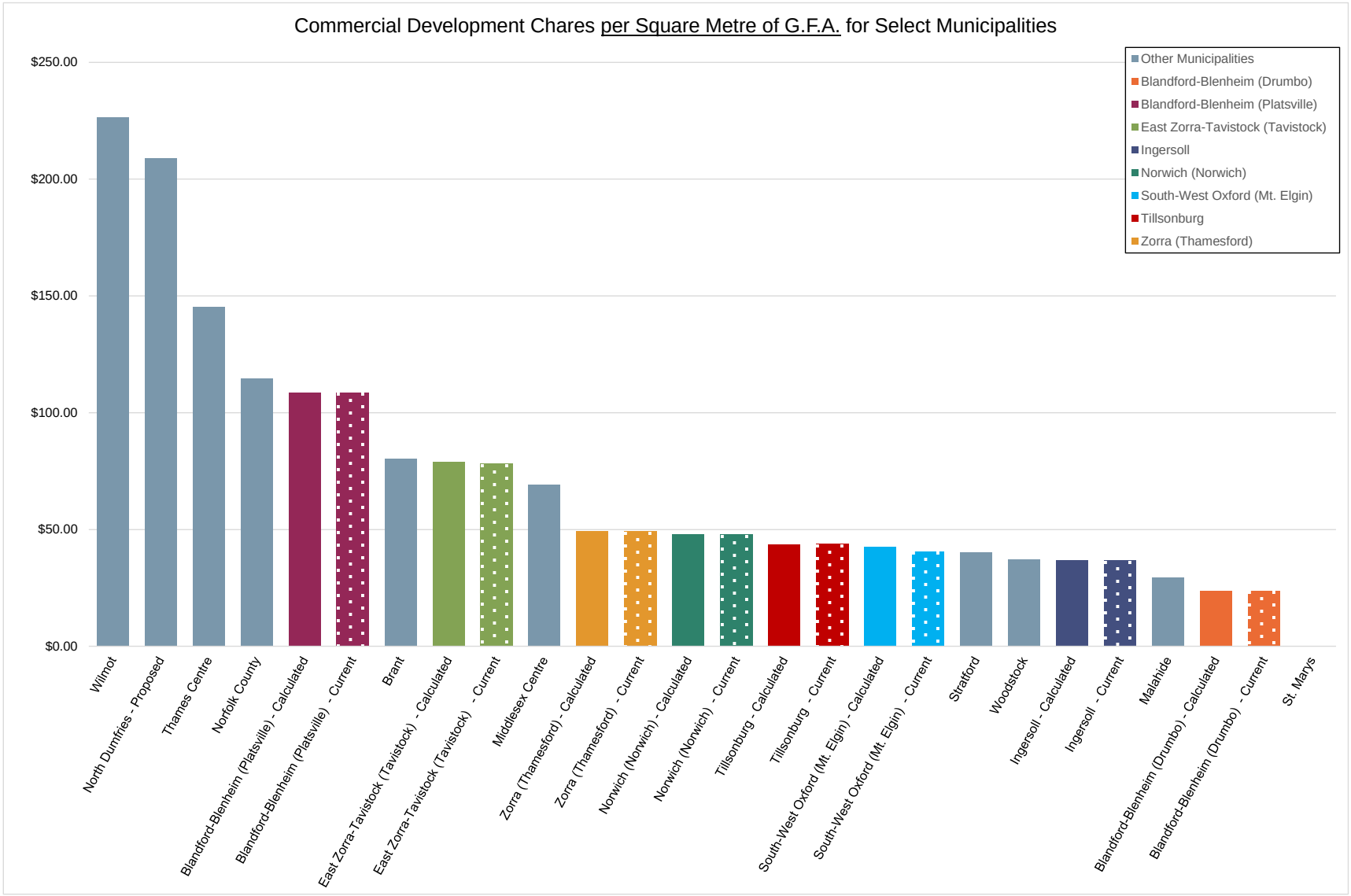
Municipal D.C. Comparison

per Single Detached Residential Dwelling Unit (2021$)



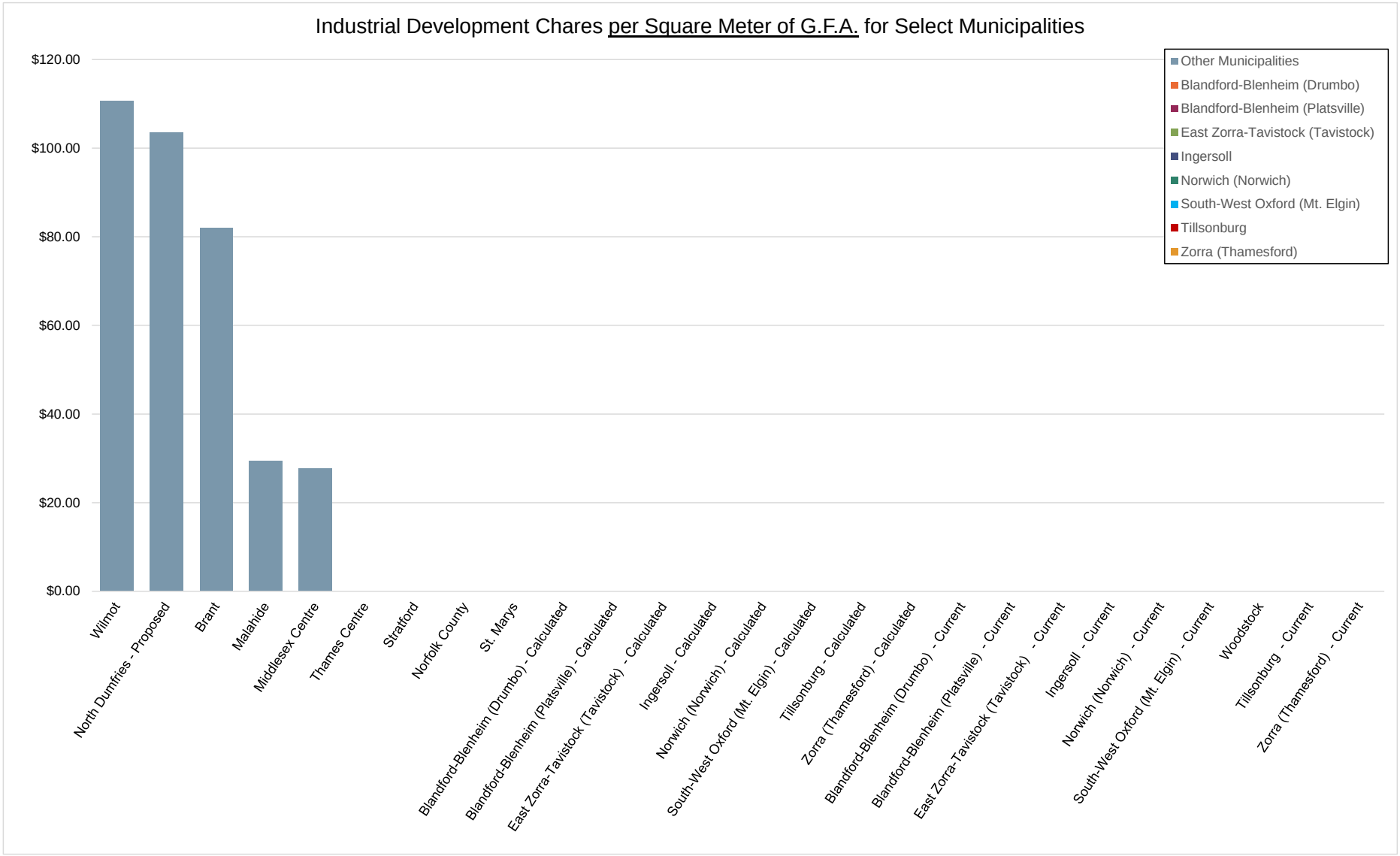
Municipal D.C. Comparison

$ per sq.m. of Commercial Gross Floor Area (2021$)



Municipal D.C. Comparison

$ per sq.m. of Industrial Gross Floor Area (2021$)



D.C. By-law Policies

D.C. By-Law Policies

- **Except for the following revisions, policies contained within By-law 6121-2019, remain unchanged**
- Rental housing and institutional developments will pay D.C.s in 6 equal annual payments, commencing from the date of occupancy
- Non-profit housing will pay D.C.s in 21 equal annual payments, commencing from the date of occupancy
- D.C. for developments proceeding through Site Plan or Zoning By-law Amendment will be determined based on the charges in effect on the day the application is made
  - Charges to be frozen for a maximum period of 2 years after planning application approval

D.C. By-Law Policies

Interest Charges

- Interest on installment payments and charges calculated at Site Plan or Zoning By-Law Amendment application will be imposed as identified the County's amending by-law. Proposed policy is consistent with that of the area-municipalities (excl. Woodstock).
  - Interest to be charged at the Bank of Canada Prime lending rate + 2%
  - Interest rate to be determined at April 1st of each year
  - This interest rate is to be fixed throughout the duration of the installment payments

D.C. By-Law Policies

Statutory Exemptions

- Residential intensification (within existing residential buildings or structures ancillary to existing residential buildings):
  - May add up to two apartments for a single detached home as long as size of home doesn't double
  - Add one additional unit in medium & high density buildings
- The creation of a second dwelling unit in prescribed classes of new residential buildings, including structures ancillary to dwellings

Next Steps

Next Steps

- Council will receive input from the public and consider any amendments to the D.C Update Study and draft amending By-law
- Council to approve D.C Update Study and consider adoption of amending D.C. By-law – March 24, 2021
- By-law effective date – April 1, 2021

Watson & Associates ECONOMISTS LTD.

County of Oxford 2021 Development Charges Update Study – Area-Specific By-laws

Public Meeting

February 24, 2021

Introduction

Public Meeting Purpose

- This meeting is a mandatory requirement under the *Development Charges Act* (D.C.A.)
- Prior to Council's consideration of a by-law, a background study must be prepared and available to the public a minimum of 2 weeks prior to a public meeting and provided on the municipality's website 60 days prior to by-law passage
- Purpose of the public meeting is to provide an overview of the proposed amendment and to receive public input on the matter

Introduction

Summary of Oxford County Area-Specific D.C. By-laws

Service Area	By-law Number	Services Covered	
		Water	Wastewater
Woodstock	6122-2019	✓	✓
Tilsonburg	6123-2019	✓	✓
Ingersoll	6124-2019	✓	✓
East Zorra-Tavistock (Tavistock)	6125-2019	✓	✓
Norwich (Norwich)	6126-2019	✓	✓
Zorra (Thamesford)	6127-2019	✓	
Blandford-Blenheim (Plattsville)	6128-2019	✓	✓
Blandford-Blenheim (Drumbo)	6129-2019		✓
South-West Oxford (Mt. Elgin)	6130-2019	✓	✓

Introduction

Development Charges Update Study and By-law Amendment

- Development Charges (D.C.) Update Study prepared to amend the County's 2019 D.C. Background Study and Area-Specific By-laws
- Purpose of the proposed D.C. by-law amendments is to:
  - Reflect recent amendments to the D.C.A. made through the *More Homes, More Choice Act*, and *COVID-19 Economic Recovery Act*, including:
    - Changes to the timing of calculation and collection of D.C.s and statutory exemptions
- All other components of the 2019 D.C. Background Study and Area-Specific D.C. By-laws remain unchanged

D.C. By-law Policies

D.C. By-Law Policies

Calculation and Collection

- Rental housing and institutional developments will pay D.C.s in 6 equal annual payments, commencing from the date of occupancy
- Non-profit housing will pay D.C.s in 21 equal annual payments, commencing from the date of occupancy
- D.C. for developments proceeding through Site Plan or Zoning By-law Amendment will be determined based on the charges in effect on the day the application is made
    - Charges to be frozen for a maximum period of 2 years after planning application approval

D.C. By-Law Policies

Interest Charges

- Interest on installment payments and charges calculated at Site Plan or Zoning By-Law Amendment application will be imposed as identified the County's amending by-law. Proposed policy is consistent with that of the area-municipalities (excl. Woodstock).
  - Interest to be charged at the Bank of Canada Prime lending rate + 2%
  - Interest rate to be determined at April 1st of each year
  - This interest rate is to be fixed throughout the duration of the installment payments

D.C. By-Law Policies

Statutory Exemptions

- Residential intensification (within existing residential buildings or structures ancillary to existing residential buildings):
  - May add up to two apartments for a single detached home as long as size of home doesn't double
  - Add one additional unit in medium & high density buildings
- The creation of a second dwelling unit in prescribed classes of new residential buildings, including structures ancillary to dwellings

Next Steps

Next Steps

- Council will receive input from the public and consider any amendments to the D.C Update Study and draft amending By-law
- Council to approve D.C Update Study and consider adoption of amending D.C. By-law – March 24, 2021
- By-law effective date – April 1, 2021

Town of Ingersoll
Resolution of Council
Regular Meeting of Council
February 8, 2021

Moved by Deputy Mayor Freeman

Seconded by Councillor Petrie

THAT The Council of the Corporation of the Town of Ingersoll receives report numbered A-002-21 as information;

AND FURTHER THAT the Council approves the restructuring of Oxford County Council utilizing a weighted voting mechanism based on a minimum of one vote per municipality for any number of electors up to 6,000 and an additional vote for every 6,000 electors thereafter,

AND FURTHER THAT the metric to be used shall be the total number of eligible electors following each regularly scheduled election and that this weighting shall remain until the next regularly scheduled election,

AND FURTHER THAT the distribution of weights be split equally where the area municipality has more than one representative at County Council,

AND THAT the proposal be circulated to the seven other municipalities and Oxford County for consideration of a restructured County Council.

CARRIED

Department: Administration

Report Number: A-002-21

Council Meeting Date: February 8, 2021

Title: County Composition Consideration

Objective

To provide Council with an option for discussion and consideration on realigning the Composition of County Council.

Background

Council is aware that the County, as required by the Province, is to review and establish its composition prior to the next municipal election. It was to have been completed by December 31st 2020 but has been granted and extension until March 31, 2021.

A new composition or retaining the status quo both require a triple majority of municipalities as defined by the Municipal Act.

The Status Quo was proposed by County Council but has failed to meet the threshold required.

Primarily the Urban municipalities have not approved the status quo, where 50 percent of the Council is made up of Urban Councillors and 50 percent of Rural Councillors, as acceptable for the following reasons:

1. Urban municipalities represent more that 65 percent of the population of the County.
2. Assessment of the Urbans represents more than 65 percent of the total for Oxford County.

As such the basic tenant of democracy or representation by population is not being expressed in the current County Council Structure.

The current Warden of the County attended Ingersoll Council in December 2020, where Ingersoll expressed its concerns with the status quo. Including the required need to elect the Warden at large, considering the term and remuneration for the position.

To Staff's knowledge it is unaware of any other activity on addressing the legislative requirement. Failure to submit to the province will leave the composition to the Minster to determine. Staff do not believe that this would be a concern, however a local solution would be preferable in most cases.

Analysis

Staff have considered the situation and understand that the Province may be unwilling to significantly increase the number of County elected representatives.

However there is a way to ensure better representation without adding significantly to the number at County Council.

Based on Warden Martin's own numbers better representation could be achieved by utilizing a **weighted voting system**.

In today's technological era the implementation of a weighted voting system would be relatively straight forward and easily accomplished. To argue otherwise is not being realistic.

Woodstock would not have to reduce the number of representatives at County Council, their current three members could be allocated 1.33 votes each, totaling the four that they should have under a more balanced system. They could arrange them in a format to suit the City, this is just one option.

Likewise no municipalities would lose any votes, if each municipality were guaranteed at least one vote and an additional vote for each multiple of 6000 electors thereafter. The Warden expressed concern that those municipalities that did not have at least 6000 elector should maintain at least one vote, that should be avoided by ensuring the base for each municipality is one vote.

In this way Tillsonburg would be able to have two votes based on the Warden's own numbers.

Electing a Warden at large is also something the Council has requested be given consideration, in any restructuring of the County Council. Although this is not an unreasonable idea, staff would suggest that it not be pursued at this time for the following reasons:

1. The Province, prior to the municipal elections in 2018, eliminated directly elected heads of Council in four regional governments. The likelihood of that option finding favour with this government at this time is unrealistic.

2. County Councillors themselves are not likely to support the proposal, where the weighted voting system is less contentious, just fairer. County Council members themselves have expressed that they would not support a directly elected head of Council change.

Achieving a better balance of representation through a weighted vote is more advantageous than achieving nothing by proposing too many changes that would not find favour at the County level of governance.

Based on the current numbers the voting totals would be as follows under a weighted system for one vote for every 6000 electors, if implemented:

Woodstock	**4 votes**
Tillsonburg	**2 votes**
Ingersoll	**1 vote**
Norwich	**1 vote**
SWOX	**1 vote**
Zorra	**1 vote**
EZT	**1 vote**
B-B	**1 vote**
Total	**12 votes**

The change here would provide that the Urbans would have 58 percent of the vote while the rurals would retain 42 percent. This still does not achieve a true representation of the elector distribution but it is a move in the right direction.

As has been seen in the past County Councillors vote not necessarily along urban/rural lines, there is nothing that would suggest a redistribution would impede that going forward. Each member of County Council is independent in their decision making relative to the position their home municipal Councils may support. There have been recent examples of this to demonstrate the practice.

Interdepartmental Implications

N/A

Financial Implications

No financial impacts on the Town of Ingersoll

Recommendation

That The Council of the Corporation of the Town of Ingersoll receives report numbered A-002-21 as information;

And further that the Council approves the restructuring of Oxford County Council utilizing a weighted voting mechanism based on a minimum of one vote per municipality for any number of electors up to 6,000 and an additional vote for every 6,000 electors thereafter,

And further that the metric to be used shall be the total number of eligible electors following each regularly scheduled election and that this weighting shall remain until the next regularly scheduled election,

And further that the distribution of weights be split equally where the area municipality has more than one representative at County Council,

And that the proposal be circulated to the seven other municipalities and Oxford County for consideration of a restructured County Council.

Attachments

None.

Approved by: William Tigert, Chief Administrative Officer

From: Rodger Mordue
To: Chloe Senior
Subject: County Council composition
Date: February 18, 2021 11:28:44 AM

Chloe,

Please be advised that Blandford-Blenheim Council passed the following resolution at their February 17, 2021 Council meeting:

Be it hereby resolved that the correspondence from the Town of Ingersoll be received; and,

Whereas the Council of the Township of Blandford-Blenheim believes that the current composition of Oxford County Council provides a forum whereby each member holds equal importance and is afforded the opportunity to contribute equally and meaningfully to the business that benefits all of the residents of the County of Oxford;

Be It Resolved That the Council of the Township of Blandford-Blenheim re-affirm its position that the current status quo at County Council be maintained.

Rodger Mordue
CAO/Clerk
Township of Blandford-Blenheim

February 10, 2021

Backgrounder: A Plan to Permanently Fund Public Transit and Support Economic Recovery

From: Infrastructure Canada

Backgrounder

Historic investments made since 2015

Since 2015, the Government of Canada has invested more than $13 billion for public transit projects through the Public Transit Infrastructure Fund, the Investing in Canada Infrastructure Program and the Canada Infrastructure Bank.

These historic investments in public transit have resulted in over 1,300 projects right across the country. Thanks to these investments, more than 247 km of new public transit subway and light rail line has been built, over 300 zero-emission buses have been purchased, and almost 500 km of active transportation trails, bike and pedestrian lanes and recreational paths have been created.

For example, in Vancouver, BC, investments have allowed for upgrades to the Skytrain Expo and Millennium Lines. In Coldwell, MB, the purchase of a handi-van is providing mobility options for seniors and residents with disabilities, and in Montreal, the construction of the Réseau express métropolitain, a new automated light rail network that will span the greater Montréal area, is now well under way.

With these investments, the government has worked with its provincial, territorial and municipal partners to create jobs, reduce greenhouse gas emissions and foster more inclusive communities.

The impacts of COVID-19 and need to build back better

The COVID-19 pandemic has changed the way we use public transit but has not made it any less important. Public transit, rural transit solutions and active transportation infrastructure continue to provide reliable, fast, affordable and clean ways for people to get around. These benefits are felt the most by disadvantaged groups for whom car travel isn't accessible. Essential workers have relied on buses, subways, ride-sharing programs and pathways to get to where they are needed in grocery stores, hospitals and care facilities.

In addition to providing an essential service, Canada's transit systems are key economic drivers, generating hundreds of thousands of jobs and billions in economic benefits, starting from the planning stage all the way through construction and operation. Investments in public transit, particularly in electrification, are critical to Canada's meeting its climate targets since the transportation sector accounts for about 25 percent of Canada's greenhouse gas emissions. As the government looks to economic recovery, public transit is critical to getting the economy moving again.

Canada has a great story to tell on public transit. Most Canadians may not realize that Canada is a world leader in transit manufacturing. Automotive sector workers in Winnipeg, Thunder Bay, Kingston, Saint-Eustache and Saint-Jérôme produce some of the world's best buses, subways and LRTs.

Establishing the permanent public transit fund

Today's announcement establishes the creation of a permanent public transit fund of $3 billion per year, beginning in 2026-27 . For decades governments have heard from municipalities and transit authorities that a source of permanent and stable funding is essential to allow for careful and long-term project planning and delivery.

Over the coming months, Infrastructure Canada will work with provinces, territories, municipalities, local governments, Indigenous communities, transit agencies, policy experts and other stakeholders to develop programming for the $3 billion in permanent public transit funding in a manner that offers the greatest benefits to Canadians from coast to coast to coast. Consultations on the design of the new permanent transit funding will begin in the near future to address how all orders of government can work in partnership to get the most out of investments in public transit.

Accelerating ambitious public transit projects and planning

The government is moving rapidly to support the recovery from COVID-19. Building on these historic investments, today the government also announced additional public transit funding that will accelerate ambitious projects and planning that will:

1. Help Canadians move around easier and create new jobs by building major public transit projects, providing dedicated planning funding to accelerate future major projects, and supporting the expansion of large urban transit systems that many Canadians depend on every day.
2. Reduce pollution and create jobs for Canadians by enhancing public transit systems and switching them to cleaner electrical power, including supporting the use of zero-emission vehicles and related infrastructure.
3. Support healthy lifestyles in our communities and meet the growing demand for active transportation projects, including by building walkways and paths for cycling, walking, scooters, e-bikes, and wheelchairs.
4. Help Canadians living in rural and remote areas travel to and from work easier and access essential services, by working with rural, remote, and Indigenous communities to identify and create transit solutions that meet their needs.

The importance of safe, modern, and efficient public transit systems has been magnified over the course of the pandemic, and public transit will remain a critical element of the sustainable mobility of future cities, providing an efficient way to address congestion and reduce pollution, and enabling people in our communities to access jobs, services, and be active participants in those communities. Investments under these new funds will be directed to projects that best support the recovery from COVID-19 and create the greatest benefits for Canadians.

Ministry of Agriculture, Food and Rural Affairs

Office of the Minister

77 Grenville Street, 11th Floor
Toronto, Ontario M7A 1B3
Tel: 416-326-3074
www.ontario.ca/OMAFRA

Ministère de l'Agriculture, de l'Alimentation et des Affaires rurales

Bureau du ministre

77, rue Grenville, 11e étage
Toronto (Ontario) M7A 1B3
Tél. : 416 326-3074
www.ontario.ca/MAAARO

Ontario

February 11, 2021

Chloe Senior
Clerk
County of Oxford
csenior@oxfordcounty.ca

Dear Chloe Senior:

The best small businesses are born out of a passion and a dream.

When it comes to many home-based food businesses, they start with a love of food and a cherished family recipe. Whether passionate about making grandma's coveted baked goods or a new take on homegrown pickles, jams and preserves, we are making it easier for Ontarians to share their homemade goods with their communities and turn their passion into a successful business.

As our government recently announced, Ontario has made changes to the Food Premises Regulation under the *Health Protection and Promotion Act* that allow more flexibility for small, independent businesses to sell their low-risk, home-prepared foods from their homes or at special events like farmers' markets, festivals and fairs. While these changes came into effect on January 1, 2020, the desire to start low-risk, home based food businesses has only increased during COVID, which is why we're clarifying the rules now.

Low-risk foods are non-hazardous and do not require refrigeration. They include such items as baked goods, pickles, jams and preserves, chocolates, hard candies and brittles, fudge and toffees, granola, trail mix, nuts and seeds, and coffee beans and tea leaves.

These regulatory changes support Ontario's entrepreneurs in running a home-based food business, without compromising our high standards for food safety. The changes also give Ontarians new opportunities to buy locally produced foods.

…/2

The Ministry of Health has published a guide to help such entrepreneurs take the recommended steps to succeed, in a food-safe way, in their homemade food business efforts: www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/selling_low_risk_food.pdf I welcome you to use your networks to share this important information with those who may be interested.

Starting a home-based food business is an excellent opportunity for people across Ontario to share their culinary creativity, build a business for themselves and be part of the province's agri-food sector. Our government is committed to encouraging this growing part of the economy and to support all the good things that are grown and produced right here in Ontario.

Thank you for your support of this initiative and for all your efforts to partners with us as we strive to build strong communities and a vibrant economy in Ontario.

Sincerely,

Ernie Hardeman
Minister of Agriculture, Food and Rural Affairs

COVID-19 Reminders

- Practise physical distancing – stay 2 metres away from others in public
- Wash your hands – with soap and water thoroughly and often
- Get the facts - www.ontario.ca/page/covid-19-stop-spread

From: Phil Graham - Ministry of Education <EYD-EYPPB@ontario.ca>
Date: February 11, 2021 at 4:46:02 PM EST
To: Michael Duben <mduben@oxfordcounty.ca>
Subject: Exemptions under the Police Record Checks Reform Act, 2015 | Exemptions en vertu de la Loi de 2015 verifications de dossiers de police

Date:	February 11, 2021
Memorandum to:	Early Years and Child Care Sector Partners Education Sector Partners
From:	Phil Graham, Assistant Deputy Minister, Early Years and Child Care Division Shannon Fuller, Assistant Deputy Minister, Strategic Policy and Planning Division Denise Dwyer, Assistant Deputy Minister, Indigenous Education and Wellbeing Division Jeff Butler, Assistant Deputy Minister Student Support and Field Services Division Denys Giguère, Assistant Deputy Minister, French Language Teaching, Learning and Achievement Division
Subject:	**Exemptions under the Police Record Checks Reform Act, 2015**

We are writing to provide an update on work being led by the Ministry of the Solicitor General to develop a permanent exemption framework under the *Police Record Checks Reform Act, 2015* (PRCRA).

The PRCRA sets out standards to govern how police record checks are conducted and disclosed in Ontario. The Exemptions regulation (O. Reg. 347/18) grants temporary exemptions from the Act to requests for police record checks that are made for a variety of purposes, including for the purpose of screening individuals for positions in certain sectors.

Pursuant to O. Reg. 347/18, police record checks for schools and child care providers are temporarily exempt from the information disclosure restrictions set out in the PRCRA. During the exemption period, the Ontario Provincial Police may continue to disclose additional information in vulnerable sector checks for schools and child care providers.

These temporary exemptions were set to expire on January 1, 2021 but have been extended by six (6) months. The exemptions will now continue until July 1, 2021.

A consultation document has been posted on the Ontario Regulatory Registry to seek input on the development of a framework for permanent exemptions to the PRCRA that would replace the temporary exemptions on July 1, 2021. Your valuable feedback on how the approach may affect your organization and sector is appreciated. The consultation will be open until March 12, 2021.

Child care licensees and school boards should continue to rely on police record checks and other screening measures, such as reference checks, and checking the College of Early Childhood Educators website, the Ontario College of Teachers website, and the online Registry of Child Care Violations.

If you have questions or feedback, please contact:

Nicole Winston

Senior Policy Analyst

nicole.winston@ontario.ca

Thank you for your continued support,

Phil Graham

Assistant Deputy Minister

Ministry of
Education

Ontario

Ministry of Municipal Affairs and Housing

Office of the Deputy Minister

777 Bay Street, 17th Floor
Toronto ON M7A 2J3
Tel.: 416 585-7100

Ministère des Affaires Municipales et du Logement

Bureau du ministre

777, rue Bay, 17e étage
Toronto ON M7A 2J3
Tél. : 416 585-7100

February 12, 2021

MEMORANDUM TO: **Municipal Chief Administrative Officers and Clerks**

SUBJECT: **Termination of Declared Emergency and Amendments to Orders under the *Emergency Management and Civil Protection Act* and *Reopening Ontario Act***

Today I am writing to you about changes to the government's approach to address COVID-19 in our communities. While we are seeing some progress in reducing the number of cases of COVID-19 in our communities, the situation remains serious and the new variants continue to pose concern.

As you are aware, the provincial emergency that was declared on January 12, 2021, under the *Emergency Management and Civil Protection Act* (EMCPA), expired on February 9, 2021. As announced, the Ontario government is committed to safely and gradually returning to the COVID-19 response framework that is administered regionally based on public health units (PHUs). Regions will gradually transition back between February 10 and February 22, 2021, subject to review of the trends in public health indicators. To facilitate the transition, Ontario has made changes to the response framework and to orders and regulations under the EMPCA and the Reopening Ontario (A Flexible Response to COVID-19) Act (ROA).

Provincial Orders

Orders under the EMCPA can continue to be in effect after the declared emergency has terminated. They can also be further extended for up to 14 days at a time but cannot be amended.

Prior to the termination of the declaration of emergency, orders were amended to reflect the Ontario government's decisions to move certain PHUs into new zones under the Framework. This includes amendments to the Stay-at-Home order (O. Reg. 11/21) and the Residential Evictions order (O. Reg. 13/21).

Any decisions to move PHUs to new zones are made in consultation with the local medical officers of health and will be subject to ongoing review of trends in public health indicators and advice of the Chief Medical Officers of Health.

Please note, there have also been amendments to Ontario Regulations 82/20 and 363/20 related to the Stages of Reopening under ROA. Amendments include, dividing Stage 1 into two separate zones ("Shutdown" and "Grey-Lockdown").

These amendments remove restrictions on construction activities by allowing all residential construction activities and projects, and related services that support construction activities or projects, including demolition services, to commence or continue anywhere in the province. This includes residential renovations.

This means that all residential construction activities or projects and related services can begin or continue even in areas that are in the Shutdown Zone and are subject to a Stay at Home Order. However, restrictions still apply to non-residential construction as long as the area is in the Shutdown Zone and subject to a Stay at Home Order. When areas of the province return to the provincial COVID-19 framework (colour-coded zones), all residential and non-residential construction activities and projects and related services can begin or continue.

Additionally, as of February 10, 2021, all stage orders under ROA have been amended to require individuals to wear face coverings and maintain physical distance when indoors in a business, with limited exceptions, and to wear face coverings when attending an organized public event or gathering permitted under the regulations, if they are within a 2 metre distance of another individual who is not part of their household. All other restrictions to gatherings and organized public events will be maintained. Rules for the colour-coded zones and for the new "Shutdown Zone" have changed.

Residential Evictions (Ontario Regulation 13/21)

Enforcement of residential evictions will remain paused in the public health unit regions where the provincial Stay-at-Home order remains in effect. This will ensure people are not forced to leave their homes during the period where provincial stay-at-home orders are in place. In regions where the Stay-at-Home order is lifted, the regular process for residential eviction enforcement will resume.

Tenants who can pay their rent must continue to do so to the best of their abilities. Tenants can also ask their local service managers about financial assistance to pay their rent. Tenants can visit: https://www.ontario.ca/page/find-your-local-service-manager to find contact information for their local service manager. Landlords and tenants are encouraged to work together during these difficult times.

Detailed explanations of these changes related to the termination of the declared emergency, amendments to orders under the EMCPA and ROA and an updated chart of the Zones under the Framework can be found in the Ministry of the Solicitor General's memorandum to all Chiefs of Police dated February 9, 2021, which is enclosed for your reference and to support local municipal enforcement activities.

Also enclosed for your attention is a second memorandum from the Ministry of the Solicitor General to all Chiefs of Police dated February 2, 2021, regarding an amendment to Ontario Regulation 8/21 – Enforcement of COVID-19 under the EMCPA that allows a police officer or other provincial offences officer to require an individual to provide their correct name, date of birth and address so that provincial offences officers have the necessary information to issue tickets or lay charges under the *Health Protection and Promotion Act.*

The 1-800 Enforcement Support Line (1-866-389-7638) and dedicated enforcement email address (EssentialWorkplacesSupport.SolGen@ontario.ca) are intended to provide guidance to policing personnel and other enforcement personnel in relation to the enforcement of provincial orders.

As the province transitions into these new zones over the coming weeks, the ministry recognizes that collaboration amongst municipalities, public health units, police forces, local enforcement partners and our multi ministry teams is important to ensure coordinated compliance and enforcement activities in an effort to continue the recent progress on reducing the presence of COVID-19 in our communities.

Thank you, once again, for your continued efforts to help keep our communities safe and healthy.

Sincerely,

Kate Manson-Smith
Deputy Minister, Ministry of Municipal Affairs and Housing

Enclosures: Correspondence from the Ministry of the Solicitor General to all Chiefs of Police dated February 2, 2021 – English version regarding an Amendment under the Emergency Management and Civil Protection Act

Correspondence from the Ministry of the Solicitor General to all Chiefs of Police dated February 9, 2021 – English version regarding the Termination of Declared Emergency and Amendments to Orders under the Emergency Management and Civil Protection Act and Reopening Ontario Act

If a French version is required, please contact Richard.Stubbings@ontario.ca.

Ministry of the Solicitor General

Public Safety Division

25 Grosvenor St.
12th Floor
Toronto ON M7A 2H3

Telephone: (416) 314-3377
Facsimile: (416) 314-4037

Ministère du Solliciteur général

Division de la sécurité publique

25 rue Grosvenor
12e étage
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Téléphone: (416) 314-3377
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Ontario

MEMORANDUM TO: All Chiefs of Police and
Commissioner Thomas Carrique
Chairs, Police Services Boards

FROM: Richard Stubbings
Assistant Deputy Minister
Public Safety Division

SUBJECT: **Amendment under the *Emergency Management and Civil Protection Act***

DATE OF ISSUE:	**February 2, 2021**
CLASSIFICATION:	**General Information**
RETENTION:	**Indefinite**
INDEX NO.:	**21-0014**
PRIORITY:	**High**

Please be advised that O. Reg. 8/21 (Enforcement of COVID-19) under the *Emergency Management and Civil Protection Act* has been amended, effective February 1, 2021.

This amendment allows a police officer or other provincial offences officer to require an individual to provide the officer with their correct name, date of birth and address if the officer has reasonable and probable grounds to believe that the individual has committed an offence under subsection 100 (1) of the *Health Protection and Promotion Act* (HPPA) for failing to comply with an order made in respect of COVID-19 under section 22 of that Act, so that provincial offences officers have the necessary information to issue tickets or lay charges under the HPPA.

Thank you again for your support as we work to address this public health emergency together.

Sincerely,

Richard Stubbings
Assistant Deputy Minister
Public Safety Division

Ministry of the Solicitor General

Public Safety Division

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Ontario

MEMORANDUM TO: All Chiefs of Police and
Commissioner Thomas Carrique
Chairs, Police Services Boards

FROM: Richard Stubbings
Assistant Deputy Minister
Public Safety Division

SUBJECT: **Termination of Declared Emergency and Amendments to Orders under the *Emergency Management and Civil Protection Act* and *Reopening Ontario Act***

DATE OF ISSUE:	**February 9, 2021**
CLASSIFICATION:	**General Information**
RETENTION:	**Indefinite**
INDEX NO.:	**21-0018**
PRIORITY:	**High**

I am writing to advise of updates related to orders under the *Emergency Management and Civil Protection Act* (EMCPA) and the *Reopening Ontario (A Flexible Response to COVID-19) Act, 2020* (ROA).

Termination of Declared Emergency and Extension of Orders

The provincial emergency that was declared on January 12, 2021 under s. 7.0.1 of the EMPCA will expire at 11:59 p.m. on February 9, 2021.

Orders made under the EMCPA can continue in effect after the declared emergency has terminated. Orders can be further extended for up to 14 days at a time but cannot be amended.

All of the orders currently in effect under the EMCPA will remain in effect until the date noted below, unless they are revoked or extended further by that date:

O. Reg 8/21	Enforcement of COVID-19 Measures	February 23, 2021
O. Reg 11/21	Stay-at-Home Order	February 23, 2021
O. Reg 13/21	Residential Evictions	February 23, 2021
O. Reg 55/21*	Compliance Orders for Retirement Homes	February 19, 2021

* Note that O Reg 55/21 was made on February 5, 2021 and allows the Registrar under the *Retirement Homes Act, 2010* to issue certain orders to licensees of retirement homes to respond to the risk of COVID-19.

.../2

Amendments to O. Reg. 11/21 (Stay-At-Home Order) and O. Reg. 13/21 (Residential Evictions) under the EMCPA

Effective February 10, 2021 at 12:01 a.m.:

- O. Reg. 11/21 will only apply to public health units (PHUs) for which a PHU-specific order indicates that O. Reg. 11/21 applies to that PHU.
- O. Reg. 13/21 will only apply where O. Reg. 11/21 applies.

As of February 10, 2021, O. Reg. 11/21 and O. Reg. 13/21 will apply to all Ontario PHUs, with exception to the following three PHUs which will move into the Green Zone of Stage 3:

- Hastings and Prince Edward Counties Health Unit
- Kingston, Frontenac and Lennox and Addington Health Unit
- Renfrew County and District Health Unit

All PHUs not listed above will remain subject to the conditions of O. Reg. 11/21 and O. Reg. 13/21 until they are revoked and assigned to a new zone within the *COVID-19 Response Roadmap: Keeping Ontario Safe and Open Framework* (Framework) through new PHU-specific orders.

- For Toronto, Peel Region and York Region, it is proposed that the Stay-at-Home and Residential Evictions Orders will continue to apply until February 22, 2021.
- For the remaining 28 PHUs, it is proposed that these orders will only continue to apply until February 16, 2021.

Decisions to move PHUs to new zones per the Framework will be made in consultation with local medical officers of health and will be subject to ongoing review of trends in public health indicators and advice of the Chief Medical Officer of Health (CMOH).

Amendments to O. Reg. 363/20 (Stages of Reopening) under the ROA

All PHUs are currently in the Grey Zone under O. Reg. 363/20.

Effective February 10, 2021 at 12:01 a.m., O. Reg. 363/20 will be amended to:

- Move the following three PHU regions into the Green Zone.
    - Hastings and Prince Edward Counties Health Unit
    - Kingston, Frontenac and Lennox and Addington Health Unit
    - Renfrew County and District Health Unit

- Divide what is currently the "Grey Zone" into two separate zones:
    - A Grey (Shutdown) Zone, in which the requirements that currently apply to all PHUs will continue, subject to the changes described below;
        - All PHUs except the three noted above will be assigned to this zone.
    - A Grey (Lockdown) Zone, in which the requirements are similar to the rules that applied to the Grey Zone immediately before December 26, 2020 – they are somewhat less stringent compared to the Shutdown Zone but are still more restrictive than the Red Zone.

The following table outlines zones for public health measures, including refinements to the Grey Zone.

Colour Category	**PHU Notes (as of 12:01am, February 10, 2021)**
Green – Prevent *(Standard Measures)*	1. Hastings and Prince Edward Counties Health Unit 2. Kingston, Frontenac and Lennox and Addington Health Unit 3. Renfrew County and District Health Unit
Yellow – Protect *(Strengthened Measures)*	N/A
Orange – Restrict *(Intermediate Measures)*	N/A
Red – Control *(Stringent Measures)*	N/A
Grey – Lockdown *(Restrictive Measures like pre-December 26)*	N/A
Grey – Shutdown *(Continuation of current shutdown measures)*	All other PHUs

Amendments to Stage Orders under the ROA

Effective February 10, 2021, at 12:01 a.m., all stage orders will be amended to require individuals to wear face coverings and maintain physical distance when indoors in a business, with limited exceptions, and to wear face coverings when attending an organized public event or gathering permitted under the regulations, if they are within a 2 metre distance of another individual who is not part of their household. All other restrictions to gatherings and organized public events will be maintained.

As noted above, only three PHUs will move into the Green Zone while all others will remain in what is being re-named the Shutdown Zone.

Changes to the rules for the Green Zone, as well as changes to the rules for PHUs who will remain in what will now be called the Shutdown Zone, are summarized below. Changes to other Zones will be communicated separately in future ACMs, once PHUs begin to move back to those Zones.

Changes to Green Zone – Amendments to O. Reg. 364/20 (Rules for Areas in Stage 3)

- The rules previously applicable in the "Green-Prevent" zone will continue to apply subject to the following changes, effective February 10, 2021 at 12:01 a.m.:
    i. Businesses and organizations are required to screen in compliance with any advice, recommendations and instructions issued by the Office of the Chief Medical Officer of Health or other public health official by, among other things:
        - Posting signs at all entrances to the premises, in a location visible to the public, that informs individuals on how to screen themselves for COVID-19 prior to entering the premises; and,
        - Actively screening every person who works at the business or organization before they enter the premises.
    ii. Businesses and organizations are required to comply with any advice, recommendations and instructions issued by the Office of the Chief Medical Officer of Health or other public health official regarding working remotely.
    iii. Every person in the premises of a business or organization that is open is required to wear a face covering and maintain a physical distance of at least two metres when in the indoor area of the premises, with limited exceptions
    iv. Every person attending an organized public event or a gathering that is permitted under the Order is required to wear a face covering if they cannot maintain a distance of at least 2 metres from individuals who are not part of their household, with limited exceptions.
    v. A person responsible for a business is required to ensure that patrons do not line up outside of the business unless they are wearing face coverings and maintaining a distance of at least 2 metres from each other.
    vi. The person responsible for a business or other place that is open is required to have a safety plan and post it; the person must comply with this requirement within seven days of becoming subject to it.

Changes to Shutdown Zone – Amendments to O. Reg. 82/20 (Rules for Areas in Stage 1)

- Effective February 10, 2021 at 12:01 a.m., O. Reg. 82/20 will be amended to create two distinct zones, the "Shutdown Zone" and the "Grey Zone" (also known as Grey-Lockdown).
- The "Shutdown Zone" rules are the rules that currently apply to all PHUs and will continue to apply to most PHUs, subject to the changes set out below.

.../5

- The “Grey (Lockdown) Zone” rules are less restrictive rules that will not immediately apply anywhere in Ontario.
- The following changes will be made to the “Shutdown Zone” rules effective February 10, 2021:
    i. Any business or organization may operate remotely for the purpose of making goods available for pick-up as well the other purposes for which a business could previously have operated remotely.
    ii. Businesses and organizations are required to screen in compliance with any advice, recommendations and instructions issued by the Office of the Chief Medical Officer of Health or other public health official by, among other things:
    iii. Posting signs at all entrances to the premises, in a location visible to the public, that informs individuals on how to screen themselves for COVID-19 prior to entering the premises; and,
    iv. Actively screening every person who works at the business or organization before they enter the premises.
    v. Every person attending an organized public event or a gathering that is permitted under the Order is required to wear a face covering if they cannot maintain a distance of at least 2 metres from individuals who are not part of their household, with limited exceptions.
    vi. An amendment has been made to clarify that communal steam rooms, saunas or whirlpools must be closed, along with other indoor recreation facilities, at hotels, motels, lodges, cabins, cottages, resorts and other shared rental accommodation, and at marinas, boating clubs and other organizations that maintain docking facilities for members or patrons.

Ongoing Enforcement Efforts

With respect to enforcement, there are no changes to police or other provincial offences officers’ authorities, including the ability to compel individuals to identify themselves when the officer has reasonable and probable grounds to believe they are not complying with an EMCPA order, ROA order or order under s. 22 of the *Health Protection and Promotion Act* (HPPA) relating to COVID-19. Police and other provincial offences officers may continue to lay charges or issue tickets for non-compliance with orders under the ROA or EMPCA, or HPPA s. 22 orders made by medical officers of health. The ability to enforce s. 22 orders under the HPPA will not affect the ability of police or other provincial officers to lay charges or issue tickets in relation to orders under the ROA or EMCPA as long as they remain in effect.

The ministry recognizes that provincewide, police services are continuing to work together with local enforcement partners to implement targeted local campaigns to reinforce the public health requirements under the EMCPA and ROA. Continued close collaboration and communication between enforcement personnel and public health officials will be critical to ensure effective localized responses that correspond with local risk levels, rules and restrictions.

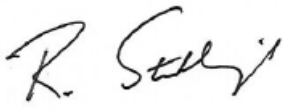
.../6

The 1-800 Enforcement Support Line (1-866-389-7638) and dedicated enforcement email address (EssentialWorkplacesSupport.SolGen@ontario.ca) are intended to provide guidance to policing personnel and other enforcement personnel in relation to the enforcement of provincial orders.

The ministry will continue to work with partner enforcement ministries and municipalities to support collaboration and information sharing, including through the dedicated Enforcement 1-800 Line and email resource. We will also continue to analyze the enforcement data that police services provide to us to help inform data-driven decision-making.

As always, thank you for your continued efforts to help keep our communities safe and healthy.

Sincerely,



Richard Stubbings
Assistant Deputy Minister
Public Safety Division

Oxford County
Growing stronger together

Report No: CS 2021-10
CORPORATE SERVICES
Council Date: February 24, 2021

To: **Warden and Members of County Council**

From: **Director of Corporate Services**

Development Charges Study and Update - 2021

RECOMMENDATION

1. **That in addition to fulfilling the statuary requirement under the Development Charges Act, 1997 to hold a public meeting for the purpose of amending the County's Development Charge Study and By-laws taking place on February 24, 2021, County Council receives public comments submitted to the Clerk as attached to Report No. CS 2021-10.**

REPORT HIGHLIGHTS

- County Development Charge Background Study and By-laws are being reviewed and updated to reflect legislative changes to the *Development Charges Act* in 2020
- Public meeting to be held during Council's regular meeting on February 24, 2021 informed by a presentation from Watson and Associates
- Final Council consideration and adoption of the updated Background Study and revised by-laws is scheduled for March 24, 2021 – effective April 1, 2021

Implementation Points

The updated draft Background Study and draft by-laws have been posted on the County website as of January 22, 2021 for public review and comment on or before the public meeting scheduled for February 24, 2021 at 7:00 p.m..

The nine updated draft development charge by-laws posted on the County website for public review and comment includes the following:

- County-wide services
- Woodstock water and wastewater
- Tillsonburg water and wastewater
- Ingersoll water and wastewater
- Thamesford water and wastewater
- Norwich water and wastewater
- Tavistock water and wastewater
- Plattsville water and wastewater
- Drumbo water and wastewater

Subsequent to holding a public meeting, Council will give consideration to adopting the 2021 development charges background study as it relates to County-wide services (i.e. library, land ambulance, roads, waste diversion and growth-related studies) and area-specific services (water and wastewater) and enactment of each of the respective by-laws at their regular meeting scheduled for March 24, 2021.

Financial Impact

Approval of the recommendations contained within this report will have no financial impact beyond what has been approved in the current year's budget.

Elimination of the 10% statutory deductions on previously deemed 'soft services' means that the growth-related costs for library, land ambulance, waste diversion services and growth-related studies will now be fully funded by growth. This legislative change effectively removes the financial burden from existing property owners and transfers it to the developer, resulting in increases in development charge rates to fund the increased need for services related to growth. Furthermore, the proposed changes include a provision to impose interest charges on the delayed payment requirements for certain types of development as a measure to ensure existing properties are not financially burdened by growth related servicing costs.

Communications

The *Development Charges Act* regulates the review process in terms of notice for, and the provision of, a statutory public meeting prior to enacting a development charge by-law.

To inform the public of this interim development charge review process, Communications staff have reinitiated the 'Speak Up Oxford – Development Charges Study and By-laws' page on the County's website – the County's online town hall providing a convenient platform for the public to voice their opinions. This platform, as well as the statutory public meeting, will provide the public access to review and comment on the proposed changes intended to align the County's Development Charge Background Study and By-laws with the recently amended legislation.

In order to comply with the prescribed public process, the following dates have been determined on the basis of regular Council meeting dates to avoid additional meetings and to have the updated background study and by-laws in effect on April 1, 2021.

- Development Charge Background Study (including by-laws) release – January 22, 2021 – refer to Attachment 1
- Advertise Public Meeting – not later than February 3, 2021
- County Public Meetings – February 24, 2021
- Adoption of Development Charge Background Study and by-laws – March 24, 2021

Watson & Associates Economists will be presenting the draft changes to the development charges background study and draft by-laws, including revised rates at the public meeting proposed for February 24, 2021 and will address any questions of Council.

Due to the pandemic, the public meeting will be held virtually in accordance with the County's Procedure By-law as authorized by the *Municipal Act*. Instructions for participating in the virtual public meeting were released with the official public notice and posted on the County's website.

Strategic Plan (2015-2018)

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

DISCUSSION

Background

On September 18, 2020, the Minister of Municipal Affairs and Housing announced that the Provincial Government proclaimed amendments to the *Development Charges Act* and the *Planning Act* by Bill 108, the *More Homes, More Choice Act*, and Bill 197, the *COVID-19 Economic Recovery Act*. In addition they made a new regulation under the *Planning Act* and technical changes to regulations under the *Planning Act, Development Charges Act* and *Building Code Act* in order to finalize the framework for development charges, community benefits and parkland. This proclamation also triggered a transition period of two years for municipalities to make the necessary adjustments to reflect the legislative changes during COVID-19.

Subsequently, on October 28, 2020, County Council authorized staff to retain Watson & Associates Economists Ltd. to facilitate an Oxford County and Area Municipalities joint review and update of current Development Charge Background Studies and By-laws to reflect amendments to the *Development Charges Act* and *Planning Act* as per the "*More Homes, More Choice Act*" (Bill 108) and "*COVID-19 Economic Recovery Act*" (Bill 197).

As part of this abridged review process, Watson collaborated with a Steering Committee comprised of representation from the County and all the participating Area Municipalities to review the legislative changes and assist in developing appropriate revisions with a view to achieve compliance where necessary and to consider options for discretionary provisions.

Comments

At their meeting held January 27, 2021, County Council considered Report No. CS 2021-05 titled "Development Charges Study and Update – 2021" and approved circulation of proposed amendments to the County's development charge calculations and policy provisions for public comment. The report outlined the implications to the by-laws and resulting development charges to ensure the County's by-laws are compliant with the recent revisions to provincial legislation.

Development Charge Revisions

Table 1 below illustrates the increase in development related costs that are now eligible for development charges resulting from the removal of the 10% statutory deduction from previously deemed “soft services”.

Table 1 – Additional Development Charge Eligible Costs

Eligible Service	Additional Development Charge Eligible Costs
Library services	$71,600
Land ambulance	228,000
Waste diversion	25,400
Growth-related studies	60,500

In addition to removal of the 10% statutory deduction, other development charge implications include increasing the develop charge eligible costs with the inclusion of costs related to undertaking this development charge by-law amendment process. As a result of the forgoing, residential and non-residential rates have been amended for allocation of each development charge eligible service.

The table below presents the impacts of these changes to the County-wide development charge rates in comparison to the projected 2021 rates.

Table 2 – Comparison of Current Development Charge Rates to Amended Rates

Service Class	Current Rates[1]	Amended Rates[1]	% Change
Residential Single and Semi-Detached Dwelling			
Growth-Related Studies	$98	$108	10.2%
Land Ambulance	314	346	10.2%
Roads and Related	2,795	2,795	0.0%
Library Services[2]	432	458	6.0%
Waste Diversion	30	33	10.0%
Total County Wide Services/ Classes of Service	**$3,669**	**$3,740**	**1.9%**

Non-Residential (per sq. m. of Gross Floor Area)			
Growth-Related Studies	$0.38	$0.39	2.6%
Land Ambulance	1.21	1.34	10.7%
Roads and Related	10.78	10.78	0.0%
Library Services[2]	0.39	0.42	7.7%
Waste Diversion	0.16	0.17	6.3%
Total County Wide Services/ Classes of Service	**$12.92**	**$13.10**	**1.4%**

Notes:

1. These charges have been indexed using the 2020 Quarter 4 Non-Residential Building Construction Price Index for presentation purposes only. This index would be applied to the County's current development charges on April 1st in accordance with the provisions of the by-law(s).
2. The charge for Library services does not apply in Woodstock.

Public Comments

A summary of visits and public comments received prior to publication of this report by the Clerk and through *SpeakUp Oxford!* are provided below with detailed comments attached to this report as Attachment 2.

- 151 visitors to the *Speak Up* page to learn more
- 1 person submitted a comment via this route
- 24 people of those spent extended time on the site visiting multiple pages and/or downloading one or more documents
- 1 person submitted a comment via email to the Clerk

Conclusions

Under the *Development Charges Act*, a public meeting is required prior to the passing of a development charge by-law(s). The public is invited to this meeting to ask questions and/or provide comments on the background study and the proposed by-laws which will be presented by Watson & Associates Economists Ltd. The draft by-laws are not intended to be considered for adoption at this meeting. In accordance with the *Development Charges Act*, at least 20 days' notice will be given of the statutory public meeting and the proposed development charge by-law(s) and background study are to be made available to the public at least two weeks prior to the public meeting.

Watson & Associates has finalized the draft background study and calculated the respective development charges. A copy of the draft background study and the draft by-laws including the calculated development charges are available by following this link to the County's website

where they are also posted for public review 2021 Draft County Development Charge Background Study and Draft By-laws .

The statutory public meeting will be held on February 24, 2021 at 7:00 p.m. as part of the regular County Council meeting.

Advertisement of the public meeting was placed in several local newspapers with circulation throughout the County. In addition, direct email notice will be given to builders and developers operating throughout the County and posted on the County's website.

SIGNATURES

Departmental Approval:

Original signed by

Lynn S. Buchner, CPA, CGA
Director of Corporate Services

Approved for submission:

Original signed by

Michael Duben, B.A., LL.B.
Chief Administrative Officer

ATTACHMENTS

Attachment 1 – Draft 2021 County of Oxford Development Charge Background Study and Draft Development Charge By-laws – 2021 Draft Development Charge Background Study and Draft By-laws

Attachment 2 – Public Comments

Respondent No:	1	**Responded At:**	Jan 23, 2021 20:27:49 pm
Login:	Anonymous	**Last Seen:**	Jan 23, 2021 20:27:49 pm
Email:	n/a	**IP Address:**	n/a

Q1. **Development charges are different in each municipality. Please tell us your postal code so we know what municipality you live in.**

Princeton, ON, N0J1V0

Q2. **Are you ...**

A resident / member of the public?

Q3. **Please share your comment / feedback on the updated development charges.**

While municipalities might no longer be obliged to fund 10% of libraries, I hope the County will still include that 10% amount in the library budget, in recognition of the critical nature of library services (as we have been reminded by the pandemic) and the costs of providing increased digital and online services.

Q4. **How did you hear about this?**

Mail / email

Lynn Buchner

Subject: FW: Lot Levi's

Chloé Senior | Clerk

-----Original Message-----
From: Lawrence Beckett [redacted]
Sent: February 5, 2021 3:38 PM
To: Chloe Senior <csenior@oxfordcounty.ca>; Ted Comiskey [redacted]
Subject: Re: Lot Levi's

Thanks for your reply, if the board applies some common sense to the increase's I'm sure they will be able to understand how difficult it will be in the future to have the children and grand children ever own a home. This also increases the cost of the so called low cost housing the governments are trying to build for those that simply can't afford ownership and need help to survive. Thanks again Stay Safe. Lawrence Beckett.

> On Feb 5, 2021, at 1:36 PM, Lawrence Beckett [redacted]

> As a retired builder I would like to mention the fact that a 50' building lot in most area's in now in the $150K range. When the towns and cities need affordable housing how can you possibly consider increasing the cost payable to the county and or municipality. Likely 50 % of the young couples in our area will never be able to own a home due to building and lot cost and with the increases in fees for the municipality and county that # will increase to 60% of young people ever being able to afford home ownership. Take a long look at raising the prices before your dept approves any increased cost as planned. Thanks. Lawrence Beckett.

Oxford County
Growing stronger together

Report No: CS 2021-11
CORPORATE SERVICES
Council Date: February 24, 2021

To: **Warden and Members of County Council**

From: **Director of Corporate Services**

Federation of Canadian Municipalities' Municipal Asset Management Program Grant Submission

RECOMMENDATIONS

1. **That County Council authorize staff to apply for a grant opportunity from the Federation of Canadian Municipalities' Municipal Asset Management Program to fund $50,000 of costs related to Implementing Asset Tagging;**

2. **And further, that Oxford County commits to conducting the following activities in its proposed project submitted to the Federation of Canadian Municipalities' Municipal Asset Management Program to advance the County's asset management program:**

    a. **Creation and Application of Asset ID Tags in the field, and**
    b. **Obtain Asset Tag Materials;**

3. **And further, that Oxford County commits $24,900 from its Capital budget toward the cost of this initiative;**

4. **And further, that County Council authorize the Chief Administrative Officer and/or Director of Corporate Services to sign all documents related thereto.**

REPORT HIGHLIGHTS

- Seek Council's approval to apply for a grant opportunity from the Federation of Canadian Municipalities' Municipal Asset Management Program.
- Facilitate the recording of maintenance information against assets in the County's Work Management System.

Implementation Points

Upon Council approval staff will proceed with submitting the application to the Federation of Canadian Municipalities' (FCM) for the Municipal Asset Management Program (MAMP). If the

funding application is successful the County will be required to enter into an agreement with FCM.

Staff will also begin to refine a detailed work plan so that the project can proceed in the event that securing grant funding is unsuccessful.

Financial Impact

The asset tagging process will be completed by the hiring of two students for a four month term (May to August). As the data tagging process will involve field work, rental vehicles for this four month period will also be required.

The specific needs for this project had not been identified at the time of the 2021 business plan and budget submission. As a result the students requested for this project were not included in the Full-Time Equivalent Plan.

Table 1 below lists the estimated costs to complete the asset tagging project, and forms the basis for the FCM MAMP grant submission.

Table 1 – Estimated Project Costs and Funding Sources

Expense Type	Allocation
Student salaries and benefits	$28,500
Rental vehicles	11,400
Material Costs	35,000
Estimated Total Project Cost	**74,900**
Estimated FCM MAMP Funding	**50,000**
Estimated Reserve Funding	**$24,900**

The Asset Management Systems Enhancement Project was approved through the 2020 Budget and Business Plan approval process with a multi-year project budget of $1.74 million.

Approximately $270,000 was spent in 2020, with a further commitment of approximately $1.1 million. As the objectives outlined in this project are imperative to the success of the County's asset management program, in the event that the FCM MAMP application is not approved, the full amount of the project costs can be accommodated within the project's original $1.74 million budget and will proceed accordingly.

Communications

There are no communication requirements specified in the FCM MAMP application guide. Strategic Communications and Engagement will be engaged as appropriate for any communication requirements that may be identified in the agreement. The asset tagging standard will be shared with Area Municipalities upon approval by the Asset Management Steering Committee.

Human Resources will be advised to assist with the recruitment of two additional summer students.

Strategic Plan (2015-2018)

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

DISCUSSION

Background

The Municipal Asset Management Program (MAMP) is an eight-year, $110 million program funded by Infrastructure Canada to support Canadian municipalities and communities in making informed infrastructure investment decisions based on stronger asset management practices. MAMP supports activities ranging from collecting data and analyzing your asset management needs, to developing policies and training staff to implement them. Eligible projects are to increase the municipality's capabilities in at least one of the five competencies described in the Asset Management Readiness Scale, developed by FCM. The readiness scale measures the progress of municipalities along a common scale as they adopt asset management practices, regardless of the implementation framework chosen. The scale describes five asset management competencies including, policy and governance, people and leadership, data and information, planning and decision-making, and contribution to asset management practice. There are five levels within each competency forming a progressive scale from initial investigation to adoption and eventually full integration of asset management practices into daily routines.

The MAMP program provides funding for up to 80% of total eligible project costs, to a maximum of $50,000. Projects must be completed within 12 months of the funding approval notice. Funding is subject to availability and municipalities have until October 31, 2022 to apply. All projects must be completed and final reports submitted by March 31, 2024.

As part of the Asset Management Systems Enhancement Project, the County has engaged GM BluePlan Engineering (GMBP) to develop a County wide asset tagging system that will allow the County to improve standardization, change management and asset updates corporately.

GMBP will prepare the tagging standards based on the County's needs and taking into consideration industry best practices. The standard will include:

- Standard asset tagging convention which will ensure that groups that design, build, operate, maintain and modify assets are aligned throughout the total asset lifecycle.
- Asset tagging management specifications will define the assets that require tagging based on each asset group's needs.

Comments

GMBP hosted the initial virtual meeting with staff on January 22nd, and is currently reviewing information provided and preparing the initial draft tagging standard. The draft standard, once available, will be circulated to the County's team for review and a follow-up virtual meeting will be scheduled with GMBP to review the draft deliverable and final recommendations.

As a part of the funding application, the County is required to submit the following documents:

- FCM's Municipal Asset Management Program Application Form
- Completed workplan and budget document
- Completed Asset Management Readiness Scale assessment tool
- Council resolution supporting the grant application

Having students complete the physical tagging of assets will allow for operations staff to continue to focus on the safe and efficient operation of assets. While the specific assets requiring tagging will be defined through the tagging standard, it is anticipated the needs will include assets within water and wastewater facilities, corporate facilities, paramedic services, transportation services and long term care. Ongoing tagging requirements will become part of regular asset management requirements for operations staff.

Conclusions

Submitting the FCM MAMP application and securing the grant funding will aid in the County's ability to meet the requirements under O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure. Asset Management is a corporate wide initiative and this project will require the support of staff within multiple divisions of the County in order to achieve success.

Report No: CS 2021-11
CORPORATE SERVICES
Council Date: February 24, 2021

SIGNATURES

Report Author:

Original signed by

Jennifer Lavallee, CPA, CGA
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Departmental Approval:

Original signed by

Lynn S. Buchner, CPA, CGA
Director of Corporate Services

Approved for submission:

Original signed by

Michael Duben, B.A., LL.B.
Chief Administrative Officer

Oxford County
Growing stronger together

Report No: PW 2021-04
PUBLIC WORKS
Council Date: February 24, 2021

To: **Warden and Members of County Council**

From: **Director of Public Works**

2020 Drinking Water System Performance

RECOMMENDATION

1. **That County Council receive Report PW 2021-04 entitled "2020 Drinking Water System Performance", including the attached 2020 Annual Drinking Water System Summary Reports.**

REPORT HIGHLIGHTS

- The Ministry of the Environment, Conservation and Parks (MECP) requires that an annual status summary report on the performance of the County's 17 municipal drinking water systems be prepared and provided to Council in accordance with the regulatory requirements of Schedule 22 and Section 11 of Regulation 170/03 under the *Safe Drinking Water Act, 2002*.

- 8 of the 12 Oxford County municipal drinking water systems inspected since April 2020 by the MECP received 100 percent inspection ratings (four systems received inspection ratings of 95, 98 with two at 96 percent). At the time of preparation of this report, the MECP inspection report for Oxford's municipal drinking water systems in Embro, Ingersoll and Tavistock had not been finalized. The remaining two systems, Drumbo-Princeton and Plattsville, have not yet been scheduled for inspection by the MECP.

- The results of the Management Review of the Drinking Water Quality Management System (DWQMS), including decisions and action items, are reported for all three of the County's Operating Authorities as required by provincial legislation.

- This report also summarizes the Source Water Protection program implementation efforts undertaken over the last year across various watersheds within Oxford County's jurisdiction.

Implementation Points

As required by legislation, the 2020 Annual Drinking Water Systems Summary Reports (Attachment 1) will be posted on the County's website by February 28, 2021. An update to Council will be provided after all remaining MECP well inspections are complete and the findings will be provided by memorandum.

Financial Impact

There are no financial impacts to date as a result of this report. Any required actions that will result in expenditures have been accounted for in the 2021 Operating or Capital Budgets of the respective water system.

Communications

As indicated, the Drinking Water System Performance reports will be posted to the County website as legislatively required by February 28, 2021 at www.oxfordcounty.ca/water-wastewater. The results of each system's performance report will also be shared directly with area municipal CAO and Public Works senior management respectively.

The County communicates the performance of key Public Works systems (Water, Wastewater, and Waste Management) annually to the public through an annual social media campaign after the last performance report has been submitted to Council (March 31, 2021).

Strategic Plan (2015-2018)

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

DISCUSSION

Background

The Statutory Standard of Care provisions of the *Safe Drinking Water Act, 2002* make individuals with oversight responsibilities for municipal drinking water systems legally responsible for decisions made regarding the system. The intent of this Standard of Care is to ensure that owner representatives (Oxford County Council and CAO) and various levels of decision makers of the municipal drinking water systems are acting diligently and making informed decisions when required. These decisions can impact the quality and safety of the municipal drinking water provided to all customers.

Decision making authority over Oxford County's water systems include, but is not limited to, members of municipal Council. All persons who oversee the operating authority or exercise decision-making authority must:

- exercise the level of care, diligence and skill that a reasonably prudent person would be expected to exercise in a similar situation; and
- act honestly, competently and with integrity, with a view of ensuring the protection and safety of the users of the municipal drinking water system.

Some of the ways members of Council can provide diligent oversight under the Standard of Care requirements is to have awareness of governing drinking water legislation and regulations, Oxford County's Operational Plans and the drinking water annual reporting. Of note, the annual Drinking Water System Performance Report is the primary method Senior Management and Council demonstrate due diligence in providing oversight of the County's municipal drinking water systems and meeting their Standard of Care legal requirement.

Municipal Drinking Water System Reporting

In accordance with the *Safe Drinking Water Act, 2002,* 2020 Annual Drinking Water Systems Summary Reports (Attachment 1) have been prepared for each of the County's 17 municipal drinking water systems. Under Schedule 22 and Section 11 of O.Reg. 170/03, drinking water system owners must prepare reports that provide the following information:

- brief description of the system;
- any incidents of adverse test results, inadequate disinfection or where any mandatory requirement was not met;
- all test results; and
- a summary of the amount of water supplied with a comparison to the system's rated capacity.

Further, the *Clean Water Act, 2006* specifies that municipalities and the Risk Management Official must report yearly on activities undertaken to meet the requirements of the Source Protection Plans (SPPs) by February 1 of the following year. A summary of the submitted reports are provided in the sections below.

Municipal Drinking Water Licensing Program

The Municipal Drinking Water Licensing Program implemented by the MECP requires all municipal drinking water systems to be operated by accredited Operating Authorities. Oxford County has three separate operating authorities as described in the table below.

Operating Authority	Responsibility
Oxford County Public Works Department	Treatment, supply, pumping and storage in all systems. Distribution in all systems except Woodstock and Tillsonburg.
City of Woodstock	Partial Distribution in the City of Woodstock (no storage or pumping) as per current contract service agreement.
Town of Tillsonburg	Partial Distribution in the Town of Tillsonburg (no storage or pumping) as per current contract service agreement.

All three Operating Authorities maintained full accreditation following third-party surveillance audits in October 2020. Accreditation is based on the Operating Authority's ability to implement and maintain a DWQMS as documented in their Operational Plans. There were no significant changes to the Operational Plans for each Operating Authority since last reported to Oxford County Council in September 2020 (refer to PW 2020-41).

Comments

2020 Annual Water Systems Summary Reports

The individual annual water system reports will be available for review by the public on the County's website at www.oxfordcounty.ca/drinkingwater by February 28, 2021. Highlights include:

- 21 communities were served through 17 separate municipal drinking water systems.
- There were 60 active supply wells in 2020 receiving treatment ranging from disinfection by chlorination to more complex forms of treatment including filtration to remove parameters such as iron, manganese or hydrogen sulphide followed by disinfection through chlorination and/or Ultra Violet light (UV).
- Approximately 10.7 million cubic metres of drinking water was supplied to customers.
- 4,133 regulated bacteriological samples were collected, with 6 samples being adverse (0.1%). All adverse results were investigated, resampled and cleared. Additionally, 5,078 non-reportable bacteriological samples were collected from the raw and treated water.
- Results for the approximately 60 different health-related chemical parameters tested for, at 30 separate treatment points, all met MECP requirements.
- Source Water Quality:
    - Brownsville Supply Wells – Naturally occurring arsenic levels in untreated raw water remain notably present in Well 6 and are closely monitored. Raw water from Well 6 is currently blended with Well 5 in a reservoir to effectively manage overall drinking water arsenic levels within acceptable treated Ontario Drinking Water Standard (ODWS) limits prior to customer distribution.
    - Dereham Centre Supply Wells - Naturally occurring arsenic levels in untreated raw water remain notably present in Well 2 and are closely monitored. Raw water (Well 2) is currently receiving pilot treatment filtration to remove arsenic to effectively manage overall drinking water arsenic levels within acceptable treated ODWS limits prior to customer distribution. Capital works for new permanent treatment filtration (arsenic removal) is planned in 2021.
    - Springford Supply Wells - Naturally occurring arsenic levels in untreated raw water remain notably present in Well 4 and are closely monitored. Water from Well 4 is blended with Well 5 to effectively manage overall drinking water arsenic levels within acceptable treated ODWS limits prior to customer distribution.
    - Tillsonburg Supply Wells (Broadway Street) - Naturally occurring arsenic levels in untreated raw water remain notably present in Well 7A and are closely monitored. Water from Well 7A is blended with Wells 4 and 5 (North Street) at the Fairview Water Treatment Facility to effectively manage overall drinking water arsenic levels within acceptable treated ODWS limits prior to customer distribution. Capital works (filtration) for arsenic removal in Well 7A is planned for 2022.

- Otterville Supply Wells – Nitrate levels in raw water remain notably present in Wells 3 and 4. Source water protection authorities have mandated an "Issue Contributing Area" around the well supply and more advanced source protection plan policy requirements to manage surrounding area land uses (agriculture) which have been inferred as contributing to nitrate issue due to nutrient loading (fertilizer and manure application). Such policy serves to further support the County's historical practices of blending source water supplies from Wells 3 and 4 to effectively manage nitrate levels within acceptable treated ODWS limits prior to customer distribution.

- Tillsonburg Supply Wells (Brownsville Road) – Nitrate levels in raw water remain notably present in Wells 4 and 5. Source water protection authorities have identified an "Issue Contributing Area" around the well supply and advanced source protection plan policy requirements are being implemented to manage surrounding area land uses (agriculture) which have been inferred as contributing to the nitrate issue due to nutrient loading (fertilizer and manure application). Raw water from Wells 4 and 5 is blended with Well 7 (Broadway Street) at the Fairview Water Treatment Facility to effectively manage overall drinking water nitrate levels within acceptable treated ODWS limits prior to customer distribution.

- Woodstock Supply Wells (Sweaburg Road) - Nitrate levels in raw water remain notably present in Wells 1,3,5,8 and 11. Oxford County previously purchased most of the Wellhead Protection areas around these wells to fully manage and regulate surrounding area land uses (agriculture) which have been inferred as contributing to nitrate issue due to nutrient loading (fertilizer and manure application). In addition to this source protection measure, raw water from these wells is blended with other water supplies to effectively manage overall drinking water nitrate levels within acceptable treated ODWS limits prior to customer distribution.

- Four well systems (Brownsville, Ingersoll, Lakeside and Oxford South) have naturally occurring fluoride levels greater than 1.5 mg/L. At levels up to 2.4 mg/L, the water is considered safe for consumption; however, parents with children under the age of six are advised to limit exposure to other sources of fluoride when levels exceed 1.5 mg/L. For more information visit https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Fluoride-20201203.pdf

- Marginally elevated levels of naturally occurring sodium greater than 20 mg/L exist in nine systems (Bright, Brownsville, Embro, Ingersoll, Mount Elgin, Oxford South, Thamesford, and parts of Woodstock and Tillsonburg). At levels up to 200 mg/L, the water is considered safe for consumption; however, levels above 20 mg/L may be of concern for individuals on a sodium-restricted diet due to various medical conditions and illnesses. For more information visit https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf

- The capacity of the water systems have been assessed against anticipated community growth. All systems have sufficient excess capacity to meet the 20-year growth projections for the community with the exception of following:

    - *Ingersoll* - Pressure filter issues have been limiting supply to the distribution system. Current filter optimization work ongoing in 2021 will mitigate this issue.
    - *Bright* – Insufficient well supply capacity. A potential interconnection with the Plattsville system may be considered once water quality studies have been completed.
    - *Mount Elgin* – Insufficient well supply capacity. Construction is currently underway on a new well treatment facility which will provide additional supply by Q2, 2021.
    - *Otterville* - Ongoing nitrate issue may limit the ability to service growth in Oxford South. Enhanced online nitrate monitoring and ongoing source protection inspections are planned for 2021 to further manage this water supply.

- Oxford will be undertaking a County-wide Water Servicing Master Plan in 2022 at which time all system capacities, water quality/quantity trending and forecast demands will be re-evaluated in further detail.

- A Municipal Class Environmental Assessment Study project for Tavistock is underway to complete the necessary hydrogeological investigations and source water protection technical work to consider implementation of a new supply well which will provide increased operational flexibility and overall security of the Tavistock water supply.

Boil Water and Drinking Water Advisories

There was one precautionary Boil Water Advisories (BWA) in Princeton from an extended low pressure event in the water system on July 7, 2019. A 40 minute loss of pressure event was due to a hydro failure in Drumbo-Princeton which caused a series of control issues concurrent with the elevated water storage standpipe being offline for maintenance. Time sensitive operational corrective measures were implemented to restore the water system. Confirmatory samples taken showed no contamination had occurred. Approximately 215 customers in Princeton were mildly impacted by the BWA which lasted two days.

2020 MECP Inspection Reports

Every year, the MECP inspects each drinking water system to assess compliance with the requirements of the *Safe Drinking Water Act, 2002* and the *Ontario Water Resource Act, 1990*. As the provincial government's fiscal year is April to March and inspections take place throughout that period, Inspection Reports are not always finalized in time to be included in the County's annual reports.

Overall, the 2020 year marked exceptional performance at Oxford County's water treatment and distribution facilities as reflected in the MECP Inspection Reports and ratings. Of the 12 Inspection Reports finalized to date, 8 received a rating of 100%.

System	MECP Inspection Rating
Beachville	100%
Bright	96%
Brownsville	98%
Dereham Centre	100%
Drumbo-Princeton	*MECP Inspection not yet scheduled due to Covid-19**
Embro	*MECP Inspection report not yet finalized**
Hickson	100%
Ingersoll	*MECP Inspection report not yet finalized**
Innerkip	100%
Lakeside	100%
Mount Elgin	95%
Oxford South (Combination of Norwich, Otterville & Springford)	100%
Plattsville	*MECP Inspection not yet scheduled due to Covid-19**
Tavistock	*MECP Inspection report not yet finalized**
Thamesford	100%
Tillsonburg	100%
Woodstock	96%

***** An update to Council will be provided after all remaining MECP well inspections are complete and the findings will be provided by memorandum.

2020 Non Compliance Issues from Inspections

The Brownsville Water System annual MECP inspection noted one non-compliance finding related to water quality sampling. The Mount Elgin Water System and Woodstock Water System annual MECP inspections each noted one procedural non-compliance related with operational AWWA standards. The Bright Water System annual MECP inspection noted two non-compliance findings related to administrative issues.

The non-compliance findings are summarized in the table below along with a description of the corrective actions implemented. Corrective actions are based on a root cause analysis of the incident and are completed within the timelines prescribed by the MECP.

Non-compliance	Corrective Action	System
Sampling:		
A quarterly arsenic sample was not taken within a required period.	The sample schedule will now send an alert message when a sample result is missing for a required period.	Brownsville
Disinfection Procedures:		
Disinfection of a reservoir following maintenance work was not repeated after the chlorine residual dropped below a required level.	AWWA Standard C652 was reviewed with operations staff.*	Mt. Elgin
The holding time for disinfection of the new Pittock water booster pumping station after commissioning was not provided.	AWWA Standards C651 and C653 were reviewed with operations staff.	Woodstock
Administrative Documentation:		
A Form 2 to document a minor modification to the treatment process was not completed prior to the modification.	Email communications concerning time sensitive documents will be marked with a flag and/or follow-up date.	Bright
A treatment process modification was not timely incorporated into the Operations Manual and/or Process Flow diagram.	The documents will be updated and provided to the MECP Inspector by March 31, 2021.	Bright

* AWWA Standard C652 was revised following this occurrence and a specified minimum residual level is no longer specified in the procedure.

Drinking Water Quality Management System

The County's DWQMS is documented in the Operating Authority's water system Operational Plans. The Operational Plans reflect a fully implemented DWQMS with a focus on continual improvement and they are made available to the public upon request. There are no significant changes to the Plans at this time.

The province released proposed updates to the Director's Directions - Minimum Requirements for Operational Plans (Environmental Register of Ontario posting 019-2787). Most of these are long-anticipated administrative updates as this document has not been changed since the DWQMS was first implemented in Ontario. There are no changes required to the Oxford County Operational Plan.

The provincial DWQMS requires each Operating Authority to conduct an annual Management Review that evaluates the continuing suitability, adequacy and effectiveness of the Quality Management System (QMS). The Standard also requires that the outcomes of the annual Management Review of the Operating Authority's DWQMS be communicated to the system Owner (County Council) as presented below:

- Management Reviews for all three Operating Authorities were conducted in January 2021. Management reviewed the system performance including the annual reports, annual report data, results of internal and external audits, customer feedback and any suggestions brought forward by Operating Authority staff.

- The DWQMS is continually improving and integration with regular operational practices is routine. Operational considerations and challenges were reviewed with the following action items to be addressed:
    - Oxford County Operating Authority will work with local business to discuss solutions regarding the impacts of pressure fluctuations in the Tavistock system.
    - Oxford County Operating Authority has also identified several items in different systems for future consideration in the upcoming 2022 Water/Wastewater Master Plan.
    - The Town of Tillsonburg Operating Authority will do a business case needs and cost analysis of a fleet purchase of a hydro vac truck. Business cases are to be prepared and reviewed with County staff in advance of 2022 Budget submission. This item was deferred from the previous management review.
    - The City of Woodstock Operating Authority will investigate a solution for the electronic entry of maintenance and customer service field data (with consideration of a work order management system that can be ultimately implemented) and provide information to County staff in advance of 2022 Budget submission. This item was deferred from the previous management review.

- The updated provincial Watermain Disinfection Procedure was released by the Ministry in August 2020. The QMS procedure and form for watermain breaks was reviewed and updated and was effective February 1, 2021, as required by the Municipal Drinking Water Licence (MDWL).

- Internal DWQMS audits were conducted in December 2020. The findings were positive and a few minor administrative opportunities for improvement (OFIs) were brought forward. There were no non-conformance findings for the three Operating Authorities. All OFIs are being addressed through the DWQMS Continual Improvement Process.

- 2020 represented the second year of the continual improvement process following the re-accreditation audit of 2018. External third party surveillance audits were conducted for each Operating Authority in October 2020 with the following results:
    - Zero non-conformances for each of the three Operating Authorities.
    - Five OFIs were noted, mainly related to clarification of procedures and record-keeping for the Oxford County Operating Authority, and are being addressed.
    - Two OFIs were identified for both Woodstock and Tillsonburg Operating Authorities regarding internal audit notes and risk assessments which have both been addressed.

- The quantity of watermain breaks in 2020 was average compared to previous years, with the majority of breaks due to failing cast iron pipes. The failing cast iron pipes is addressed through a regular replacement program. Continued monitoring of breaks will be conducted to assess the long term trending. An increasing trend would suggest the need for accelerated watermain replacement. Approximately 94 km of cast iron pipe in service (12.8 %) across the total water distribution network.

- Training or testing of the Emergency Response Plan was undertaken by each of the Operating Authorities:

    - For Oxford County Operating Authority, training sessions took the form of procedural reviews by Operations Staff for the updated Power Outage procedures.
    - The Town of Tillsonburg Operating Authority conducted training and review of the procedures for responding to low system pressure and watermain breaks with Operators in December 2020.
    - For the Woodstock Operating Authority debriefing sessions are being completed following all water main breaks.

- Oxford County, as the water authority, continues to review Woodstock and Tillsonburg service contracts with respect to expected levels of service, cost effectiveness and key performance indicators.

- No additional resources were identified by management as being necessary to maintain the DWQMS at this time.

Source Water Protection

Staff continue to implement Source Protection Plan policies from the four Source Protection Areas across the County. It is estimated that implementation efforts on existing properties are now 60% complete. Implementation within the Catfish Creek Source Protection Area is 100% complete while implementation efforts continue in the Grand River, Long Point and Upper Thames River Source Protection Areas.

The majority of Oxford County's Wellhead Protection Areas (WHPAs) were last modelled using a 2001 groundwater model. Since then, a more detailed groundwater model has been created in 2014 using more current data to better inform the WHPAs. Modeling the vulnerable areas around the County's municipal wells using the most up-to-date science and incorporating the latest technical field and operational data will mean that Source Protection Plan policies will be implemented in the best represented locations. Accordingly, a technical project was initiated in 2020 to update the WHPAs for 5 County municipal drinking water systems (Beachville, Embro, Innerkip, Mount Elgin and Thamesford). This project is anticipated to be completed in 2021 and incorporated into the Approved Updated Thames – Sydenham and Region Source Protection Plan in 2022.

As well, a technical study was initiated in 2019 at the Otterville wells due to recent increasing trends in nitrate levels. A new "Issue Contributing Area" and revised Well Head Protection Area was completed for the well field and approved by the Province in 2020 along with applicable Source Protection Plan amendments. Staff have begun work to develop Risk Management Plans for agricultural activities that are inferred to be contributing to groundwater nitrate levels.

Similarly, Sweaburg Wells 2 & 4 and Tillsonburg Wells 4 & 5 also have had nitrate "Issue Contributing Areas" previously designated by Source Water Protection Authorities to help manage nitrate loading from nearby agricultural activities which have been inferred to be contributing to nitrate levels in the source water. As well, the County previously acquired the majority of lands within the Sweaburg Well Head Protection Area to further manage land use activities and nutrient loading.

The County submitted summary reports to each of the four Source Protection Regions on February 1, 2021 summarizing the County's 2020 source water protection implementation actions which included:

- Issuing 11 Notices to Proceed (under Section 59 of the *Clean Water Act, 2006*) allowing development activities near municipal drinking water supplies (vulnerable areas) to proceed to planning approval stage as no risk to these water sources was identified during planning and building permit application screening. Staff continue to screen all development applications and building permits in vulnerable areas that have the potential to introduce a new threat to municipal drinking water.

- Conducting 34 site drinking water threat inspections at industrial, commercial, residential and agricultural properties where there is a potential risk to municipal drinking water.

- Finalizing three Risk Management Plans with property owners to manage agricultural threat activities (manure application, manure storage, livestock grazing or pasturing of land, pesticide application, fertilizer application, and fertilizer storage and handling) using best management practices.

- The Area Municipalities are responsible for sewage maintenance inspections under the Source Protection Plans and Part 8 of the Building Code Act. Septic systems, which are identified as potential significant drinking water threats, are required to be inspected every 5 years. Nine septic systems were due to be inspected in Brownsville by the Township of South-West Oxford in 2020 but were not performed. These inspections, along with other renewal inspections in the Long Point Source Protection Area, are expected to be completed in 2021.

Conclusions

The 2020 Annual Water Systems Summary Reports demonstrate the continued outstanding performance of the County's Municipal Drinking Water Systems. Issues that arise are generally minor in nature and are resolved in a timely fashion. Subsequent root-cause analysis of the issues are fully carried out in order to prevent potential reoccurrences.

Through continued compliance with these regulations and an ongoing commitment to the County's DWQMS and continuous improvement initiatives, Oxford County provides a safe, reliable and sustainable supply of municipal drinking water for its residents and businesses.

Implementation of Source Water Protection Plan policies continue as County staff work with property owners on compliance with the *Clean Water Act, 2006*.

SIGNATURES

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Director of Public Works

Approved for submission:

Original signed by

Michael Duben, B.A., LL.B.
Chief Administrative Officer

ATTACHMENT

Attachment 1: 2020 Annual Drinking Water System Summary Reports

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Beachville – Loweville Subdivision Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Beachville – Loweville Subdivision Water System
Drinking Water System Number:	2200000674
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Beachville – Loweville Subdivision Water System is a Small Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 207. The system consists of one well that is secure groundwater. The water is treated with sodium hypochlorite for disinfection and in 2020 approximately 277 L of the chemical was used in the water treatment process. This chemical is certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The treatment facility houses pumps, monitoring equipment and a 40 m^3 underground reservoir. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Beachville Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems
- $170,000 Groundwater Model update for Beachville, Embro, Innerkip, Mt Elgin & Thamesford
- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli and Total Coliform*

Bacteriological tests for *E. coli* and total coliforms are taken weekly from the raw water at the facility and from the distribution system. Samples of treated water are not required for Small Municipal systems but may be taken periodically. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 53 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	52	0	0
Distribution	53	0	0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are completed weekly from the distribution water for small systems. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Distribution	52	0 - 270

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Beachville system is provided below.

3.1. Hardness

This is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. The Hardness in the Beachville – Loweville Subdivision System is 353 mg/L (equivalent to 25 grains).

3.2. Additional Testing Required by MECP

None

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	105	(0.11 – 1.31) 0.69
Chlorine residual after treatment (mg/L)	Continuous	(0.40 – 1.68) 1.10
Turbidity after treatment (NTU)	Continuous	(0.26 – 3.99) 0.57

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	657 m^3/d
Municipal Drinking Water License Limit	656 m^3/d
2020 Average Daily Flow	34 m^3/d
2020 Maximum Daily Flow	101 m^3/d
2020 Average Monthly Flow	1,037 m^3
2020 Total Amount of Water Supplied	12,443 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in July 2020. There were no non-compliance findings and the 2020 Inspection Report rating was 100%.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions are taken.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	1.92 – 2.37	2.11	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	15	100	0.37
Haloacetic Acids (HAA)	2020	ND	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	Aug 22/16	15.5	20.0*	0.01
Fluoride	"	0.73	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	232 - 244	2	30 – 500mg/L
Distribution pH	7.5 – 7.6	2	6.5 – 8.5
Distribution Lead 2019	0.34	1	10 ug/L MAC

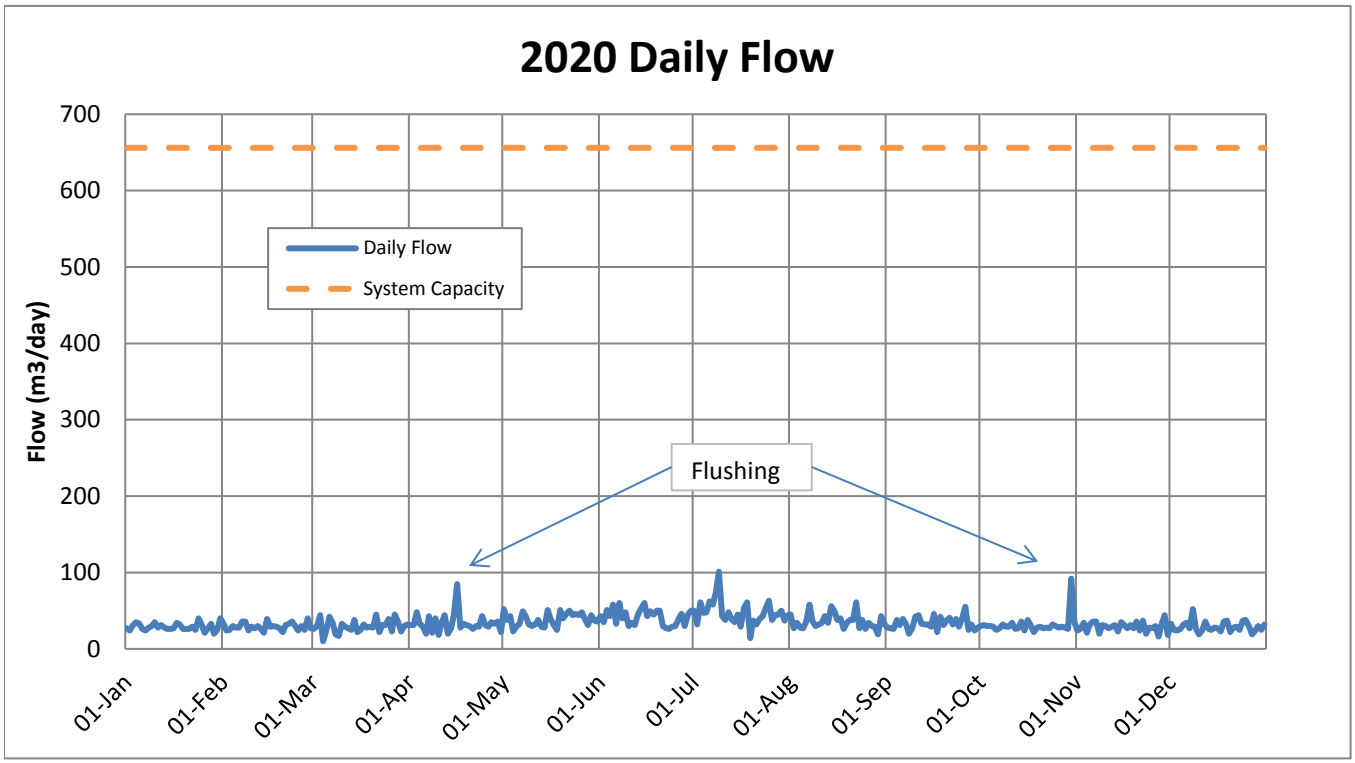
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 5 years for secure groundwater wells.

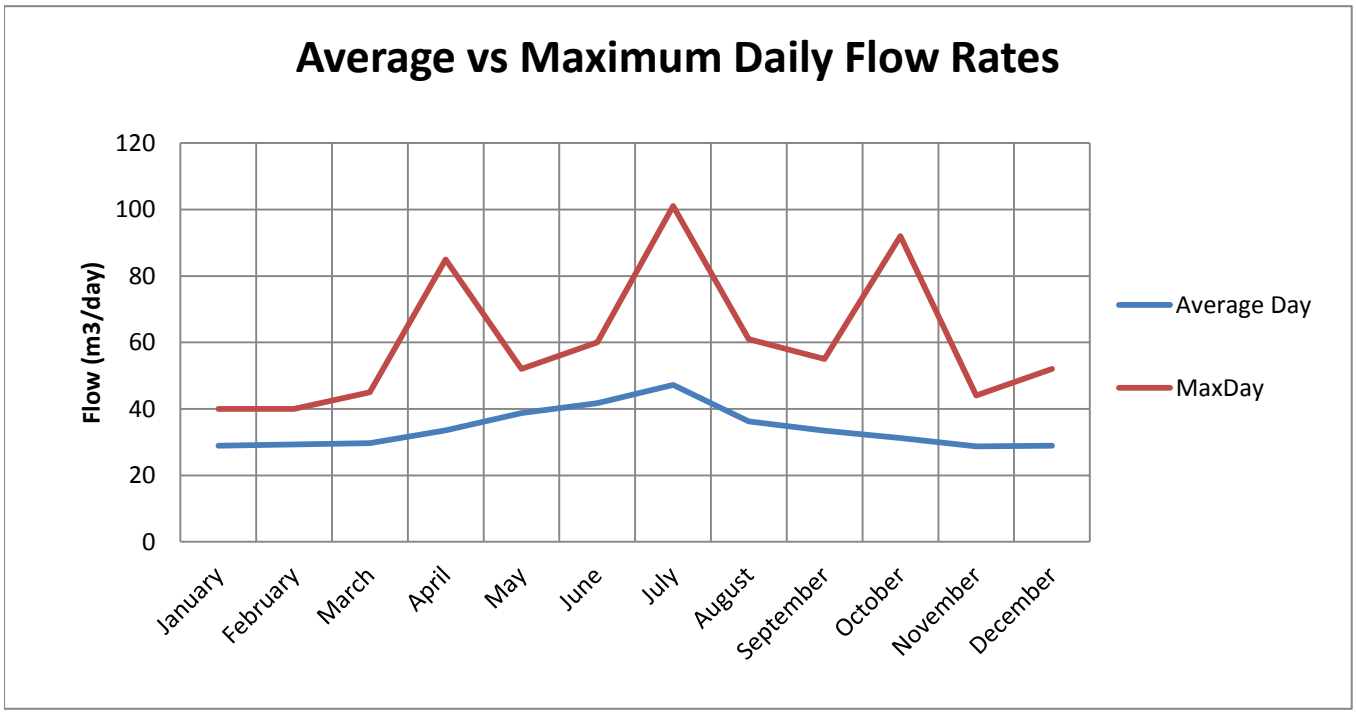
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	June 11/19	ND	6	0.09
Arsenic	"	1.0	10	0.2
Barium	"	78.2	1000	0.02
Boron	"	43.0	5000	2
Cadmium	"	0.032	5	0.003
Chromium	"	0.25	50	0.08
Mercury	"	ND	1	0.01
Selenium	"	0.45	50	0.04
Uranium	"	0.716	20	0.002

The following Table summarizes the most recent test results for Schedule 24. Testing is required every 5 years for secure groundwater wells.

Parameter	*Sample Date*	*Result (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	May 24/16	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.01
Azinphos-methyl	“	ND	20	0.01
Benzene	“	ND	1	0.32
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.05
Carbofuran	“	ND	90	0.01
Carbon Tetrachloride	“	ND	2	0.16
Chlorpyrifos	“	ND	90	0.02
Chlorpyrifos	“	ND	90	0.02
Diazinon	“	ND	20	0.02
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.41
1,4-Dichlorobenzene	“	ND	5	0.36
1,2-Dichloroethane	“	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	“	ND	14	0.33
Dichloromethane	“	ND	50	0.35
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.03
Diquat	“	ND	70	1
Diuron	“	ND	150	0.03
Glyphosate	“	ND	280	1
Malathion	“	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metolachlor	“	ND	50	0.01
Metribuzin	“	ND	80	0.02
Monochlorobenzene	“	ND	80	0.30
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.01
Picloram	“	ND	190	1
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.03
Simazine	“	ND	10	0.01
Terbufos	“	ND	1	0.01
Tetrachloroethylene	“	ND	10	0.35
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.01
Trichloroethylene	“	ND	5	0.43
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.02
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Beachville Water System Capacity 656 m3/d

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Bright Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Bright Water System
Drinking Water System Number:	220009050
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Bright Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 436. The system consists of 2 well sources which are secure groundwater wells. The water is treated with sodium hypochlorite for disinfection and sodium silicate to sequester iron. In 2020, approximately 820 L of sodium hypochlorite and 820 L (1,160 kg) of sodium silicate were used in the water treatment process. These chemicals are certified to meet standards set by the Standards Council of Canada and American National Standards Institute.

The well facility houses pumps and treatment equipment. A separate pumping station houses high lift pumps, monitoring equipment, an 86 m^3 in-ground reservoir and a 180 m^3 standpipe. A standby generator is available to run the pump station in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

To be revised The Bright Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems

- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli and Total Coliform*

Bacteriological tests for *E. coli* and total coliforms are required weekly from the raw and treated water at the facility and from the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 161 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	104	0	0 - 1
Treated	52	0	0
Distribution	109	0	0

2.2 Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	52	0 - 4
Distribution	24	0 - 180

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Bright system is provided below.

3.1. Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, the sodium will not impair the taste of the water. When sodium levels are above 20 mg/L the MECP and Medical Officer of Health are notified. Southwestern Public Health maintain an information page on sodium in drinking water at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf
in order to help people on sodium restricted diets control their sodium intake. The sodium level in Bright is 66.2 mg/L.

3.2. Hardness, Iron and Manganese

These are aesthetic parameters that may affect the appearance of the water but are not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits, improve the efficiency of soaps and reduce iron levels. This information is included here to help set the water softener at the level recommended by the manufacturer. Levels of iron less than 0.30 mg/L (ppm) are not considered to cause aesthetic problems such as discoloured water. In Bright, sodium silicate is added to keep the iron in suspension. Manganese is commonly found in conjunction with iron and also causes discoloured water. Manganese levels in this system are at or above the aesthetic objective of 0.05 mg/L

- Hardness is 394 mg/L (equivalent to 27 grains)
- Iron level was measured at 0.76 mg/L (ppm)
- Manganese level is 0.05mg/L (ppm)

3.3. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.69 – 2.77) 1.18
Chlorine residual after treatment (mg/L)	Continuous	(0.98 – 2.70) 1.32
Turbidity after treatment (NTU)	Continuous	(0.23 – 3.99) 0.56

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	327 m^3/d
Municipal Drinking Water License Limit	589 m^3/d
2020 Average Daily Flow	75 m^3/d
2020 Maximum Daily Flow	185 m^3/d
2020 Average Monthly Flow	2,799 m^3
2020 Total Amount of Water Supplied	27,345 m^3

While the PTTW for the system is 327 m^3/d, the wells are not capable of producing this quantity. A more realistic maximum capacity of the system is approximately 296 m^3/d. The County has begun exploration for an additional source.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in October 2020. There were two non-compliance findings for administrative issues. A Form 2 documenting a change in the location of the chemical injectors was not completed until 3 months after the work was done. The Operations and Maintenance manual and Process Flow diagram (P&ID) had not been updated to show the change of injection points. The Form 2 document was submitted by operations staff at the time of the change however it was not immediately printed and signed. The P&ID had several minor updates and the change of injection points was missed in the document review. The 2020 Inspection Report rating was 96%.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions taken

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	0.620 – 0.703	0.668	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	19	100	0.37
Haloacetic Acids (HAA)	2020	ND	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	May 21/19	66.2	20.0*	0.01
Fluoride	"	0.09	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	335 - 354	2	30 – 500mg/L
Distribution pH	7.5 - 7.6	2	7.5 – 7.53
Distribution Lead 2018	0.13 - 1.25	2	10 ug/L MAC

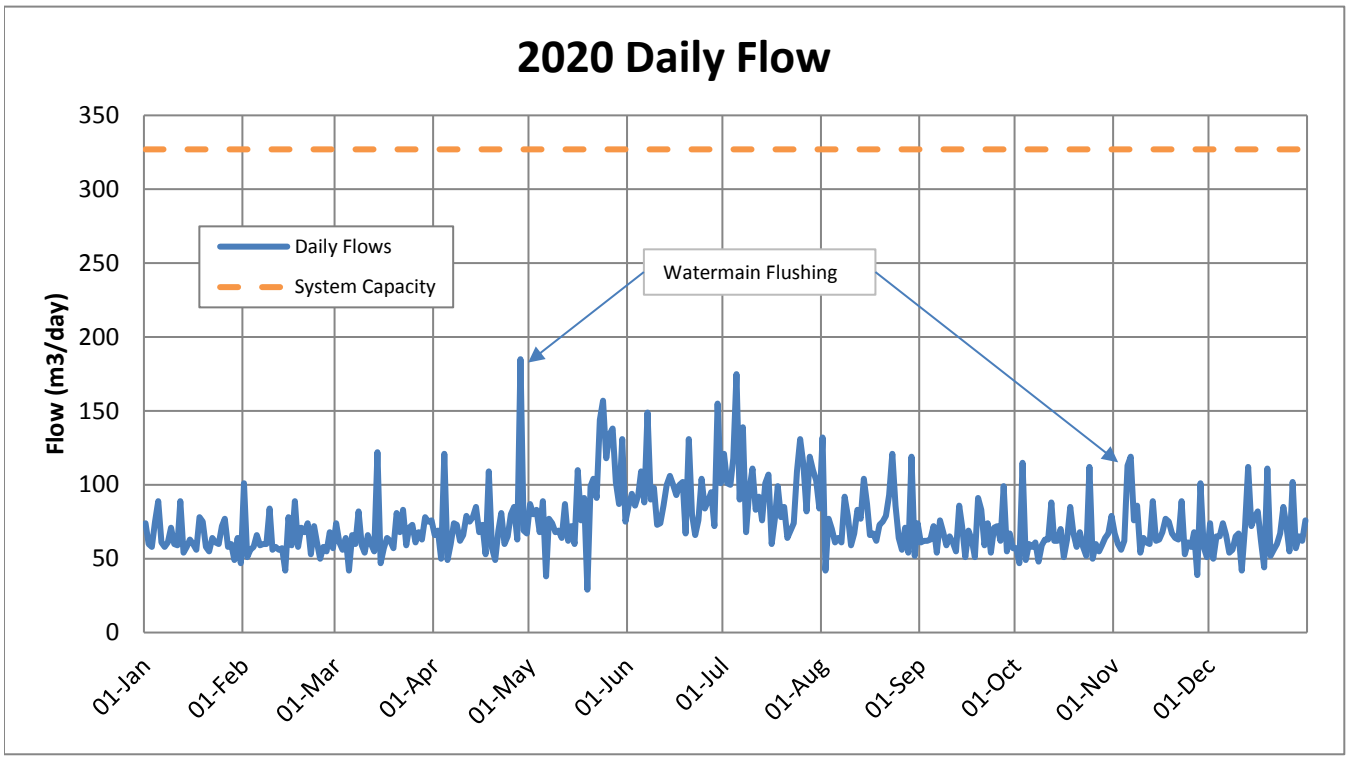
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 3 years for secure groundwater wells.

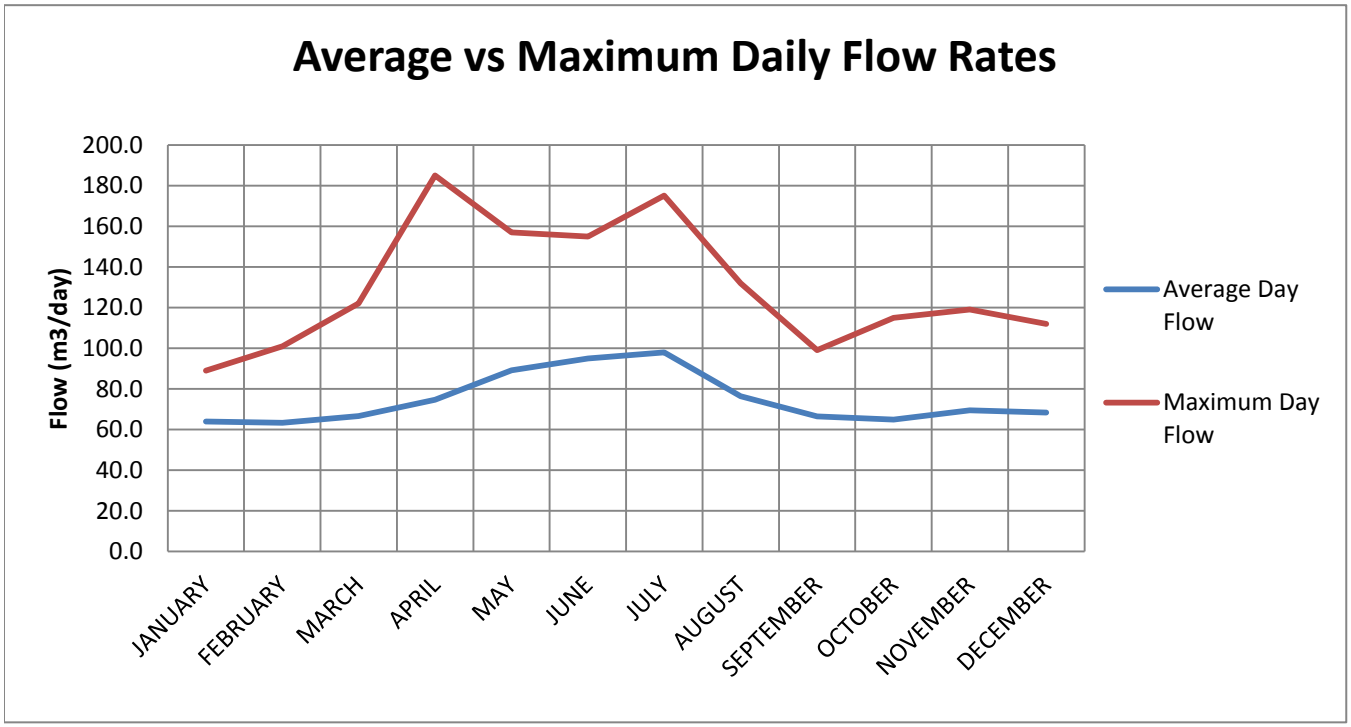
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	May 21/19	ND	6	0.09
Arsenic	"	1.9	10	0.2
Barium	"	135	1000	0.01
Boron	"	48	5000	2
Cadmium	"	0.014	5	0.003
Chromium	"	0.13	50	0.03
Mercury	"	ND	1	0.01
Selenium	"	0.15	5	0.04
Uranium	"	2.02	20	0.002

The following Table summarizes the most recent test results for Schedule 24. Testing is required every 3 years for secure groundwater wells.

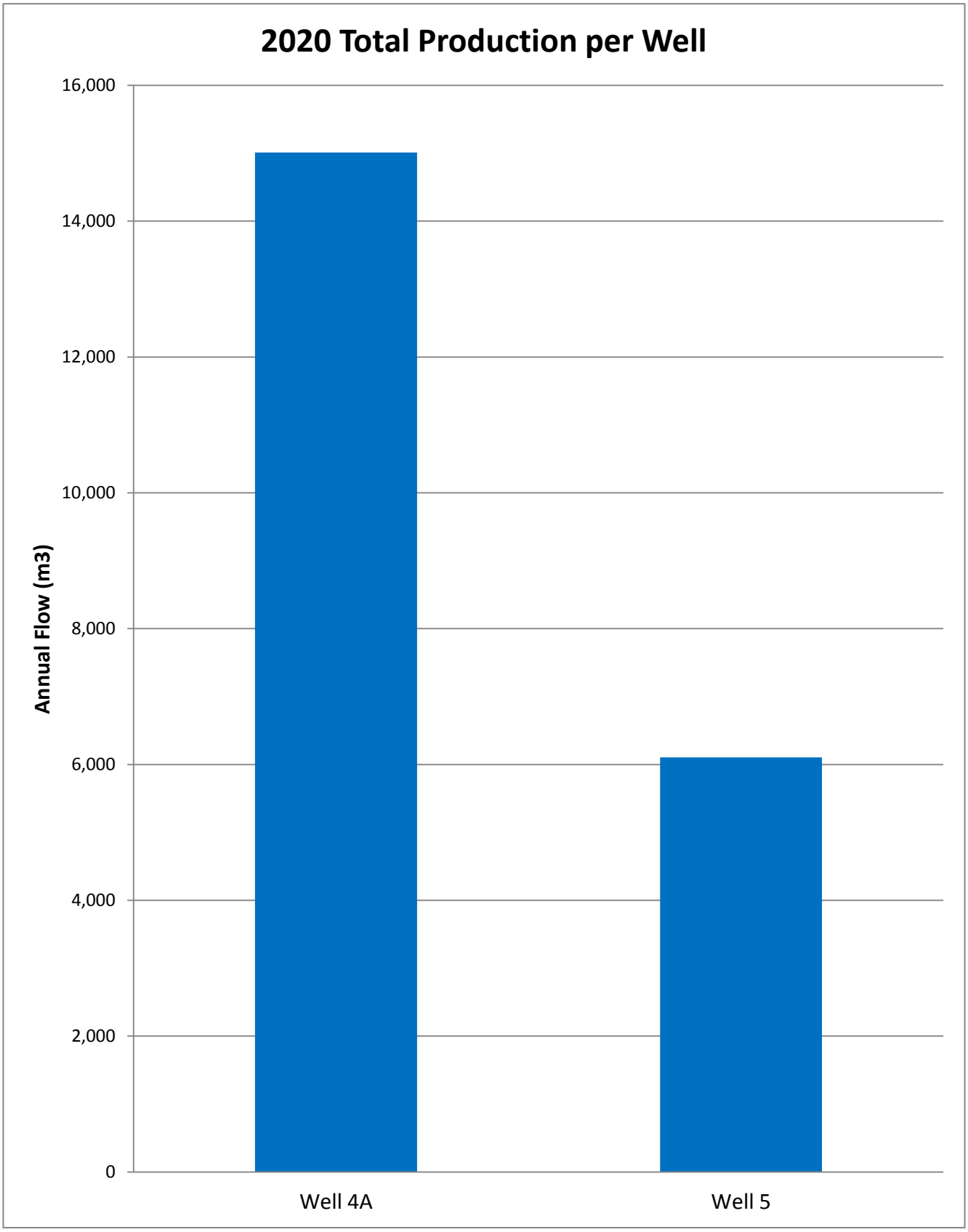
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	June 4/18	ND	5	0.11
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.12
Azinphos-methyl	“	ND	20	0.21
Benzene	“	ND	1	0.37
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.16
Carbofuran	“	ND	90	0.37
Carbon Tetrachloride	“	ND	2	0.41
Chlorpyrifos	“	ND	90	0.18
Diazinon	“	ND	20	0.081
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.50
1,4-Dichlorobenzene	“	ND	5	0.21
1,2-Dichloroethane	“	ND	5	0.43
1,1-Dichloroethylene(vinylidene chloride)	“	ND	14	0.41
Dichloromethane	“	ND	50	0.34
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.12
Diquat	“	ND	70	1
Diuron	“	ND	150	0.87
Glyphosate	“	ND	280	6
Malathion	“	ND	190	0.091
Metolachlor	“	ND	50	0.092
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metribuzin	“	ND	80	0.12
Monochlorobenzene	“	ND	80	0.58
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.11
Picloram	“	ND	190	0.25
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.23
Simazine	“	ND	10	0.15
Terbufos	“	ND	1	0.12
Tetrachloroethylene	“	ND	10	0.45
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.10
Trichloroethylene	“	ND	5	0.38
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.12
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Bright Water System Capacity 327 m^3/d



Bright Water System Capacity 327 m^3/d

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Brownsville Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Brownsville Water System
Drinking Water System Number:	220009050
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Brownsville Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 505. The system consists of 2 well sources that are secure groundwater wells. The water is treated with sodium hypochlorite for disinfection and in 2020 approximately 1,630 L of sodium hypochlorite was used. The chemical is certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The two well facilities house pumps and treatment equipment. A separate pumping station houses high lift pumps, monitoring equipment and a 197 m^3 reservoir. A standby generator is available to run the pumping station in the event of a power outage. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Brownsville Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2018 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems
- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli* and Total Coliform

Bacteriological tests for *E. coli* and total coliforms are required weekly on the raw and treated water at the facility and in the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 168 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	104	0	0 - 114
Treated	57	0	0
Distribution	111	0	0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	52	0 - 7
Distribution	24	0 - 330

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Brownsville system is provided below.

3.1. Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, sodium will not impair the taste of the water.

When sodium levels are above 20 mg/L the MECP and Medical Offer of Health are notified. Southwestern Public Health maintains an information page on sodium in drinking water at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf in order to help people on sodium restricted diets control their sodium intake. The sodium level in Brownsville is 81.6 mg/L

3.2. Fluoride

Fluoride levels are sampled once every five years and levels above 1.5 mg/L must be reported to the MECP and Medical Officer of Health. Levels under 2.4 mg/L are considered safe for consumption however at levels between 1.5 and 2.4 mg/L fluoride may cause staining or pitting of teeth in children less than 6 years old. Further information on fluoride can be found on the Southwestern Public Health web page at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Fluoride-20201203.pdf

Oxford County does not add fluoride to the water at any of its drinking water systems however the Brownsville system has naturally occurring fluoride levels of 1.77 mg/L.

3.3. Hardness

This is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. In Oxford County many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. Water in the Brownsville System is naturally soft at 71 mg/L hardness (equivalent to 5 grains) and a water softener should not be needed.

3.4. Additional Testing Required by MECP

The Maximum Allowable Concentration (MAC) for arsenic was reduced from 25 ug/L to 10 ug/L in 2018. In Brownsville, an increased testing frequency of once every three months is required as the average arsenic level is above 5 ug/L. Results are summarized in Appendix A.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the pumping station and in the distribution system. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the pumping station, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from each well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.16 – 1.74) 1.09
Chlorine residual after treatment (mg/L)	"	(0.76 – 1.81) 1.17
Turbidity after treatment (NTU)	"	(0.07 – 2.19) 0.10

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the table below and presented graphically in Appendix B.

Flow Summary	
Permit to Take Water Limit	366 m^3/d
Municipal Drinking Water License Limit	366 m^3/d
2020 Average Daily Flow	94 m^3/d
2020 Maximum Daily Flow	218 m^3/d
2020 Average Monthly Flow	2,856 m^3
2020 Total Amount of Water Supplied	34,435 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report.

All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The Annual MECP Inspection for the Brownsville Drinking Water System took place in August 2020. There was one non-compliance for failing to take a quarterly sample for arsenic. When a parameter in Schedule 23 or 24 exceeds ½ the maximum allowable concentration for the parameter a quarterly sample is required. The sample required for the last quarter of 2019 was not taken although the chain of custody indicated the sample was required. The missed sample was not noted until after the required time to take it had elapsed. The 2020 Inspection Report rating was 98%.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions taken.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result/Range Min – Max(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	0.006 – 0.009	0.007	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	60	100	0.37
Total Haloacetic Acids (HAA)	2020	23	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	May 28 /19	81.6	20.0*	0.01
Fluoride	"	1.77	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min – Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	150 – 155	2	30 – 500 mg/L
Distribution pH	8.3 – 8.5	2	6.5 – 8.5
Distribution Lead 2015	0.06 – 0.14	2	10 ug/L MAC

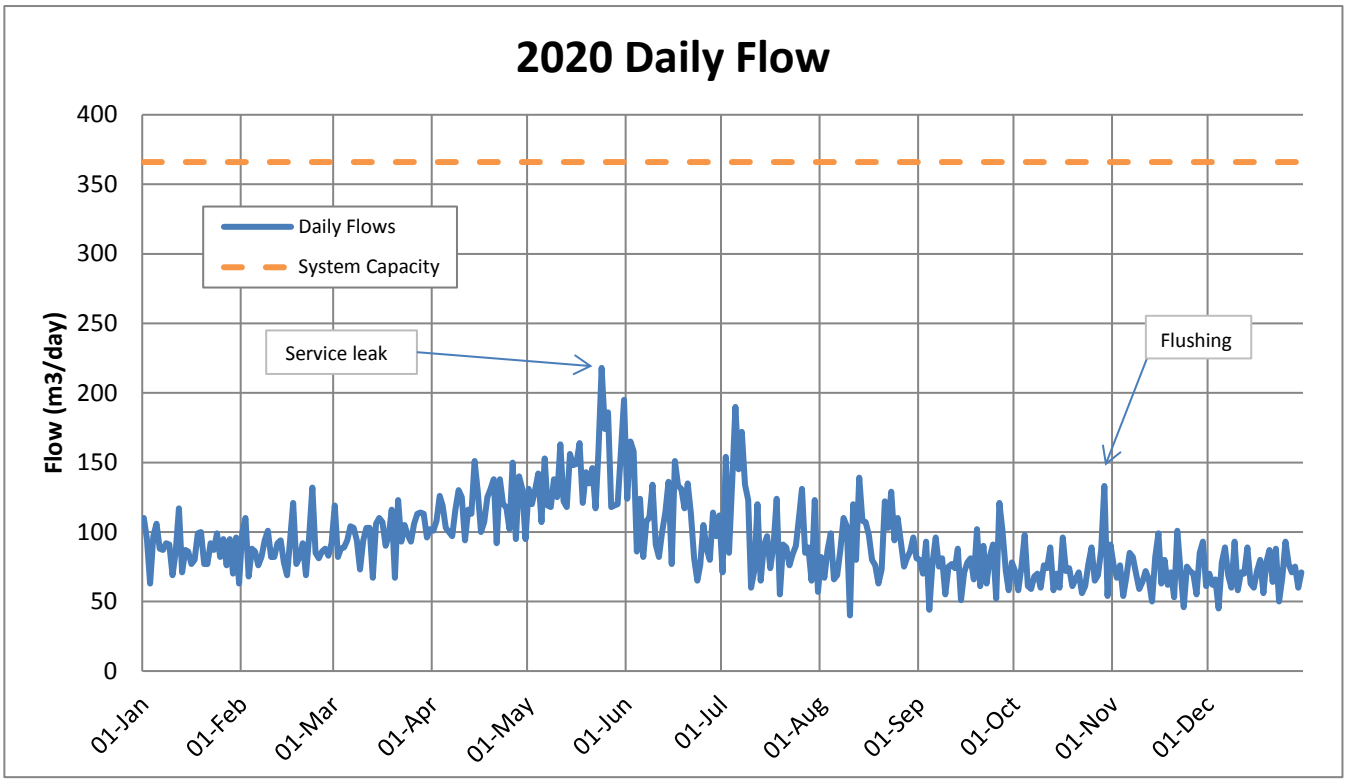
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 3 years for secure groundwater wells.

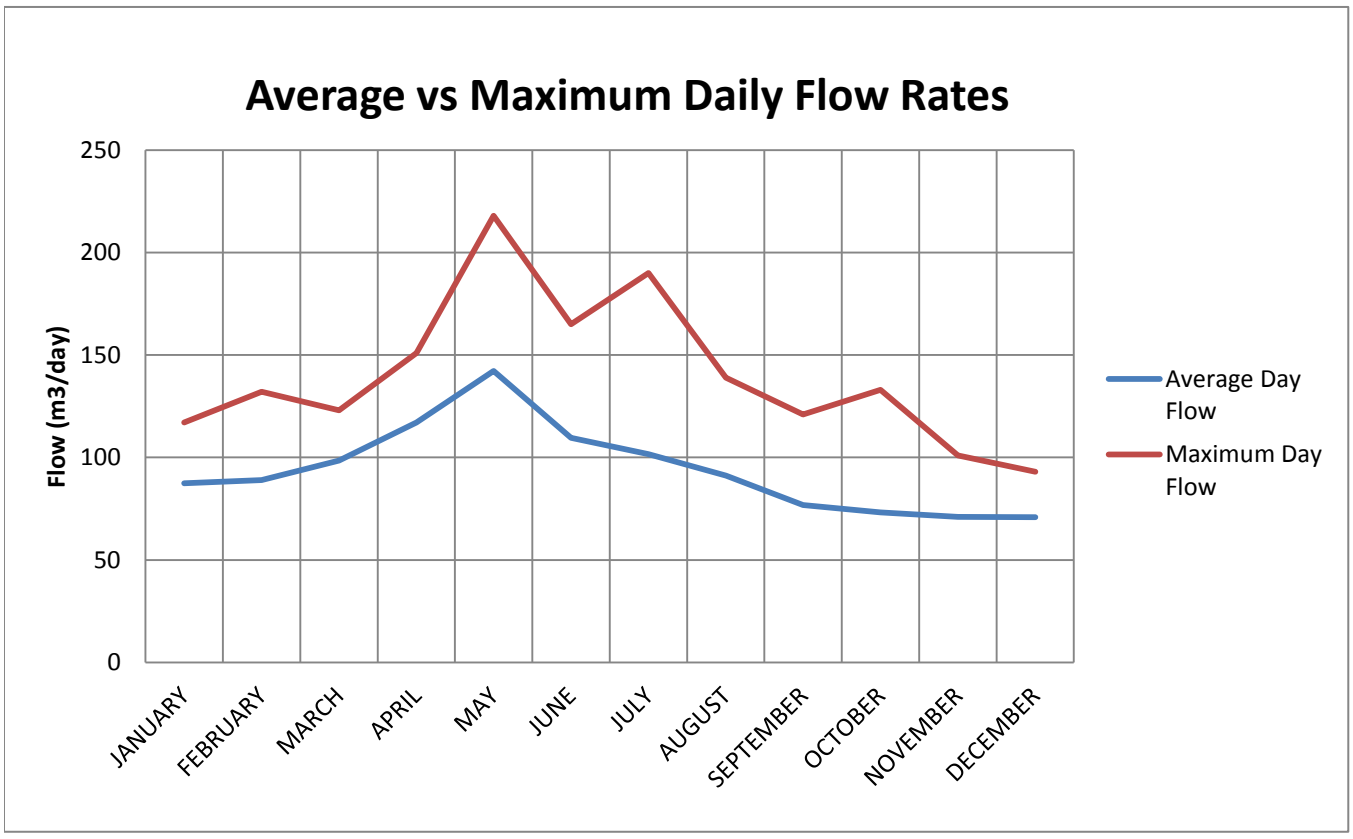
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	May 28/19	ND	6	0.09
Arsenic	Annual average	5.7	10	0.2
Barium	May 28/19	32.6	1000	0.01
Boron	"	259	5000	2
Cadmium	"	ND	5	0.003
Chromium	"	0.12	50	0.03
Mercury	"	ND	1	0.01
Selenium	"	ND	5	0.04
Uranium	"	0.046	20	0.002

The following Table summarizes the most recent test results for Schedule 24. Testing is required every 3 years for secure groundwater wells.

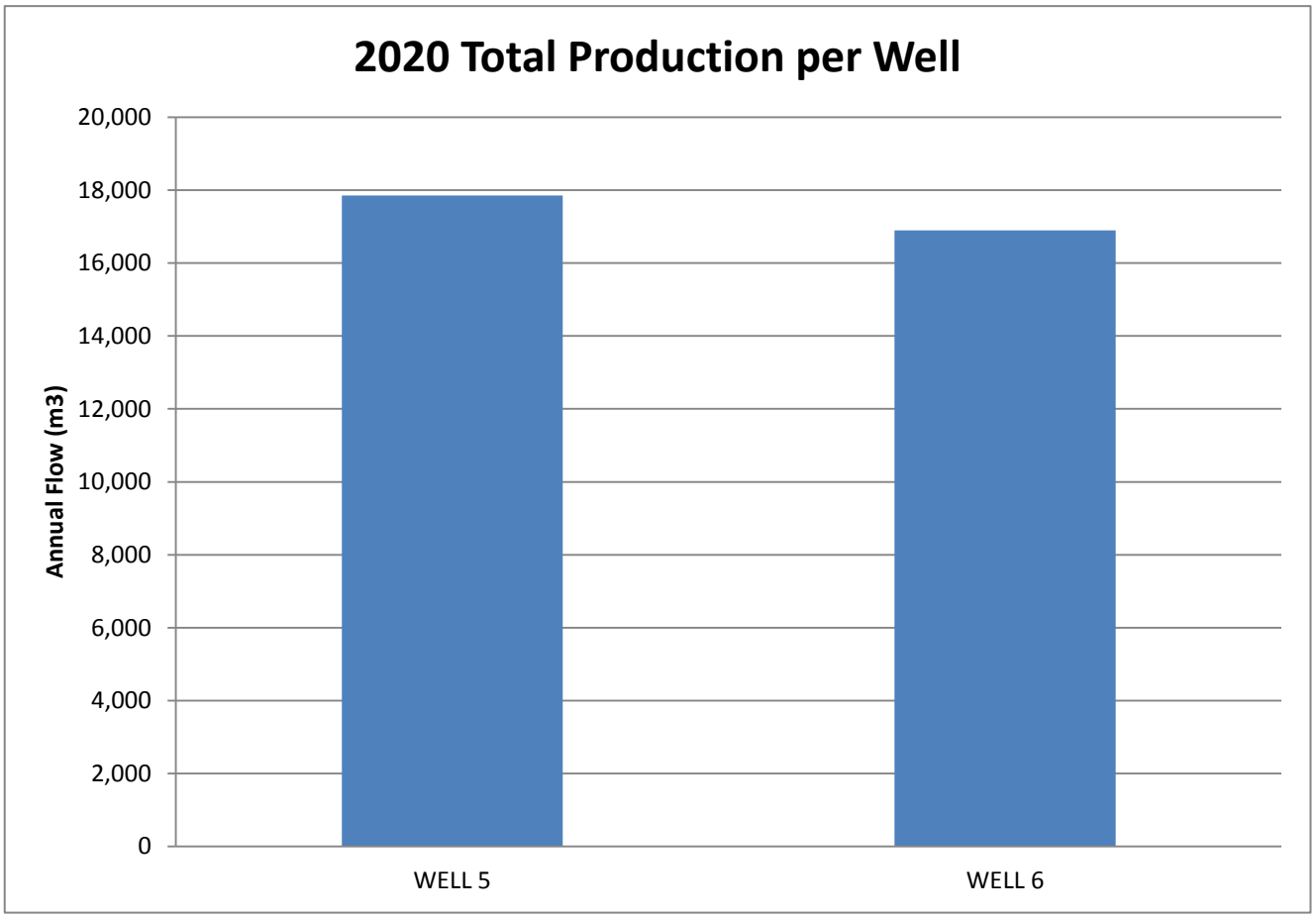
Parameter	Sample Date	Result Value (ug/L)	MAC (ug/L)	MDL (ug/L)
Alachlor	June 4/18	ND	5	0.11
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.12
Azinphos-methyl	“	ND	20	0.21
Benzene	“	ND	1	0.37
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.16
Carbofuran	“	ND	90	0.37
Carbon Tetrachloride	“	ND	2	0.41
Chlorpyrifos	“	ND	90	0.18
Diazinon	“	ND	20	0.081
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.50
1,4-Dichlorobenzene	“	ND	5	0.21
1,2-Dichloroethane	“	ND	5	0.43
1,1-Dichloroethylene(vinylidene chloride)	“	ND	14	0.41
Dichloromethane	“	ND	50	0.34
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.12
Diquat	“	ND	70	1
Diuron	“	ND	150	0.87
Glyphosate	“	ND	280	6
Malathion	“	ND	190	0.091
Metolachlor	“	ND	50	0.092
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metribuzin	“	ND	80	0.12
Monochlorobenzene	“	ND	80	0.58
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.11
Picloram	“	ND	190	0.25
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.23
Simazine	“	ND	10	0.15
Terbufos	“	ND	1	0.12
Tetrachloroethylene	“	ND	10	0.45
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.10
Trichloroethylene	“	ND	5	0.38
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.12
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Brownsville Water System Capacity 366 m^3/d



Brownsville Water System Capacity 366 m^3/d

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Dereham Centre Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Dereham Centre Water System
Drinking Water System Number:	2200001510
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Dereham Centre Water System is a Small Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 48. The system consists of one groundwater well and a treatment facility. The water is treated with sodium hypochlorite for disinfection and sodium silicate to sequester iron. In addition, since 2018, an arsenic removal filtration system has been piloted at the facility, treating a portion of the supplied water.

In 2020 approximately 91 L of sodium hypochlorite and 117 L of sodium silicate was used in the water treatment process. The chemicals are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The treatment facility houses pumps, treatment and monitoring equipment and a 37 m^3 underground reservoir. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Dereham Centre Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects included:

- $350,000 MD-80 Filters for Arsenic (Treatability study & implementation)
- $350,000 for replacement of distribution water mains in the Township systems
- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli and Total Coliform*

Bacteriological tests for *E. coli* and total coliforms are taken weekly from the raw water at the facility and from the distribution system. Samples of treated water are not required for Small Municipal systems but may be taken periodically. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment and Climate Change (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There was one adverse test results from 54 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	52	0	0 - 1
Distribution	54	0	0 - 2

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are completed weekly from the distribution water for small systems. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Distribution	52	0 - 29

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Dereham Centre system is provided below.

3.1. Hardness and Iron

These are aesthetic parameters that may affect the appearance of the water but are not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. Levels of iron less than 0.30 mg/L (ppm) are not considered to cause problems such as discoloured water. In Dereham Centre sodium silicate is added to keep iron in suspension.

- Hardness is 255 mg/L (equivalent to 18 grains)
- Iron is 0.58 mg/L

3.2. Additional Testing Required by MECP

In January of 2018, the Maximum Allowable Concentration (MAC) for arsenic was reduced from 25 ug/L to 10 ug/L. In Dereham Centre the average raw water arsenic level is above 10 ug/L, thus treatment is now required. Treated water samples for arsenic are collected weekly to monitor the efficacy of the filtration and various operations such as before and after backwash cycles. Arsenic results in the treated water ranged from 6.4 to 9.0 ug/L and average 7.8 ug/L. No treated samples were above the MAC of 10 ug/L.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	105	(1.00 – 1.95) 1.29
Chlorine residual after treatment (mg/L)	Continuous	(0.95 – 1.72) 1.32
Turbidity after treatment (NTU)	Continuous	(0.11 – 1.78) 0.23

5. WATER QUANTITY

Continuous monitoring of flowrates from the well into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Water Taking Limit	50 m^3/d
Municipal Drinking Water License Limit	78 m^3/d
2020 Average Daily Flow	7 m^3/d
2020 Maximum Daily Flow	15 m^3/d
2020 Average Monthly Flow	240 m^3
2020 Total Amount of Water Supplied	2,876 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection for 2020 took place in December 2020. There were no non-compliance findings and the Inspection Report rating was 100%.

6.2. Adverse Results

Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions taken. Below is a summary of the one adverse/reportable occurrence for 2020 along with the corresponding resolution.

Treated or Distribution Water Sample with Positive Test for E.Coli or Total Coliform Bacteria		
2 TC cfu/100mL – treated distribution sample Aug 6, 2019	Reported and resamples were taken	Resample results acceptable Aug 8, 2019

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	0.007 – 0.011	0.009	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	11	100	0.37
Haloacetic Acids (HAA)	2020	ND	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	Aug 22/16	13.0	20.0*	0.01
Fluoride	"	0.62	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	229 - 241	2	30 – 500mg/L
Distribution pH	8.0 – 8.2	2	7.7 – 8.0
Distribution Lead 2018 -19	0.10 - 0.16	2	10 ug/L MAC

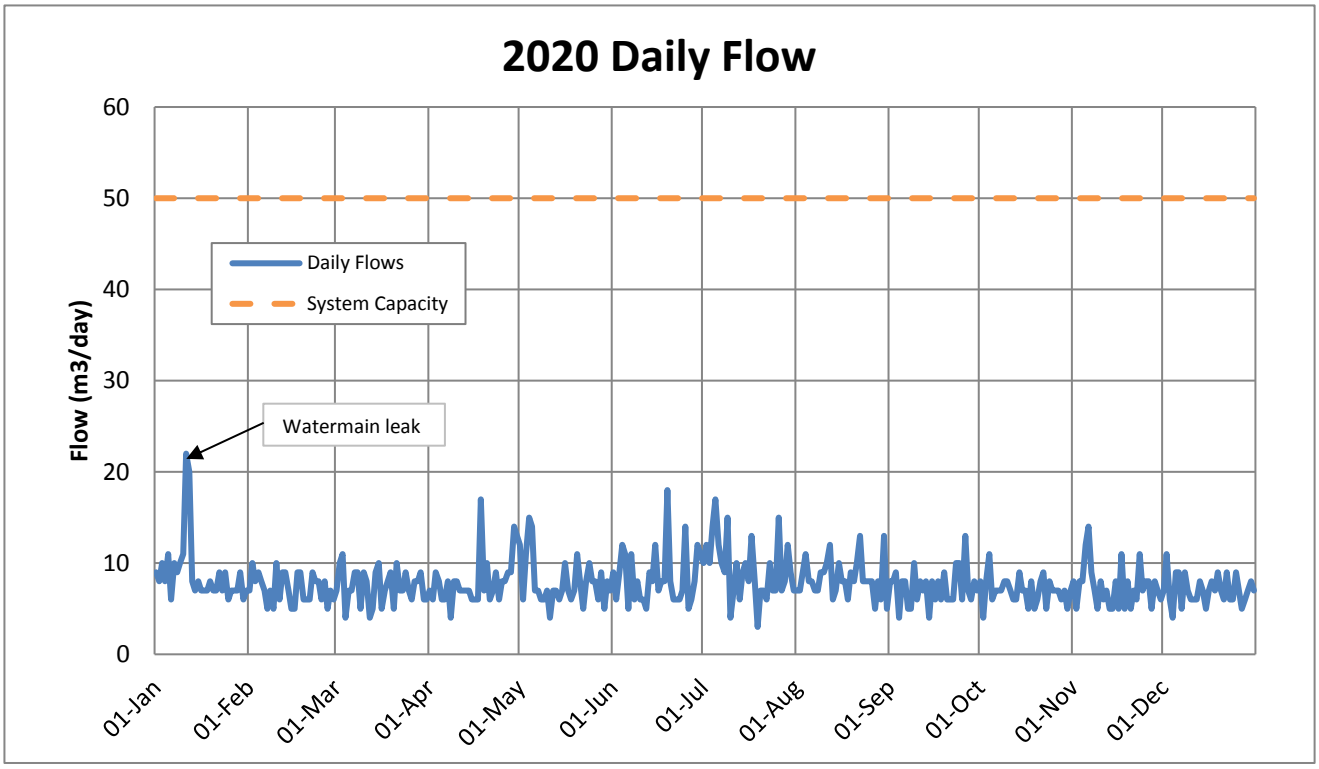
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 5 years for secure groundwater wells.

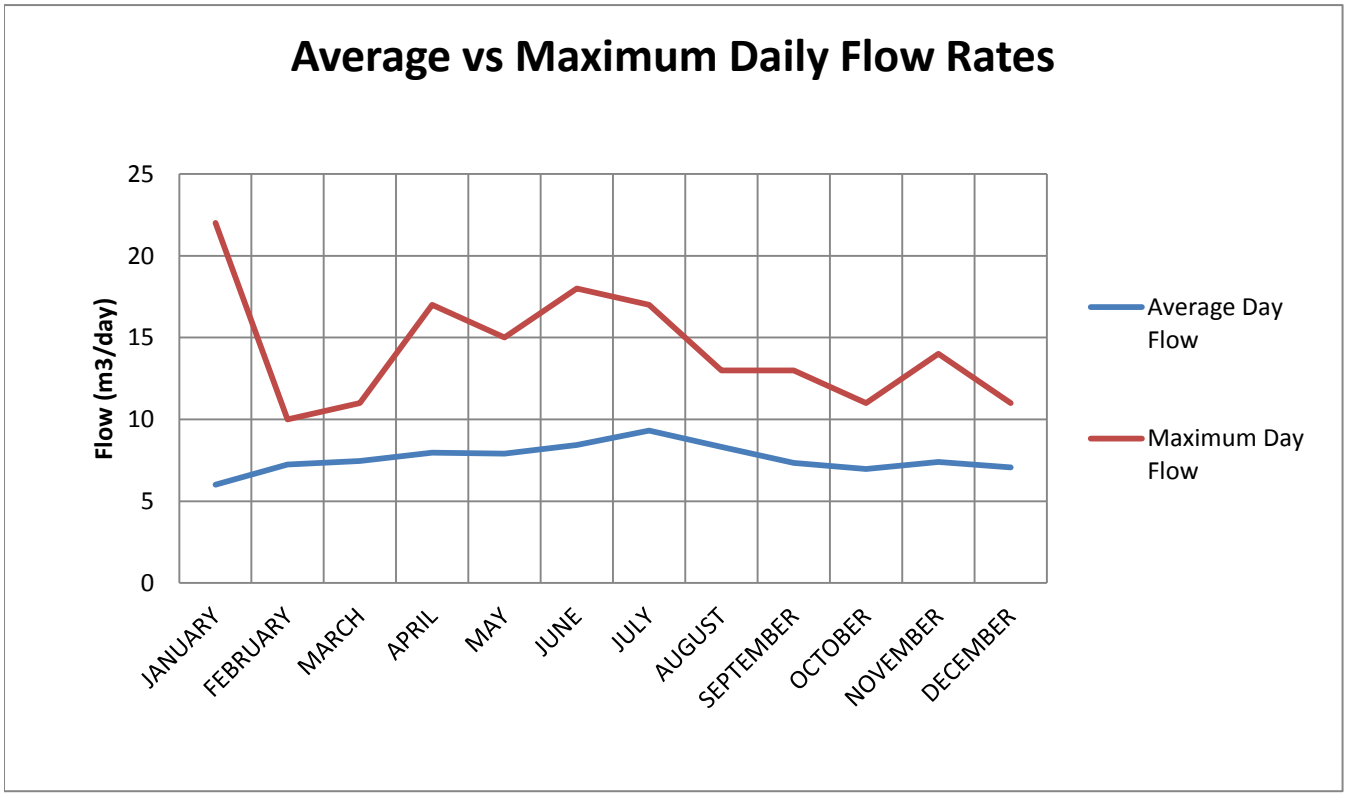
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	Dec 2/19	ND	6	0.09
Arsenic	Annual Average	7.8	10	0.2
Barium	Dec 2/19	239	1000	0.01
Boron	"	29	5000	0.2
Cadmium	"	ND	5	0.003
Chromium	"	0.10	50	0.5
Mercury	"	0.01	1	0.02
Selenium	"	ND	5	1
Uranium	"	0.112	20	0.001

The following Table summarizes the most recent test results for Schedule 24. Testing is required every 5 years for secure groundwater wells.

Parameter	Sample Date	Result Value (ug/L)	MAC (ug/L)	MDL (ug/L)
Alachlor	Dec 2/19	ND	5	0.11
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.12
Azinphos-methyl	“	ND	20	0.21
Benzene	“	ND	1	0.37
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.16
Carbofuran	“	ND	90	0.37
Carbon Tetrachloride	“	ND	2	0.41
Chlorpyrifos	“	ND	90	0.18
Diazinon	“	ND	20	0.081
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.50
1,4-Dichlorobenzene	“	ND	5	0.21
1,2-Dichloroethane	“	ND	5	0.43
1,1-Dichloroethylene(vinylidene chloride)	“	ND	14	0.41
Dichloromethane	“	ND	50	0.34
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.12
Diquat	“	ND	70	1
Diuron	“	ND	150	0.87
Glyphosate	“	ND	280	6
Malathion	“	ND	190	0.091
Metolachlor	“	ND	50	0.092
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metribuzin	“	ND	80	0.12
Monochlorobenzene	“	ND	80	0.58
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.11
Picloram	“	ND	190	0.25
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.23
Simazine	“	ND	10	0.15
Terbufos	“	ND	1	0.12
Tetrachloroethylene	“	ND	10	0.45
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.10
Trichloroethylene	“	ND	5	0.38
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.12
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Dereham Centre Water System Capacity 50 m^3/d

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Drumbo-Princeton Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Drumbo-Princeton Water System
Drinking Water System Number:	220007515
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Drumbo-Princeton Drinking Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 1,573.

The system consists of three wells that are secure groundwater, connected to a central treatment facility all located in Drumbo. The facility houses high lift pumps, monitoring equipment, and a 516 m^3 reservoir. Treatment consists of the addition of sodium hypochlorite for disinfection and sodium silicate to sequester iron. A standby generator is available to run the facility in the event of a power failure. The two communities are linked by a transmission main. In Princeton, there is a pressure control facility with chlorine residual monitoring, re-chlorination equipment, and a 271 m^3 storage standpipe.

In 2020, approximately 3,280 L of sodium hypochlorite and 1,845 L (2,610 kg) of sodium silicate were used in the water treatment process. These chemicals are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Drumbo-Princeton Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems
- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli and Total Coliform*

Bacteriological tests for *E. coli* and total coliforms are required weekly on the raw and treated water at the facility and in the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment and Climate Change (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 176 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	142	0	0 - 3
Treated	52	0	0
Distribution	124	0	0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	52	0 - 2
Distribution	36	0 - 7

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for

different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Drumbo-Princeton system is provided below.

3.1. Hardness, Iron and Manganese

These are aesthetic parameters that may affect the appearance of the water but are not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits, improve soap efficiency and reduce iron levels. This information is included here to help set the water softener at the level recommended by the manufacturer. Levels of iron less than 0.30 mg/L (ppm) are not considered to cause aesthetic problems such as discoloured water. In Drumbo-Princeton, sodium silicate is added to keep the iron in suspension at wells 1 and 2A. Manganese is commonly found in conjunction with iron and also causes discoloured water. Manganese levels in this system are above a new proposed aesthetic objective of 0.02 mg/L

- Hardness is 298 mg/L (equivalent to 21 grains)
- Iron level is 0.34 mg/L (ppm)
- Manganese level is 0.03 mg/L (ppm)

3.2. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.51 – 3.10) 1.33
Chlorine residual after treatment (mg/L)	Continuous	(0.30 – 3.34) 1.43
Turbidity after treatment (NTU)	Continuous	(0.20 – 3.19) 0.31

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	1,329 m^3/d
Municipal Drinking Water License Limit	1,329 m^3/d
2020 Average Daily Flow	291 m^3/d
2020 Maximum Daily Flow	538 m^3
2020 Average Monthly Flow	8,890 m^3
2020 Total Amount of Water Supplied	106,678 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The 2020 MECP annual inspection had not taken place at the time this report was prepared. Due to Covid-19 restrictions data review will occur first with the field inspection will take place at a later date. Final inspection results will be presented to County Council in a memo. The 2019 Inspection Report rating was 100%.

6.2. Adverse Results

Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions are taken. Below is a summary of the one adverse/reportable occurrences for 2020 along with the corresponding resolution.

Observations that the Drinking Water Quality may be Affected		
Loss of pressure at Princeton for 40 minutes due to power failure when standpipe was offline, July 7, 2020	Reported, issued a precautionary boil water advisory to Princeton customers. Restored pressure, flushed and collected samples.	Sample results were acceptable and the advisory was removed July 9, 2020

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01.titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	0.744 – 0.897	0.812	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	12	100	0.37
Haloacetic Acids (HAA)	2020	ND	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	Aug 22/16	10.5	20.0*	0.01
Fluoride	"	0.18	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	2.44 - 2.60	4	30 – 500mg/L
Distribution pH	7.8	4	6.5 – 8.5
Distribution Lead 2018	0.12 - 0.40	4	10 ug/L MAC

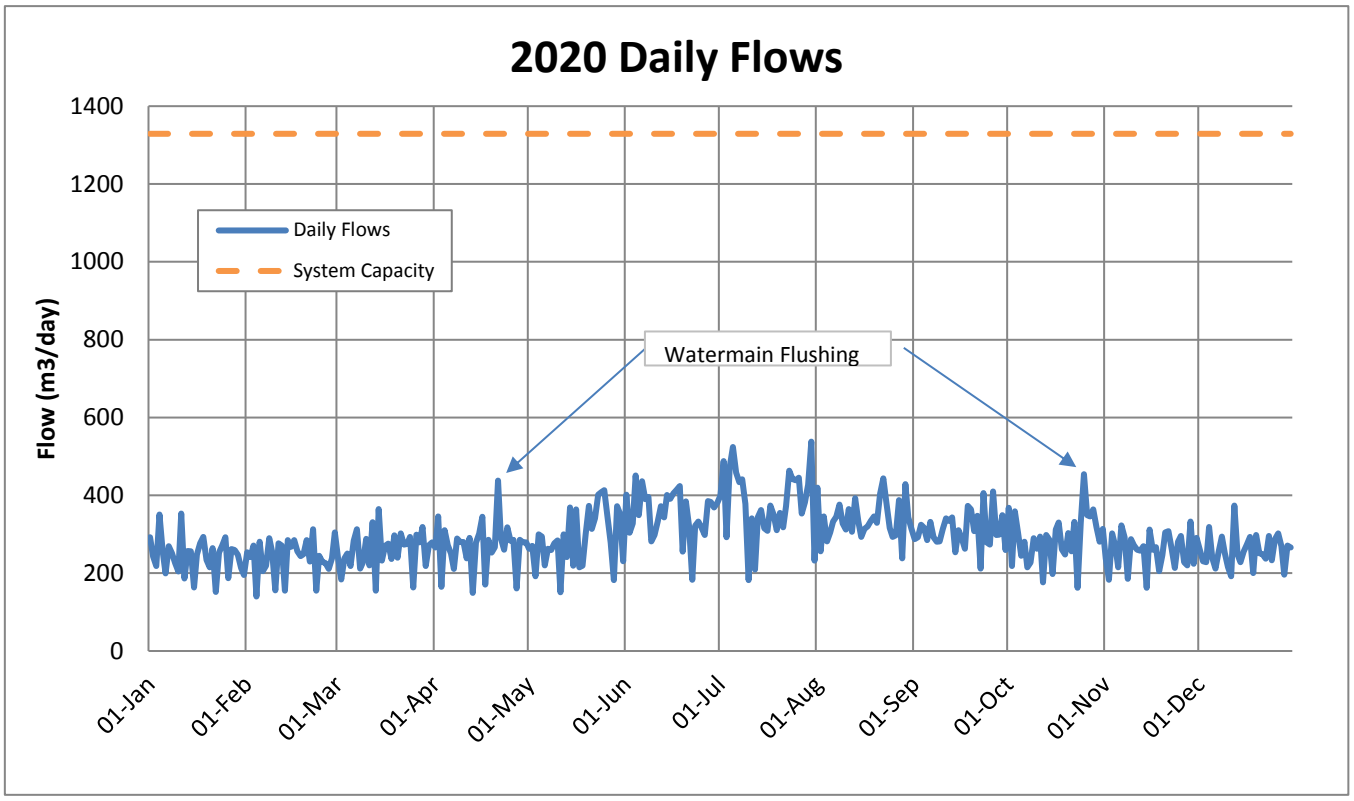
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 3 years for secure groundwater wells.

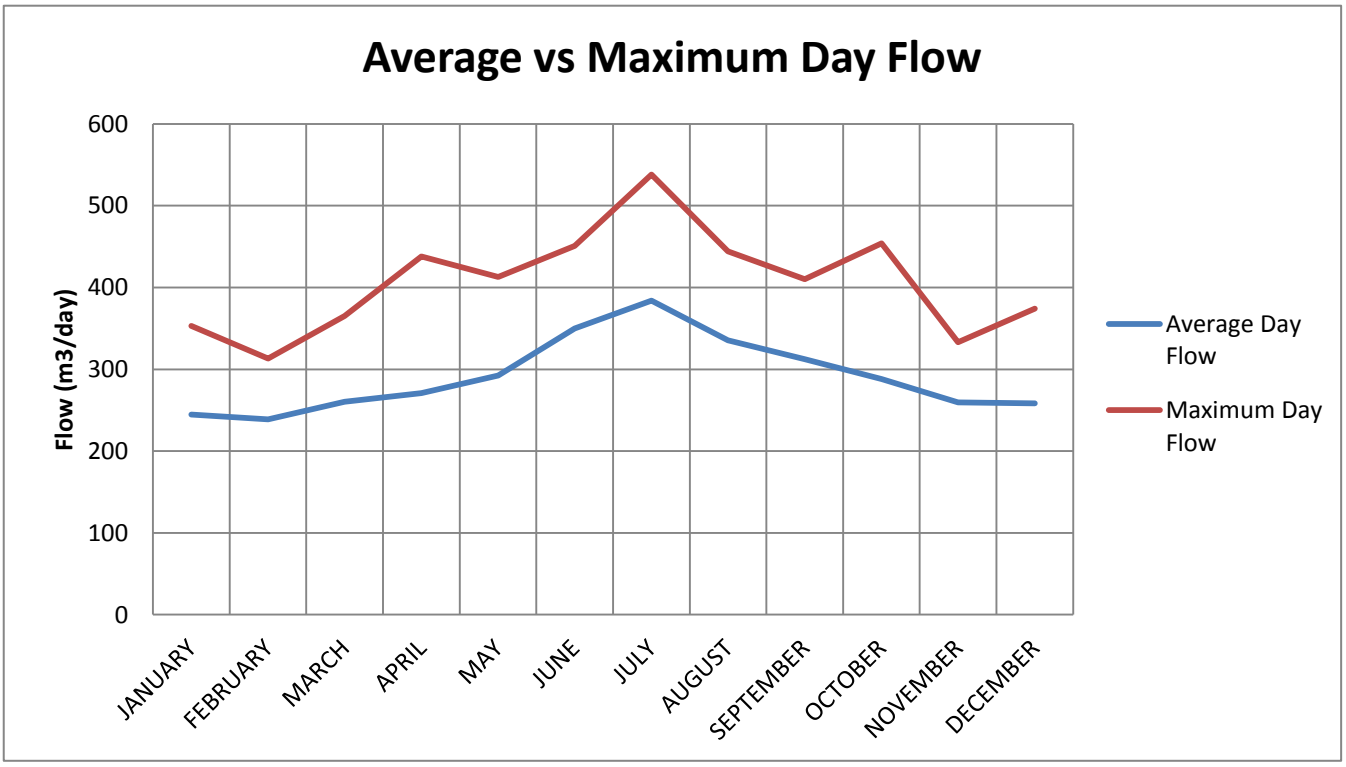
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	May 21/19	ND	6	0.09
Arsenic	"	1.0	10	0.2
Barium	"	175	1000	0.01
Boron	"	18	5000	2
Cadmium	"	0.009	5	0.003
Chromium	"	0.14	50	0.03
Mercury	"	ND	1	0.01
Selenium	"	ND	5	0.04
Uranium	"	0.884	20	0.002

The following Table summarizes the most recent test results for Schedule 24.Testing is required every 3 years for secure groundwater wells.

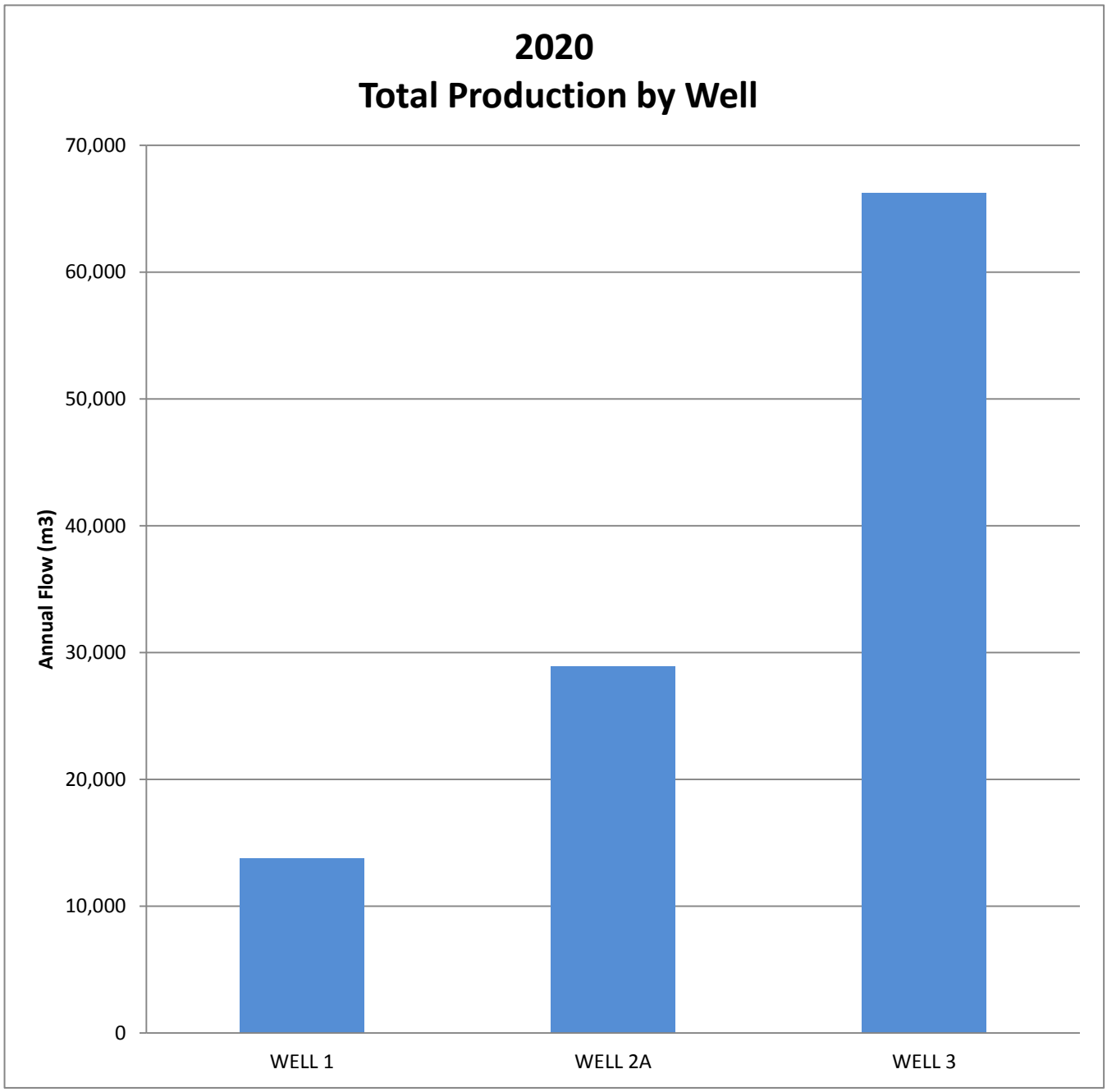
Parameter	*Sample Date*	Result Value (ug/L)	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	June 4/18	ND	5	0.11
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.12
Azinphos-methyl	“	ND	20	0.21
Benzene	“	ND	1	0.37
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.16
Carbofuran	“	ND	90	0.37
Carbon Tetrachloride	“	ND	2	0.41
Chlorpyrifos	“	ND	90	0.18
Diazinon	“	ND	20	0.081
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.50
1,4-Dichlorobenzene	“	ND	5	0.21
1,2-Dichloroethane	“	ND	5	0.43
1,1-Dichloroethylene(vinylidene chloride)	“	ND	14	0.41
Dichloromethane	“	ND	50	0.34
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.12
Diquat	“	ND	70	1
Diuron	“	ND	150	0.87
Glyphosate	“	ND	280	6
Malathion	“	ND	190	0.091
Metolachlor	“	ND	50	0.092
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metribuzin	“	ND	80	0.12
Monochlorobenzene	“	ND	80	0.58
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.11
Picloram	“	ND	190	0.25
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.23
Simazine	“	ND	10	0.15
Terbufos	“	ND	1	0.12
Tetrachloroethylene	“	ND	10	0.45
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.10
Trichloroethylene	“	ND	5	0.38
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.12
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Drumbo-Princeton Water System Capacity 1,329 $m^{3/}d$



Drumbo-Princeton Water System Capacity 1,329 $m^{3/}$d

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Embro Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Embro Water System
Drinking Water System Number:	220000656
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Embro Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 841. The system consists of two well sources which are secure groundwater wells. The water is treated by filtration to remove iron and sodium hypochlorite for disinfection. In 2020, approximately 2,530 L of sodium hypochlorite was used in the water treatment process. The chemical is certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The treatment facility houses two anthracite filter beds, pumps, treatment equipment and a 350 m^3 reservoir. The filter beds were upgraded to MD-80 in 2020 in order to increase the iron & manganese removal efficiencies. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Embro Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects in Embro included:

- $290,000 for replacement of distribution water mains in the Township systems
- $90,000 for filter upgrades
- $35,000 for Township groundwater models
- $75,000 for Township well rehabs

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli* and Total Coliform

Bacteriological tests for *E. coli* and total coliforms required weekly on the raw and treated water at the facility and in the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment and Climate Change (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There was one adverse test results from 180 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	104	0	0
Treated	52	0	0
Distribution	128	0	0 - 1

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	52	0 - 6
Distribution	36	0 - 7

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Embro system is provided below.

3.1. Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, the sodium will not impair the taste of the water. When sodium levels are above 20 mg/L the MECP and MOH are notified. Southwestern Public Health maintain an information page on sodium in drinking water https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf in order to help people on sodium restricted diets control their sodium intake. The sodium level in Embro is 20.2 mg/L.

3.2. Hardness

This is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. The Hardness in the Embro System is 490 mg/L (equivalent to 34 grains).

3.2. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.30 – 1.66) 1.12
Chlorine residual after treatment (mg/L)	Continuous	(0.57 – 1.95) 1.33
Turbidity after treatment (NTU)	Continuous	(0.06 – 0.92) 0.08

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	917 m^3/d
Municipal Drinking Water License Limit	916 m^3/d
2020 Average Daily Flow	225 m^3/d
2020 Maximum Daily Flow	443 m^3/d
2020 Average Monthly Flow	6,880 m^3
2020 Total Amount of Water Supplied	82,563 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in December 2020. Inspection results were not available at the time this report was made. Final inspection results will be presented to County Council in a memo. The 2019 Inspection Report rating was 100%.

6.2. Adverse Results

Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions are taken. Below is a summary of the adverse/reportable occurrence for 2020 along with the corresponding resolution.

Incident / Date	*Corrective Action*	*Resolution / Date*
Treated or Distribution Water Sample with Positive Test for *E.Coli* or Total Coliform Bacteria		
1 TC cfu/100mL – treated distribution sample June 29, 2020	Reported and resamples were taken	Resample results acceptable July 02, 2020

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found at the MECP web site https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf document # 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	0.047 – 0.069	0.047	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	18.0	100	0.37
Haloacetic Acids (HAA)	2020	10.7	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	May21/19	20.2	20.0*	0.01
Fluoride	Aug 23/16	1.37	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	205 - 215	4	30 – 500mg/L
Distribution pH	7.6 - 7.7	4	6.5 – 8.5
Distribution Lead 2018	0.19 - 1.76	4	10 ug/L MAC

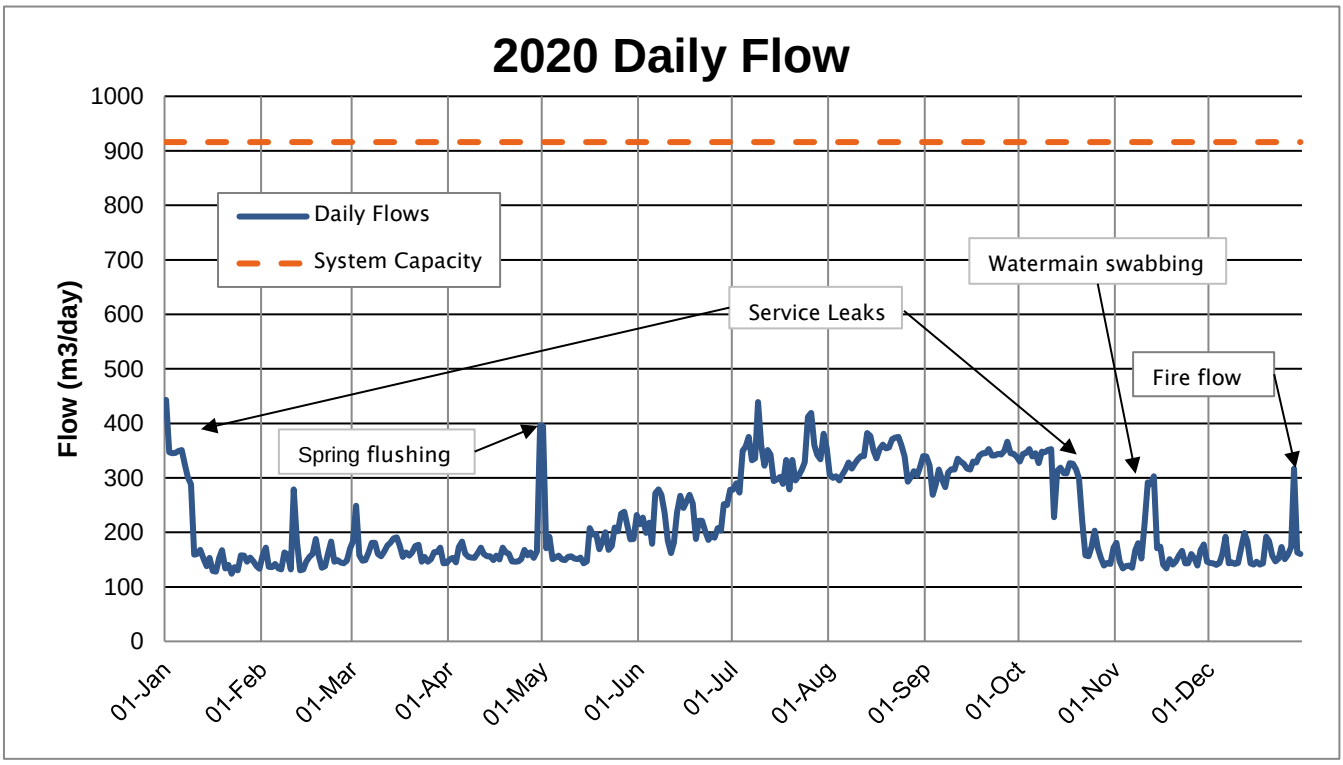
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 3 years for secure groundwater wells.

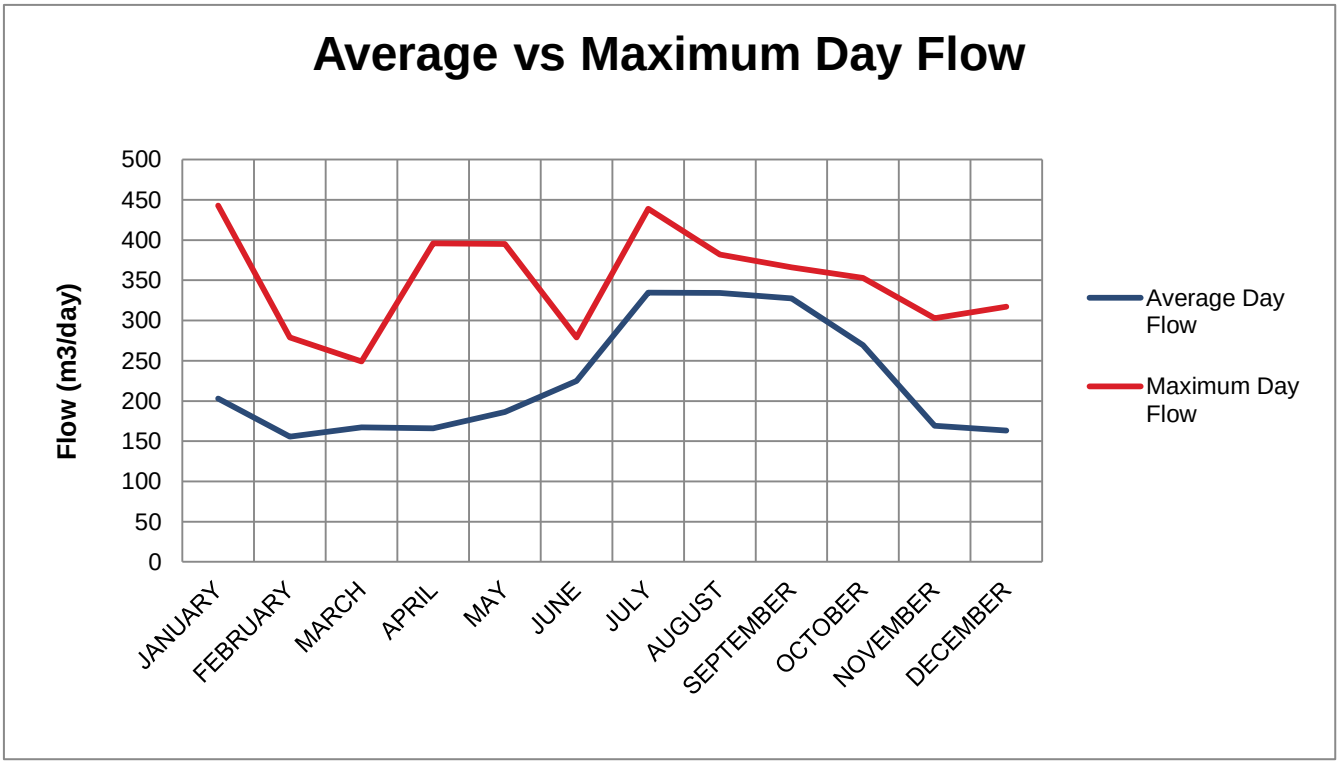
Parameter	*Sample Date*	*Result Value(ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	May 21/19	ND	6	0.09
Arsenic	"	0.3	10	0.2
Barium	"	56.3	1000	0.01
Boron	"	78	5000	2
Cadmium	"	ND	5	0.003
Chromium	"	ND	50	0.08
Mercury	"	ND	1	0.02
Selenium	"	ND	5	0.04
Uranium	"	0.032	20	0.002

The following Table summarizes the most recent test results for Schedule 24. Testing is required every 3 years for secure groundwater wells.

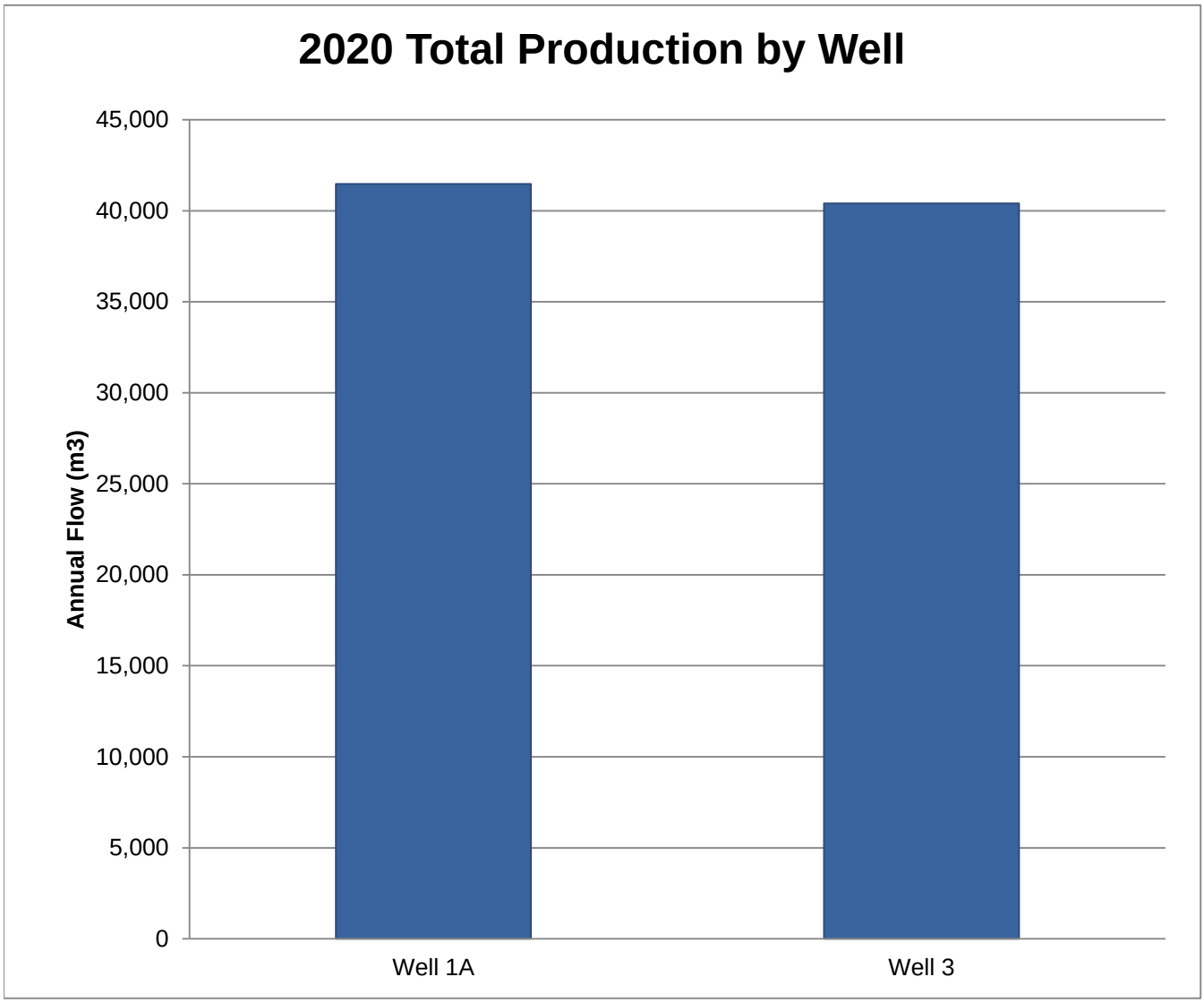
Parameter	Sample Date	Result Value (ug/L)	MAC (ug/L)	MDL (ug/L)
Alachlor	June 4/18	ND	5	0.11
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.12
Azinphos-methyl	“	ND	20	0.21
Benzene	“	ND	1	0.37
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.16
Carbofuran	“	ND	90	0.37
Carbon Tetrachloride	“	ND	2	0.41
Chlorpyrifos	“	ND	90	0.18
Diazinon	“	ND	20	0.081
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.50
1,4-Dichlorobenzene	“	ND	5	0.21
1,2-Dichloroethane	“	ND	5	0.43
1,1-Dichloroethylene(vinylidene chloride)	“	ND	14	0.41
Dichloromethane	“	ND	50	0.34
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.12
Diquat	“	ND	70	1
Diuron	“	ND	150	0.87
Glyphosate	“	ND	280	6
Malathion	“	ND	190	0.091
Metolachlor	“	ND	50	0.092
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metribuzin	“	ND	80	0.12
Monochlorobenzene	“	ND	80	0.58
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.11
Picloram	“	ND	190	0.25
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.23
Simazine	“	ND	10	0.15
Terbufos	“	ND	1	0.12
Tetrachloroethylene	“	ND	10	0.45
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.10
Trichloroethylene	“	ND	5	0.38
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.12
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Embro Water System Capacity 916 m^3/d



Embro Water System Capacity 916 m^3/d

Oxford County
Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Hickson Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Hickson Water System
Drinking Water System Number:	2200006124
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Hickson Water System is a Small Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 102. The system consists of one groundwater well and a treatment facility. The water is treated with sodium hypochlorite (liquid chlorine) for disinfection and in 2020 approximately 221 litres of the chemical was used in the water treatment process. This chemical is certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The treatment facility houses pumps, monitoring equipment, and a 62 m^3 underground reservoir. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Hickson Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operations and maintenance for all water systems, capital improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems
- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli* and Total Coliform

Bacteriological tests for *E. coli* and total coliforms are taken weekly from the raw water at the facility and from the distribution system. Samples of treated water are not required for Small Municipal systems but may be taken periodically. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of the Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown in the table below. There were no adverse test results from 52 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	52	0 - 0	0 - 1
Distribution	52	0 - 0	0 - 0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are completed weekly from the distribution water for small systems. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Distribution	52	0 - 8

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Hickson system is provided below.

3.1. Hardness

Hardness is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. The Hardness in the Hickson System is 287 mg/L (equivalent to 20 grains).

3.2. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	105	(0.40 – 1.25) 0.88
Chlorine residual after treatment (mg/L)	Continuous	(0.46 – 3.10) 1.10
Turbidity after treatment (NTU)	Continuous	(0.18 – 4.00) 0.24

5. WATER QUANTITY

Continuous monitoring of flow rates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	300 m^3/d
Municipal Drinking Water License Limit	389 m^3/d
2020 Average Daily Flow	20 m^3/d
2020 Maximum Daily Flow	52 m^3/d
2020 Average Monthly Flow	599 m^3
2020 Total Amount of Water Supplied	7,182 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated corrective actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated,

corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in July 2020. There were no non-compliance findings and the 2020 Inspection Report rating was 100%.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions are taken.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of ND stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND – 0.012	0.005	1.0	0.003
Nitrate	ND – 0.021	0.011	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	14.0	100	0.37
Haloacetic Acids (HAA)	2020	ND	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting of any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	Aug 22/16	10.7	20.0*	0.01
Fluoride	Aug 22/16	1.34	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	242 – 249	2	30 – 500mg/L
Distribution pH	7.6 – 7.6	2	6.5 – 8.5
Distribution Lead 2018	0.09 – 0.17	2	10 ug/L MAC

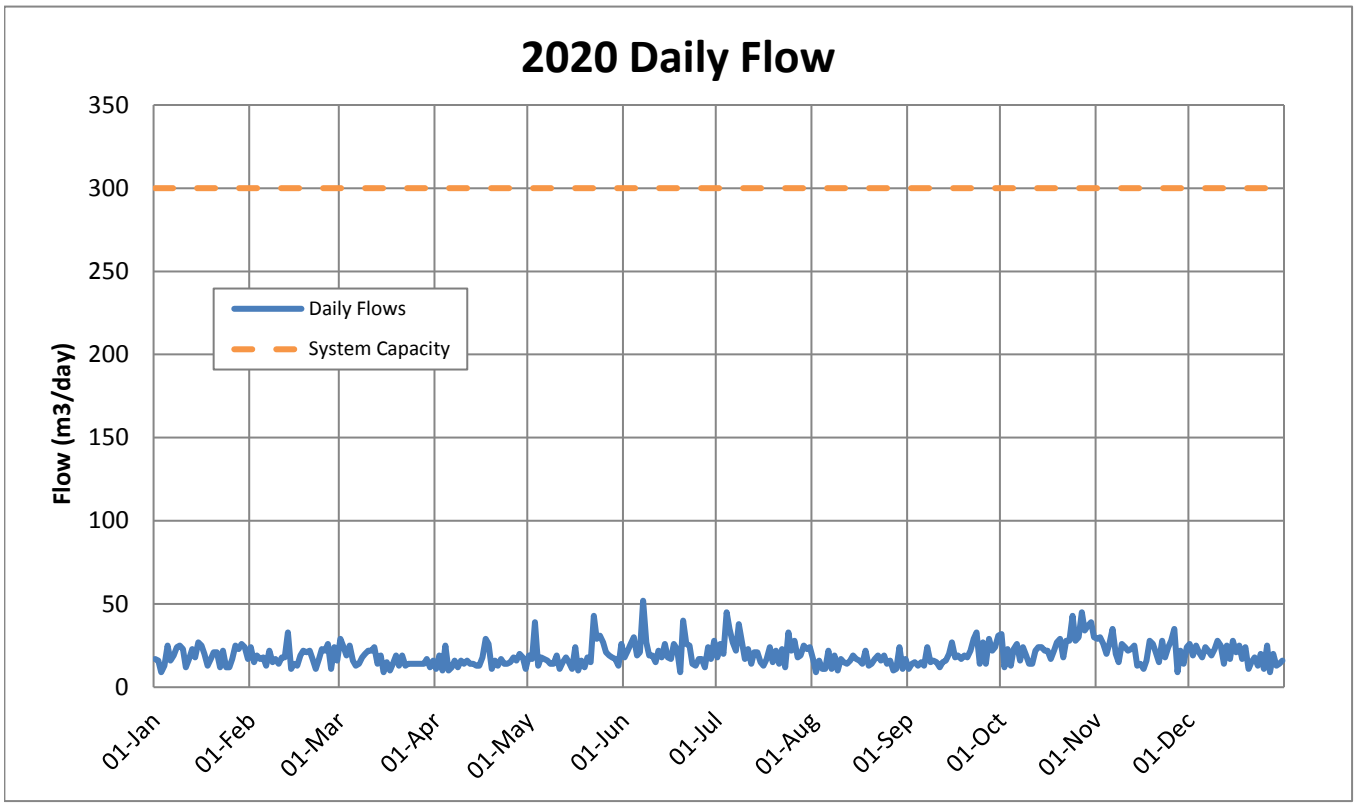
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 5 years for secure groundwater wells.

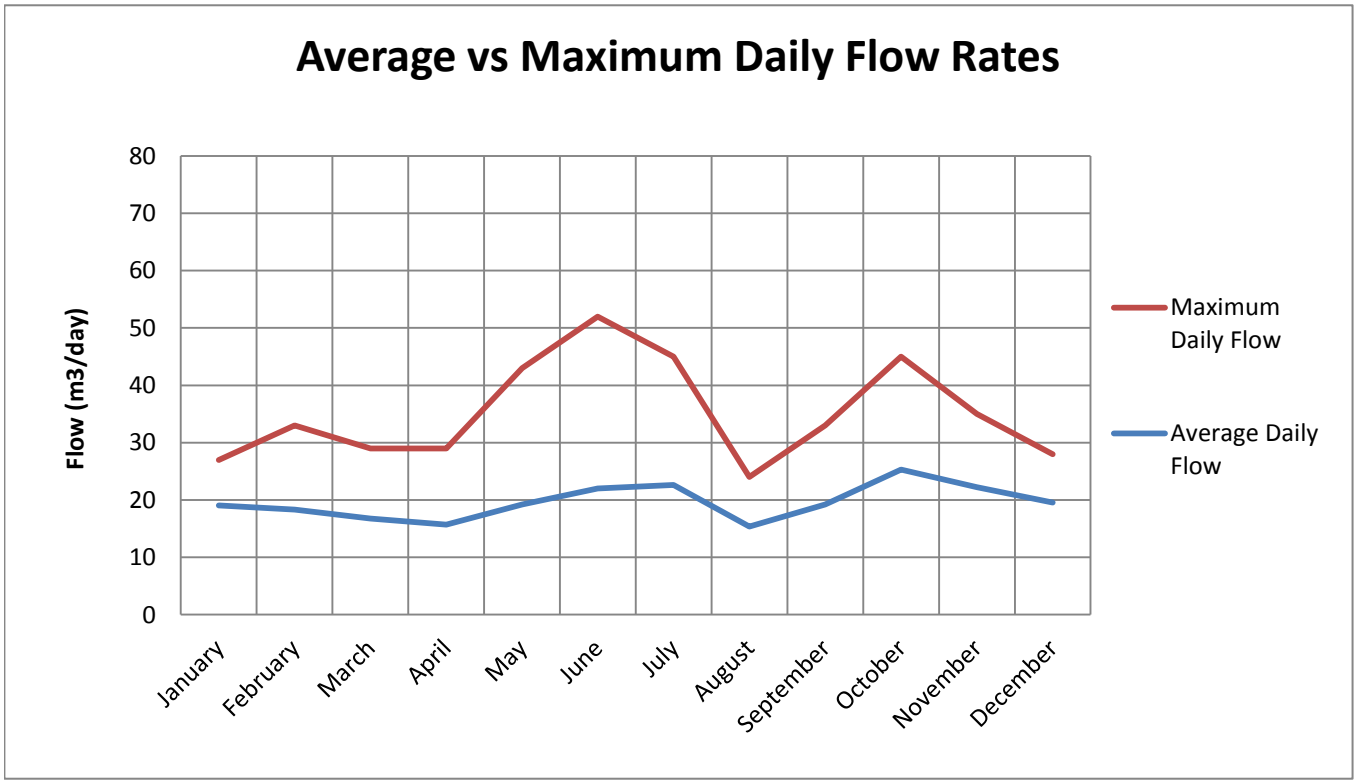
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	May 21, 2019	ND	6	0.09
Arsenic	"	ND	10	0.20
Barium	"	53.5	1000	0.02
Boron	"	27	5000	2.0
Cadmium	"	ND	5	0.003
Chromium	"	0.18	50	0.08
Mercury	"	ND	1	0.01
Selenium	"	ND	50	0.04
Uranium	"	0.04	20	0.002

The following Table summarizes the most recent test results for the Organic parameters in Schedule 24.
Testing is required every 5 years for secure groundwater wells.

Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	May 30, 2016	ND	5	0.02
Atrazine + N-dealkylated metobolites	"	ND	5	0.01
Azinphos-methyl	“	ND	20	0.05
Benzene	“	ND	1	0.32
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.05
Carbofuran	“	ND	90	0.01
Carbon Tetrachloride	“	ND	2	0.16
Chlorpyrifos	“	ND	90	0.02
Diazinon	“	ND	20	0.02
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.41
1,4-Dichlorobenzene	“	ND	5	0.36
1,2-Dichloroethane	“	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	“	ND	14	0.33
Dichloromethane	“	ND	50	0.35
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.03
Diquat	“	ND	70	1
Diuron	“	ND	150	0.03
Glyphosate	“	ND	280	1
Malathion	“	ND	190	0.02
Metolachlor	“	ND	50	0.01
Metribuzin	“	ND	80	0.02
Monochlorobenzene	“	ND	80	0.30
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.01
Picloram	“	ND	190	1
Polychlorinated Biphenyls (PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.03
Simazine	“	ND	10	0.01
Terbufos	“	ND	1	0.01
Tetrachloroethylene	“	ND	10	0.35
2,3,4,6-Tetrachlorophenol	“	ND	100	0.2
Triallate	“	ND	230	0.01
Trichloroethylene	“	ND	5	0.44
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.02
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Hickson Water System Capacity 300 m3/day

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Ingersoll Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Ingersoll Water System
Drinking Water System Number:	220000692
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water & Wastewater Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Ingersoll Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 13,600. There are seven groundwater wells and Water Treatment Facilities (WTF) serving the Ingersoll systems as follows:

Merritt Street WTF – Well 2
Hamilton Road WTF – Well 3
Canterbury Street WTF – Well 5
West Street WTF – Well 7 (Not operational in 2020)
Dunn's Road WTF – Well 8
Thompson Road WTF – Well 10
Wallace Line WTF – Well 11 (Not operational in 2020)

Due to the elevated levels of naturally occurring hydrogen sulphide, the WTF's with the exception of Wallace Line have hydrogen sulphide removal equipment consisting of an oxidation and filtration process. The filters also improve the water quality by reducing other parameters such as turbidity and iron.

Each WTF has an in-ground reservoir, automated chlorine injection system, monitoring and alarm equipment, and supplies water directly to the distribution system. In 2020, approximately 198,501 litres of sodium hypochlorite (liquid chlorine) and 1,020 kg of chlorine gas were used in the water treatment process. These chemicals are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

Storage capacity is provided by a 2,840 m³ water tower and a 3,290 m³ reservoir at the Merritt Street WTF. Standby generators are located at Merritt Street, Thompson Road and Dunn's Road WTF's to provide electrical power to these facilities during power outages.

The system is maintained by licensed water system operators, who operate the treatment and monitoring equipment and collect samples as specified by the Regulations. Microbiological and chemical samples are analyzed at certified laboratories. A SCADA (Supervisory Control and Data Acquisition) system controls the normal operation of the facilities and collects operational data. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

In 2020 the Ingersoll Water System had forecasted operating and maintenance expenditures of approximately $1,300,000. Capital Improvement projects included:

- $53,000 for improvements to water facilities
- $20,000 for copper corrosion control study
- $760,000 Town Projects (reconstruction and repairs)
- $25,000 for consulting for tower repair & painting

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators
-

2. MICROBIOLOGICAL TESTING

2.1. *E. coli* and Total Coliform

Bacteriological tests for *E. coli* and total coliforms are required weekly on the raw and treated water at each facility and in the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of the Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown in the table below. There were no adverse test result from 497 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	188	0	0
Treated	194	0	0
Distribution	303	0	0

2.2 Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system's bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	193	0 - 9
Distribution	114	0 – 5

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Ingersoll system is provided below.

3.1. Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, sodium will not impair the taste of water.

When sodium levels are above 20 mg/L the MECP and MOH are notified. Southwestern Public Health Unit maintains an information page on sodium in drinking water at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf in order to help people on sodium restricted diets control their sodium intake. The average sodium level in the water is 52 mg/L (ranging from 45 to 61 mg/L) and the test results for each treatment facility are provided in Appendix A.

3.2. Fluoride

Fluoride levels are tested once every five years and levels above 1.5 mg/L must be reported to the MECP and MOH. Levels under 2.4 mg/L are considered safe for consumption, however at levels between 1.5 and 2.4 mg/L fluoride may cause staining or pitting of teeth in children less than 6 years old. Further information on fluoride can be found on the Southwestern Public Health Unit webpage at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Fluoride-20201203.pdf

Oxford County does not add fluoride to the water at any of its drinking water systems however the Ingersoll system has naturally occurring fluoride levels averaging 1.6 mg/L (ranging from 0.8 to 2.1 mg/L). The test results for each treatment facility are provided in Appendix A.

3.3. Hardness

Hardness is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set a water softener at the level recommended by the manufacturer. The Hardness in the system is 277 mg/L (equivalent to 19 grains/gallon).

3.4. Additional Testing Required by MECP

Additional testing for Sulfides is required for the Ingersoll Water System. The results are summarized in the table below.

Type of legal instrument: MECP Municipal Drinking Water License – June 9, 2020					
Parameter	*Date Sampled*	*Result Raw Water*	*Result Treated Water*	*Aesthetic Objective (mg/L)*	MDL (mg/L)
Sulfides – Merritt St	Offline	-	-	0.05	0.006
Sulfides – Hamilton Rd	Dec 7, 2020	ND	ND	0.05	0.006
Sulfides – Canterbury St	Dec 7, 2020	0.03	ND	0.05	0.006
Sulfides – Dunn's Rd	Jan 13, 2020	2.07	ND	0.05	0.006
Sulfides – Thompson Rd	Dec 7, 2020	0.13	ND	0.05	0.006

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of each Water Treatment Facility. In the distribution system, free chlorine is monitored continuously at the water tower. As the target, the free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at each treatment facility. A change in turbidity can indicate an operational problem. The turbidity of untreated water from each well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine Residual in Distribution (mg/L)	Continuous	(0.38 – 2.04) 0.98
Chlorine – Merritt St. WTF (mg/L)	Continuous	(0.23 – 3.41) 0.85
Chlorine – Hamilton Rd. WTF (mg/L)	Continuous	(0.46 – 2.44) 1.32
Chlorine – Canterbury St. WTF (mg/L)	Continuous	(0.64 – 2.58) 1.33
Chlorine – Dunn's Rd. WTF (mg/L)	Continuous	(0.35 – 2.57) 1.10
Chlorine – Thompson Rd. WTF (mg/L)	Continuous	(0.92 – 2.29) 1.48
Turbidity – Merritt St. WTF (NTU)	Continuous	(0.08 – 5.52) 0.39
Turbidity – Hamilton Rd. WTF (NTU)	Continuous	(0.04 – 2.54) 0.12
Turbidity – Canterbury St. WTF (NTU)	Continuous	(0.04 – 3.62) 0.11
Turbidity – Dunn's Rd. WTF (NTU)	Continuous	(0.07 – 4.73) 1.83
Turbidity – Thompson Rd. WTF (NTU)	Continuous	(0.04 – 0.44) 0.08

5. WATER QUANTITY

Continuous monitoring of flow rates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	26,367 m^3/d
Municipal Drinking Water License Limit	26,512 m^3/d
2020 Average Daily Flow	4,786 m^3/d
2020 Maximum Daily Flow	6,816 m^3/d
2020 Average Monthly Flow	145,199 m^3
2020 Total Amount of Water Supplied	1,742,393 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection was scheduled to start late in January with the final report likely to be issued later in February 2021. Therefore a current Inspection Report rating and any non-compliance findings are unavailable from the final report.

6.2. Adverse Results

Any adverse results from bacteriological, chemical or observations of operational conditions that indicate adverse water quality are reported as required to the MECP and the MOH and corrective actions taken. Below is a summary of the adverse/reportable occurrences for 2019 along with the corresponding resolution.

Incident/Date	*Corrective Action*	*Resolution/Date*
Low Chlorine Residual in Distribution System		
January 10, 2020	Report, flush and retest	Acceptable chlorine residual restored January 10, 2020

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter & Location	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite				
Merritt St.	Offline	Offline	1.0	0.003
Hamilton Rd.	ND	ND	1.0	0.003
Canterbury St.	ND	ND	1.0	0.003
Dunn's Rd.	ND	ND	1.0	0.003
Thompson Rd.	ND	ND	1.0	0.003
Nitrate				
Merritt St.	Offline	Offline	10.0	0.006
Hamilton Rd.	0.008 – 0.009	0.009	10.0	0.006
Canterbury St.	0.008 – 0.014	0.010	10.0	0.006
Dunn's Rd.	ND – 0.008	0.007	10.0	0.006
Thompson Rd.	ND – 0.090	0.027	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	21	100	0.37
Haloacetic Acids (HAA)	2020	6.6	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter & Location	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium				
Merritt St.	July 10/19	51.4	20.0*	0.01
Hamilton Rd.	June 5/19	47.9	20.0*	0.01
Canterbury St.	June 3/19	55.2	20.0*	0.01
Dunn's Rd.	June 3/19	61.2	20.0*	0.01
Thompson Rd.	June 3/19	45.5	20.0*	0.01
Fluoride				
Merritt St.	July 10/19	2.12	1.5**	0.06
Hamilton Rd.	May 27/19	0.77	1.5**	0.06
Canterbury St.	June 3/19	1.50	1.5**	0.06
Dunn's Rd.	June 3/19	1.96	1.5**	0.06
Thompson Rd.	June 3/19	1.57	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	219 – 250	8	30 – 500mg/L
Distribution pH	7.4 – 7.6	8	6.5 – 8.5
Distribution Lead 2018	0.04 – 3.25	8	10 ug/L MAC

The following Tables summarize the most recent test results for the Inorganic parameters in Schedules 23. Testing is required every 3 years for secure groundwater wells.

Parameter	***Well 2*** *Result Value (ug/L) July 10, 2019*	***Well 3*** Result Value (ug/L) May 27, 2019	***Well 5*** *Result Value (ug/L) May 27, 2019*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	ND	ND	ND	6	0.09
Arsenic	ND	ND	0.3	10	0.2
Barium	46.4	117	55.0	1000	0.02
Boron	132	44	88	5000	2
Cadmium	0.003	ND	ND	5	0.003
Chromium	ND	0.14	0.14	50	0.08
Mercury	ND	ND	ND	1	0.01
Selenium	ND	ND	ND	50	0.04
Uranium	0.045	0.091	0.187	20	0.002

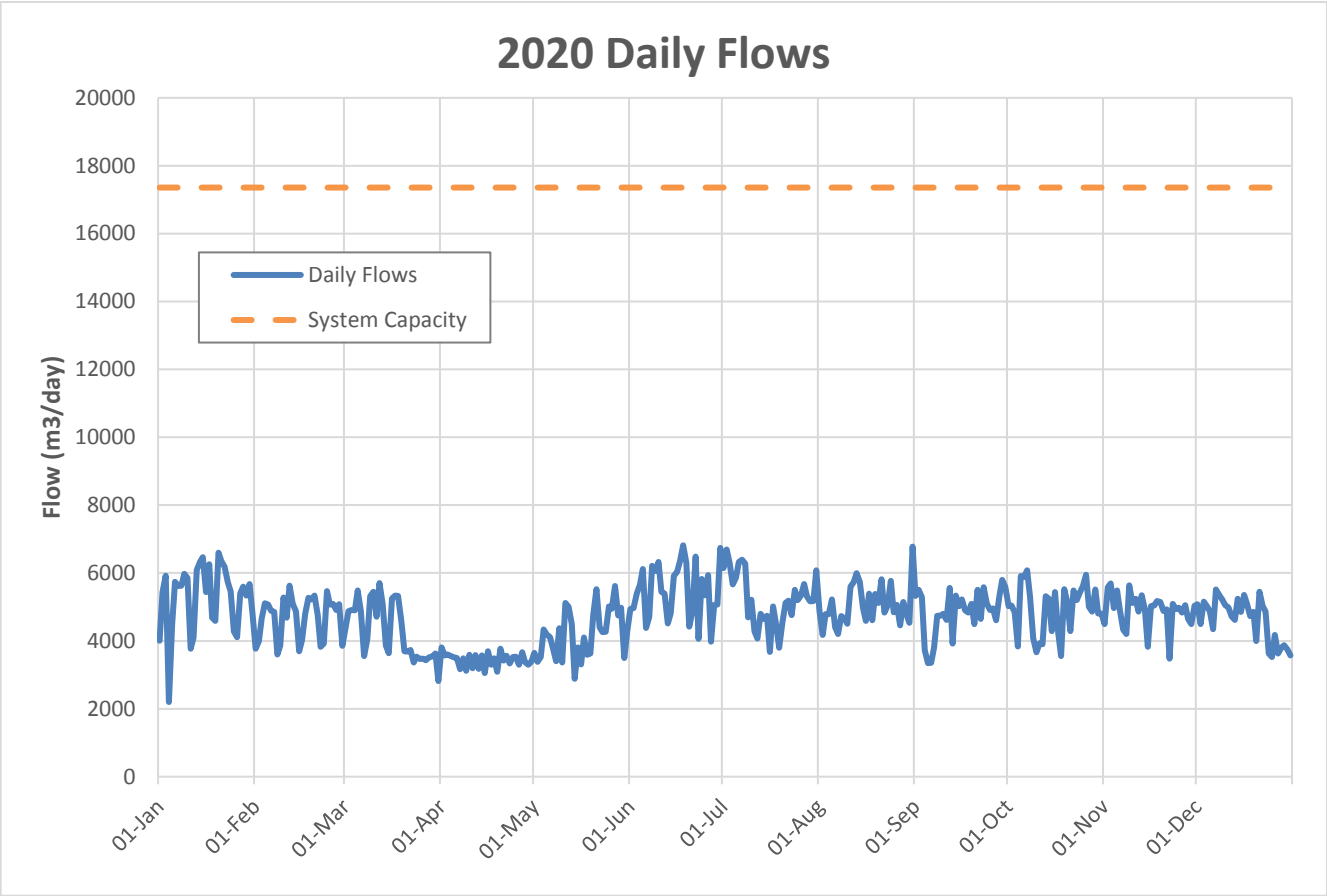
Parameter	***Well 8*** *Result Value (ug/L) May 27, 2019*	***Well 10*** Result Value (ug/L) May 27, 2019	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	ND	ND	6	0.09
Arsenic	ND	ND	10	0.2
Barium	30.1	65.3	1000	0.02
Boron	157	103	5000	2
Cadmium	ND	ND	5	0.003
Chromium	0.24	0.11	50	0.08
Mercury	ND	ND	1	0.01
Selenium	ND	ND	50	0.04
Uranium	0.076	0.082	20	0.002

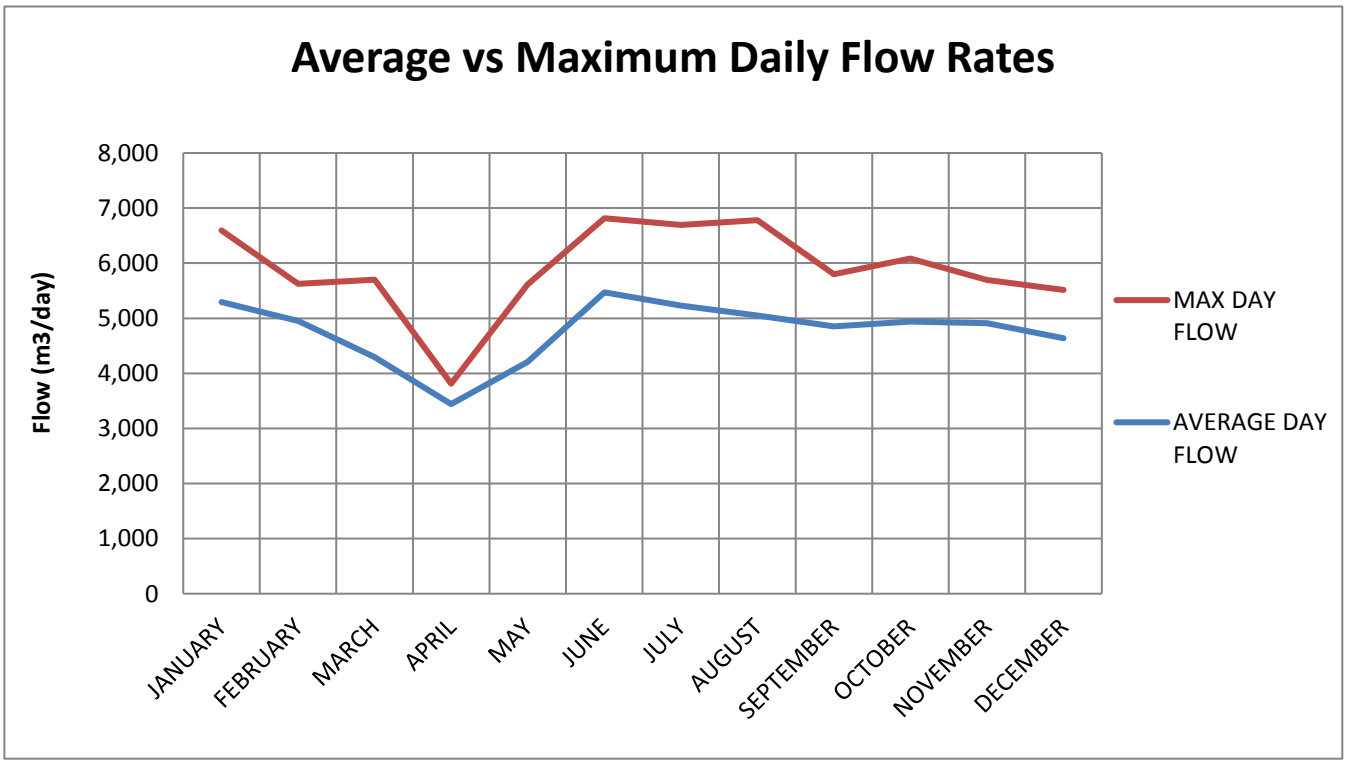
The following Tables summarize the most recent test results for the Organic parameters in Schedules 24.
Testing is required every 3 years for secure groundwater wells.

Parameter	***Well 2*** *Result Value (ug/L) June 4, 2018*	***Well 3*** *Result Value (ug/L) June 4, 2018*	***Well 5*** *Result Value (ug/L) June 4,2018*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	ND	ND	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	ND	ND	ND	5	0.01
Azinphos-methyl	ND	ND	ND	20	0.05
Benzene	ND	ND	ND	1	0.32
Benzo(a)pyrene	ND	ND	ND	0.01	0.004
Bromoxynil	ND	ND	ND	5	0.33
Carbaryl	ND	ND	ND	90	0.05
Carbofuran	ND	ND	ND	90	0.01
Carbon Tetrachloride	ND	ND	ND	2	0.16
Chlorpyrifos	ND	ND	ND	90	0.02
Diazinon	ND	ND	ND	20	0.02
Dicamba	ND	ND	ND	120	0.20
1,2-Dichlorobenzene	ND	ND	ND	200	0.41
1,4-Dichlorobenzene	ND	ND	ND	5	0.36
1,2-Dichloroethane	ND	ND	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	ND	ND	14	0.33
Dichloromethane	ND	ND	ND	50	0.35
2-4 Dichlorophenol	ND	ND	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	ND	ND	100	0.19
Diclofop-methyl	ND	ND	ND	9	0.40
Dimethoate	ND	ND	ND	20	0.03
Diquat	ND	ND	ND	70	1
Diuron	ND	ND	ND	150	0.03
Glyphosate	ND	ND	ND	280	1
Malathion	ND	ND	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	ND	ND	ND	100	0.12
Metolachlor	ND	ND	ND	50	0.01
Metribuzin	ND	ND	ND	80	0.02
Monochlorobenzene	ND	ND	ND	80	0.30
Paraquat	ND	ND	ND	10	1
Pentachlorophenol	ND	ND	ND	60	0.15
Phorate	ND	ND	ND	2	0.01
Picloram	ND	ND	ND	190	1
Polychlorinated Biphenyls(PCB)	ND	ND	ND	3	0.04
Prometryne	ND	ND	ND	1	0.03
Simazine	ND	ND	ND	10	0.01
Terbufos	ND	ND	ND	1	0.01
Tetrachloroethylene	ND	ND	ND	10	0.35
2,3,4,6-Tetrachlorophenol	ND	ND	ND	100	0.20
Triallate	ND	ND	ND	230	0.01
Trichloroethylene	ND	ND	ND	5	0.44
2,4,6-Trichlorophenol	ND	ND	ND	5	0.25
Trifluralin	ND	ND	ND	45	0.02
Vinyl Chloride	ND	ND	ND	1	0.17

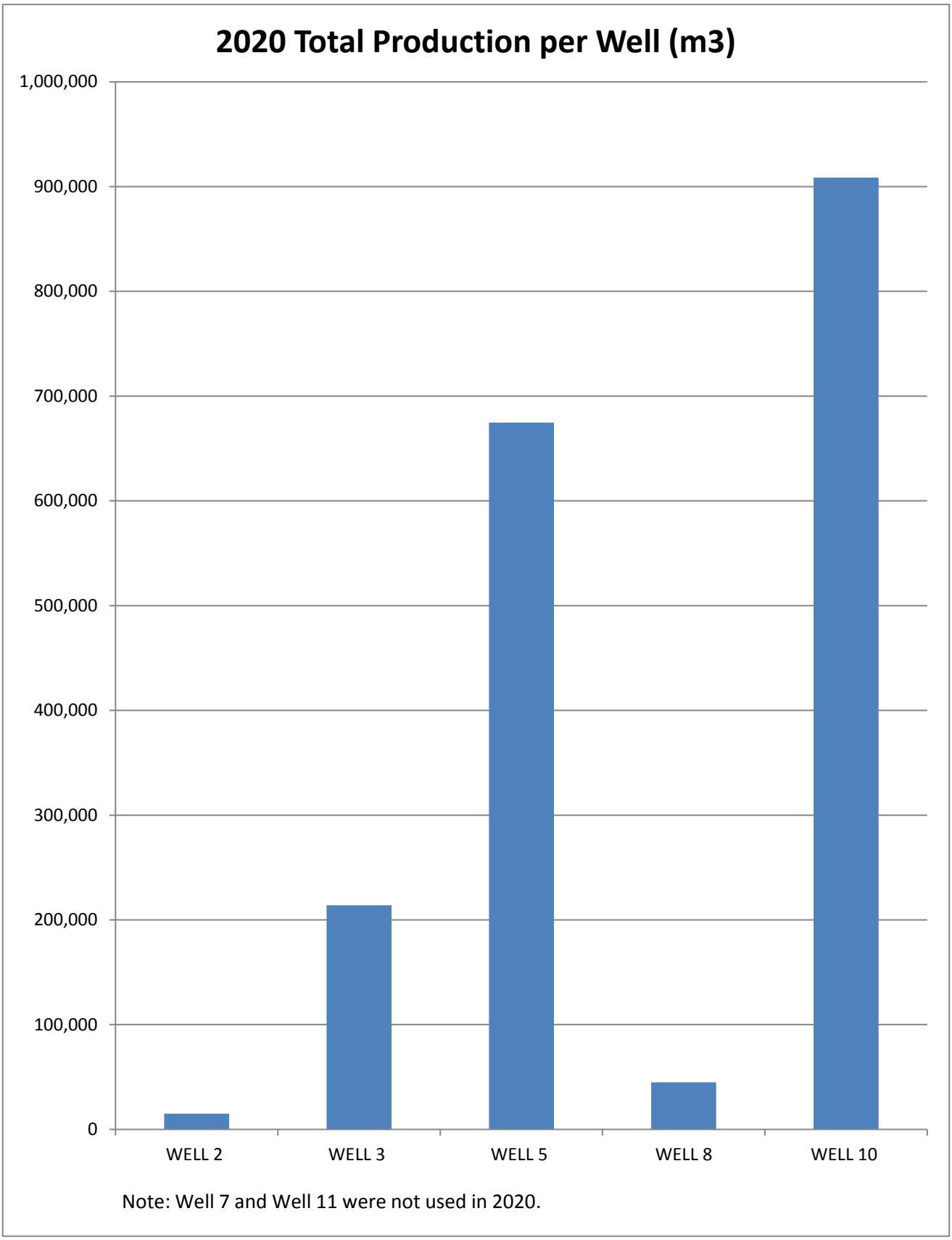
Parameter	***Well 8*** *Result Value (ug/L) June 4, 2018*	***Well 10*** *Result Value (ug/L) June 4, 2018*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	ND	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	ND	ND	5	0.01
Azinphos-methyl	ND	ND	20	0.05
Benzene	ND	ND	1	0.32
Benzo(a)pyrene	ND	ND	0.01	0.004
Bromoxynil	ND	ND	5	0.33
Carbaryl	ND	ND	90	0.05
Carbofuran	ND	ND	90	0.01
Carbon Tetrachloride	ND	ND	2	0.16
Chlorpyrifos	ND	ND	90	0.02
Diazinon	ND	ND	20	0.02
Dicamba	ND	ND	120	0.20
1,2-Dichlorobenzene	ND	ND	200	0.41
1,4-Dichlorobenzene	ND	ND	5	0.36
1,2-Dichloroethane	ND	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	ND	14	0.33
Dichloromethane	ND	ND	50	0.35
2-4 Dichlorophenol	ND	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	ND	100	0.19
Diclofop-methyl	ND	ND	9	0.40
Dimethoate	ND	ND	20	0.03
Diquat	ND	ND	70	1
Diuron	ND	ND	150	0.03
Glyphosate	ND	ND	280	1
Malathion	ND	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	ND	ND	100	0.12
Metolachlor	ND	ND	50	0.01
Metribuzin	ND	ND	80	0.02
Monochlorobenzene	ND	ND	80	0.30
Paraquat	ND	ND	10	1
Pentachlorophenol	ND	ND	60	0.15
Phorate	ND	ND	2	0.01
Picloram	ND	ND	190	1
Polychlorinated Biphenyls(PCB)	ND	ND	3	0.04
Prometryne	ND	ND	1	0.03
Simazine	ND	ND	10	0.01
Terbufos	ND	ND	1	0.01
Tetrachloroethylene	ND	ND	10	0.35
2,3,4,6-Tetrachlorophenol	ND	ND	100	0.20
Triallate	ND	ND	230	0.01
Trichloroethylene	ND	ND	5	0.44
2,4,6-Trichlorophenol	ND	ND	5	0.25
Trifluralin	ND	ND	45	0.02
Vinyl Chloride	ND	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Ingersoll Water System Capacity 17,357 m^3/day



Ingersoll Water System Capacity 17,357 m^3/day

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Innerkip Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Innerkip Water System
Drinking Water System Number:	260046995
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Innerkip Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 1,290. The system consists of 2 well sources which are secure groundwater wells. The water is filtered to remove iron and manganese. Sodium hypochlorite is added as an oxidant and for disinfection. In 2020, approximately 6,970 L of sodium hypochlorite was used in the water treatment process. This chemical is certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The treatment facility houses filters, high lift pumps, monitoring equipment and a 700 m^3 storage standpipe. There is a retention lagoon for backwash water from the filters which discharges to a tributary of the Thames River. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Innerkip Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems
- $170,000 Groundwater Model update for Beachville, Embro, Innerkip, Mt Elgin & Thamesford

- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli and Total Coliform*

Bacteriological tests for *E. coli* and total coliforms are taken weekly from the raw and treated water at the facility and from the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment and Climate Change (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 175 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	104	0	0 - 1
Treated	54	0	0
Distribution	121	0	0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	52	0 - 3
Distribution	36	0 - 8

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Innerkip system is provided below.

3.1. Hardness

This is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the

efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. The average hardness in the Innerkip system is 908 mg/L (equivalent to 64 grains).

3.2. Additional Testing Required by MECP

Testing of the lagoon backwash discharge is required for the Innerkip Water System. A summary of the monitoring results for 2020 is below.

Legal instrument: Municipal Drinking Water License issued December 1, 2018					
Parameter	*Result Range (Min–Max) mg/L*	*Average mg/L*	*Number of Samples*	*Limit*	*MDL (mg/L)*
Suspended Solids from lagoon backwash discharge	(4.00 - 51.0)	16.0	52	25 mg/L Annual Average	2.0

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.24 – 2.12) 1.15
Chlorine residual after treatment (mg/L)	Continuous	(0.64 – 2.75) 1.40
Turbidity after treatment (NTU)	Continuous	(0.05 – 3.99) 0.07

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	1,728 m^3/d
Municipal Drinking Water License Limit	1,728 m^3/d
2020 Average Daily Flow	275 m^3/d
2020 Maximum Daily Flow	541 m^3/d
2020 Average Monthly Flow	8,376 m^3
2020 Total Amount of Water Supplied	100,517 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in July 2020. There were no non-compliance findings and the 2020 Inspection Report rating was 100%.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PIBS 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	0.040 – 0.068	0.052	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	24	100	0.37
Haloacetic Acids (HAA)	2020	11.5	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	Aug 22/16	15.8	20.0*	0.01
Fluoride	Feb 18/20	0.74	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min -- Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	230 - 240	4	30 – 500mg/L
Distribution pH	7.3 – 7.4	4	6.5 – 8.5
Distribution Lead 2018	0.02 – 0.21	4	10 ug/L MAC

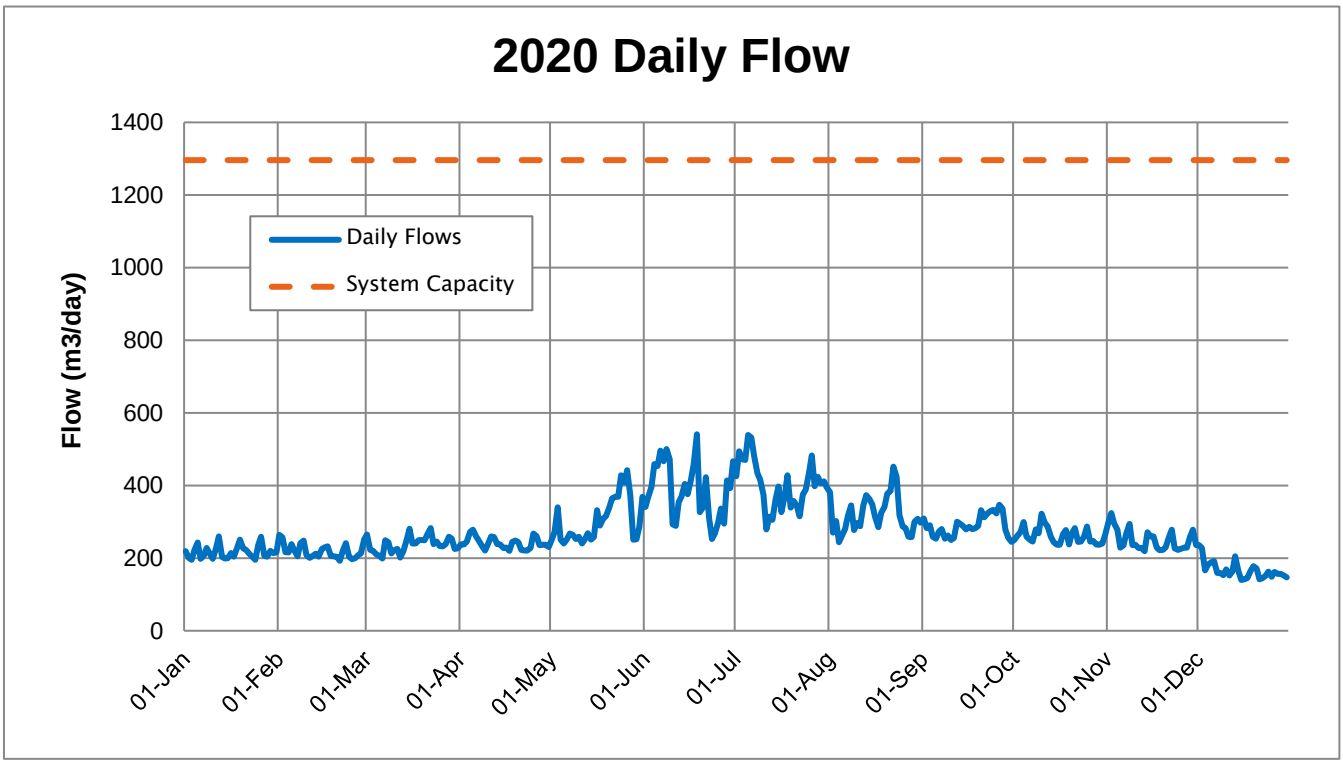
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 3 years for secure groundwater wells.

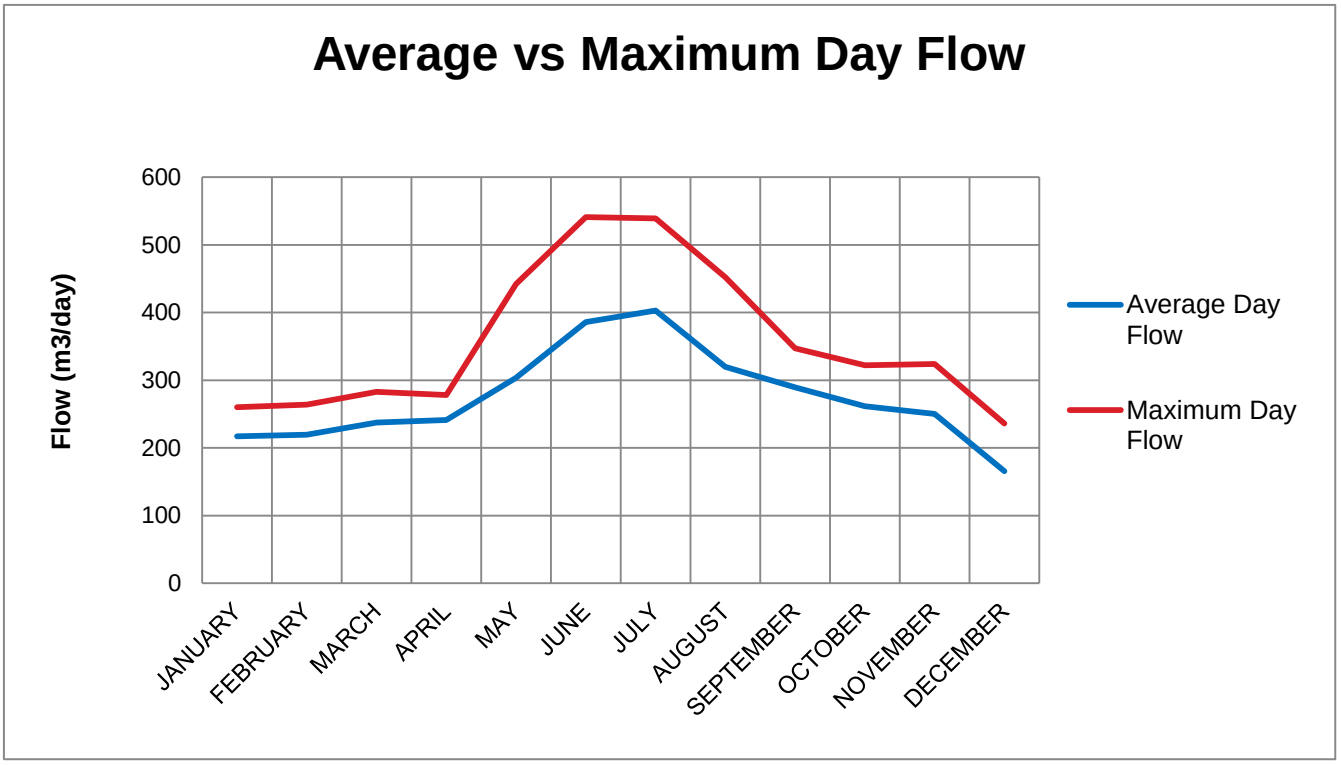
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	Feb 18/20	0.09	6	0.02
Arsenic	"	ND	10	0.2
Barium	"	72.5	1000	0.01
Boron	"	102	5000	2
Cadmium	"	0.007	5	0.003
Chromium	"	0.12	50	0.03
Mercury	"	ND	1	0.01
Selenium	"	ND	5	1
Uranium	"	0.697	20	0.001

The following Table summarizes the most recent test results for Schedule 24. Testing is required every 3 years for secure groundwater wells.

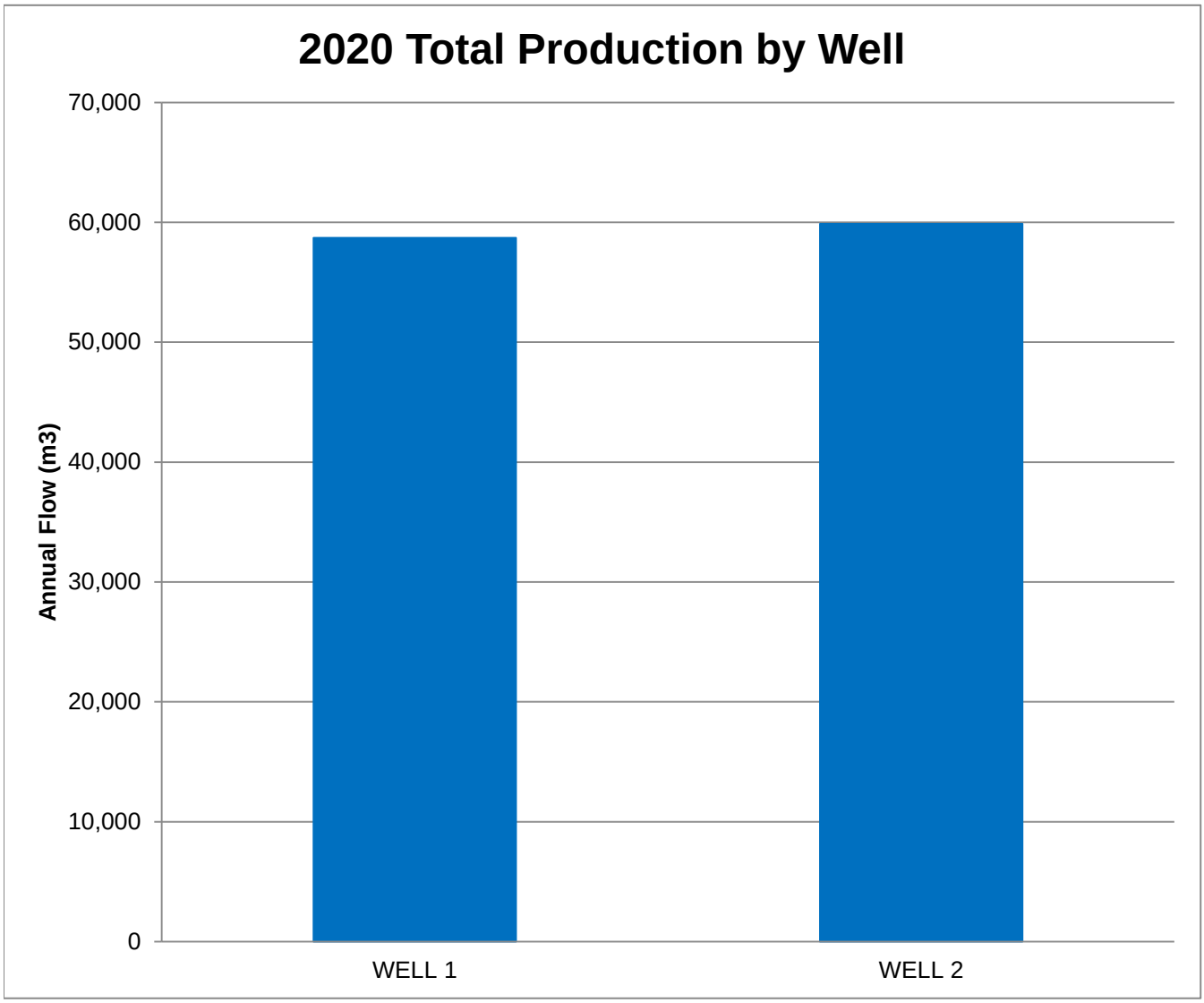
Parameter	Sample Date	Result Value (ug/L)	MAC (ug/L)	MDL (ug/L)
Alachlor	Feb 18/20	ND	5	0.11
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.12
Azinphos-methyl	“	ND	20	0.21
Benzene	“	ND	1	0.37
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.16
Carbofuran	“	ND	90	0.37
Carbon Tetrachloride	“	ND	2	0.41
Chlorpyrifos	“	ND	90	0.18
Diazinon	“	ND	20	0.081
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.50
1,4-Dichlorobenzene	“	ND	5	0.21
1,2-Dichloroethane	“	ND	5	0.43
1,1-Dichloroethylene(vinylidene chloride)	“	ND	14	0.41
Dichloromethane	“	ND	50	0.34
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.12
Diquat	“	ND	70	1
Diuron	“	ND	150	0.87
Glyphosate	“	ND	280	6
Malathion	“	ND	190	0.091
Metolachlor	“	ND	50	0.092
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metribuzin	“	ND	80	0.12
Monochlorobenzene	“	ND	80	0.58
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.11
Picloram	“	ND	190	0.25
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.23
Simazine	“	ND	10	0.15
Terbufos	“	ND	1	0.12
Tetrachloroethylene	“	ND	10	0.45
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.10
Trichloroethylene	“	ND	5	0.38
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.12
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Innerkip Water System Capacity 1,296 m^3/d



Innerkip Water System Capacity 1,296 m^3/d

Oxford County
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2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Lakeside Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Lakeside Water System
Drinking Water System Number:	220007533
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Lakeside Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 384. The system consists of one groundwater well with treatment that consists of disinfection with sodium hypochlorite and sodium silicate to sequester iron. Approximately 544 L of sodium hypochlorite and 410 L (580 kg) of sodium silicate were used in the water treatment process. The chemicals are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The treatment facility houses high lift pumps, monitoring equipment and a 150 m^3 water standpipe to provide storage. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Lakeside Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems
- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli* and Total Coliform

Bacteriological tests for *E. coli* and total coliforms are required weekly from the raw and treated water at the facility and from the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 160 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	52	0	0
Treated	55	0	0
Distribution	105	0	0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water for small systems. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2018 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	52	0 - 7
Distribution	24	0 - 10

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Beachville system is provided below.

3.1. Fluoride

Fluoride levels are sampled once every five years and levels above 1.5 mg/L must be reported to the MECP and MOH. Levels under 2.4 mg/L are considered safe for consumption however at levels between 1.5 and 2.4 mg/L fluoride may cause staining or pitting of teeth in children less than 6 years old. Further information on fluoride can be found on the Southwestern Public Health web page at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Fluoride-20201203.pdf

Oxford County does not add fluoride to the water at any of its drinking water systems however the Lakeside system has naturally occurring fluoride levels of 1.65 mg/L.

3.2. Hardness and Iron

These are aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits, improve the efficiency of soaps and reduce iron levels. This information is included here to help set the water softener at the level recommended by the manufacturer. In Lakeside, chemicals are used to keep iron in suspension.

- Hardness is 189 mg/L (equivalent to 13 grains)
- Iron level was measured at 0.39 mg/L (ppm)

3.3. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	367	(0.30 – 1.90) 1.12
Chlorine residual after treatment (mg/L)	Continuous	(0.69 – 3.34) 1.37
Turbidity after treatment (NTU)	Continuous	(0.05 – 2.92) 0.08

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take

Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	270 m^3/d
Municipal Drinking Water License Limit	432 m^3/d
2020 Average Daily Flow	43 m^3/d
2020 Maximum Daily Flow	104 m^3
2020 Average Monthly Flow	1,299 m^3
2020 Total Amount of Water Supplied	15,592 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in July 2020. There were no non-compliance findings and the 2020 Inspection Report rating was 100%.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions taken.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PIBS4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	ND – 0.009	0.008	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	15	100	0.37
Haloacetic Acids (HAA)	2020	ND	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	Aug 06/19	12.1	20.0*	0.01
Fluoride	"	1.65	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	200 - 208	2	30 – 500mg/L
Distribution pH	7.8 – 8.1	2	6.5 – 8.5
Distribution Lead 2019	0.08	1	10 ug/L MAC

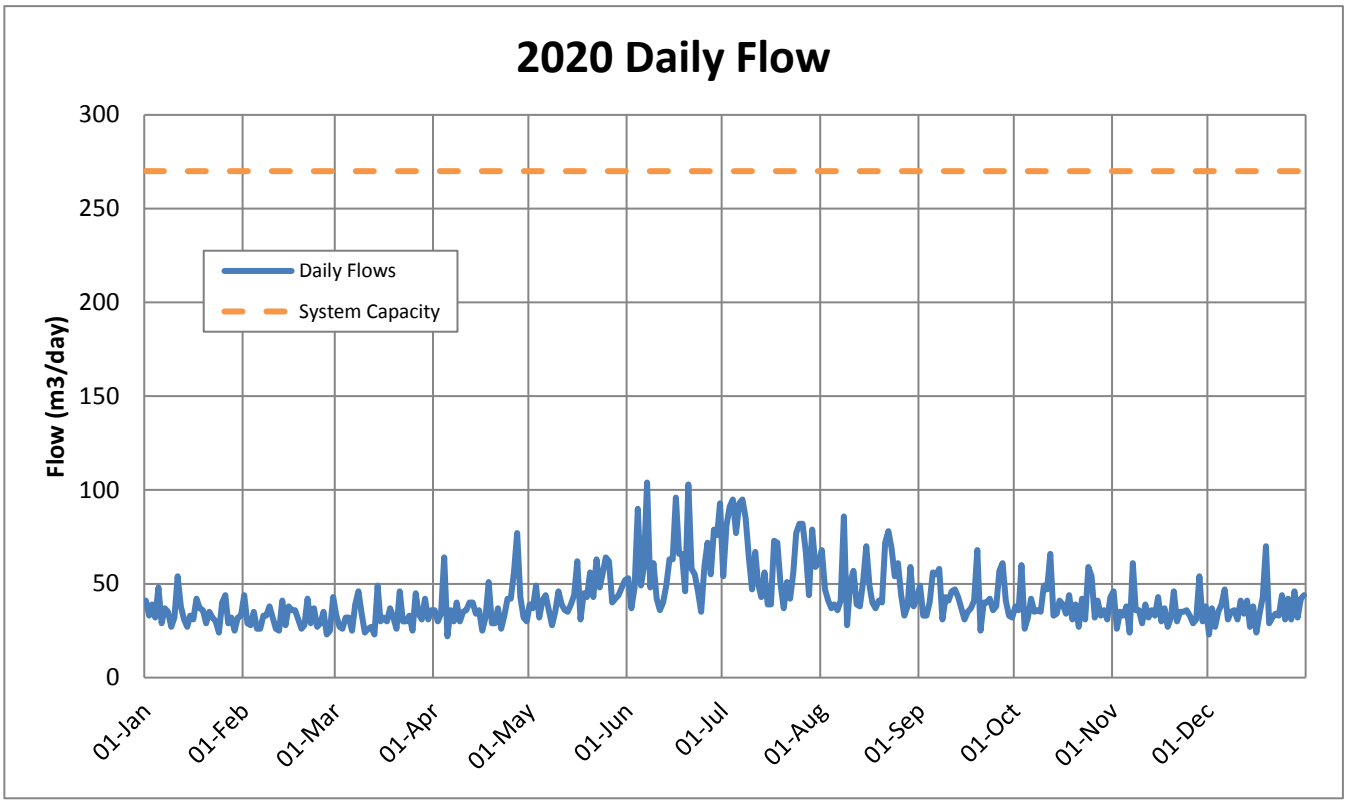
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 3 years for secure groundwater wells.

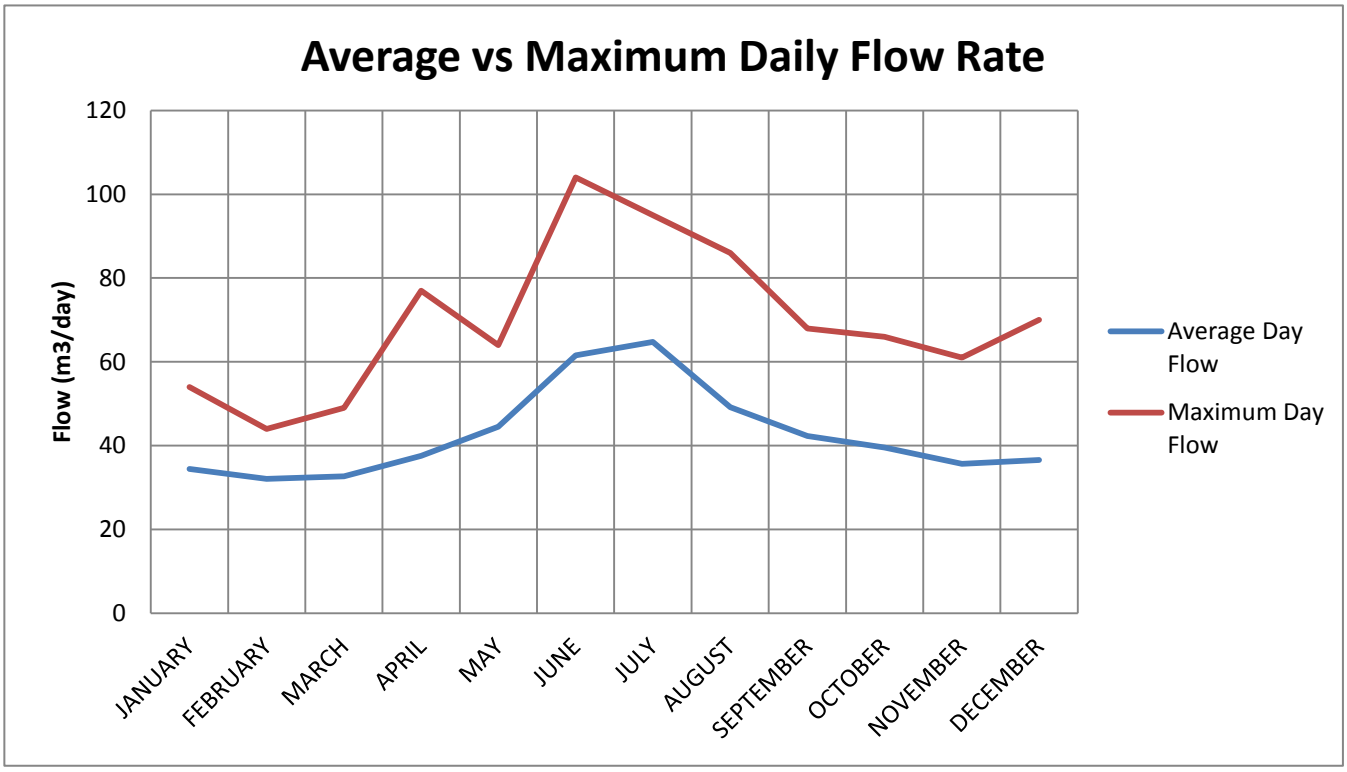
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	May 21/19	ND	6	0.09
Arsenic	"	0.5	10	0.2
Barium	"	351	1000	0.01
Boron	"	20	5000	2
Cadmium	"	ND	5	0.003
Chromium	"	0.14	50	0.03
Mercury	"	ND	1	0.02
Selenium	"	ND	5	0.04
Uranium	"	0.20	20	0.002

The following Table summarizes the most recent test results for Schedule 24. Testing is required every 3 years for secure groundwater wells.

Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	June 4/18	ND	5	0.01
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.02
Azinphos-methyl	“	ND	20	0.05
Benzene	“	ND	1	0.32
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.05
Carbofuran	“	ND	90	0.01
Carbon Tetrachloride	“	ND	2	0.16
Chlorpyrifos	“	ND	90	0.02
Diazinon	“	ND	20	0.02
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.50
1,4-Dichlorobenzene	“	ND	5	0.21
1,2-Dichloroethane	“	ND	5	0.43
1,1-Dichloroethylene(vinylidene chloride)	“	ND	14	0.41
Dichloromethane	“	ND	50	0.34
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.03
Diquat	“	ND	70	1
Diuron	“	ND	150	0.03
Glyphosate	“	ND	280	6
Malathion	“	ND	190	0.02
Metolachlor	“	ND	50	0.01
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metribuzin	“	ND	80	0.02
Monochlorobenzene	“	ND	80	0.3
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.01
Picloram	“	ND	190	1
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.03
Simazine	“	ND	10	0.01
Terbufos	“	ND	1	0.01
Tetrachloroethylene	“	ND	10	0.35
2,3,4,6-Tetrachlorophenol	“	ND	100	0.2
Triallate	“	ND	230	0.01
Trichloroethylene	“	ND	5	0.44
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.02
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: WATER QUANTITY SUMMARY





Lakeside Water System Capacity 270 m^3/d

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Mount Elgin Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Mount Elgin Water System
Drinking Water System Number:	220000629
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Mount Elgin Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 603. The system consists of one groundwater well and a treatment facility. The water is treated with sodium hypochlorite (liquid chlorine) for disinfection and in 2020 approximately 1,924 litres of the chemical was used in the water treatment process. The chemical is certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The treatment facility houses pumps, monitoring equipment, and a 380 m^3 underground reservoir. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of a failure of critical operational requirements.

1.2. Major Expenses

The Mount Elgin Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operations and maintenance for all water systems, capital improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems
- $36,000 for improvements to water facilities
- $170,000 for Groundwater Model update for Beachville, Embro, Innerkip, Mt Elgin & Thamesford

- $550,000 for construction of the Graydon well facility & piping

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli* and Total Coliform

Bacteriological tests for *E. coli* and total coliforms are required weekly from the raw and treated water at the facility and from the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of the Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 156 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	52	0 - 0	0 - 1
Treated	52	0 - 0	0 - 0
Distribution	104	0 - 0	0 - 0

2.2. *Heterotrophic Plate Count (HPC)*

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. The HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. The 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	52	0 - 2
Distribution	24	0 - 15

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Mount Elgin system is provided below.

3.1. Hardness

This is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. The Hardness in the Mount Elgin System is 233 mg/L (equivalent to 17 grains).

3.2. Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, sodium will not impair the taste of the water.

When sodium levels are above 20 mg/L the MECP and MOH are notified. Southwestern Public Health Unit maintains an information page on sodium in drinking water at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf in order to help people on sodium restricted diets control their sodium intake. The sodium level in the Mount Elgin water system is 21.3 mg/L.

3.3. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	367	(0.67 – 1.64) 1.18
Chlorine residual after treatment (mg/L)	Continuous	(0.50 – 2.60) 1.16
Turbidity after treatment (NTU)	Continuous	(0.07 – 3.95) 0.13

5. WATER QUANTITY

Continuous monitoring of flow rates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	328 m^3/d
Municipal Drinking Water License Limit	328 m^3/d
2020 Average Daily Flow	126 m^3/d
2020 Maximum Daily Flow	303 m^3/d
2020 Average Monthly Flow	3,859 m^3
2020 Total Amount of Water Supplied	46,309 m^3

To accommodate future growth, construction of a new treatment facility started in 2020 and is anticipated to be operational by mid-2021. When this facility is operational there will be sufficient supply capacity to meet the community's long term growth needs.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in July 2020. There was one non-compliance finding and the 2020 Inspection Report rating was 95%. This was related to disinfection procedures during reservoir cleaning in February 2020. The reservoir was chlorinated to the appropriate level however additional chlorine was needed to maintain the stipulated chlorine residual during the 24 hour waiting period. According to the MECP, the waiting period should have restarted after the residual was topped up thus the AWWA Standard C652 for Disinfection of Water-Storage facilities was not properly followed. The bacteriological samples taken to verify disinfection were adequate.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions are taken.

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APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PIBS 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrate samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	0.012 – 0.020	0.016	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	10.4	100	0.37
Haloacetic Acids (HAA)	2020	ND	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	May 28, 2019	21.3	20.0*	0.01
Fluoride	"	1.39	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min – Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	222 – 228	2	30 – 500mg/L
Distribution pH	7.8 – 7.9	2	6.5 – 8.5
Distribution Lead 2018	0.13 – 0.15	2	10 ug/L MAC

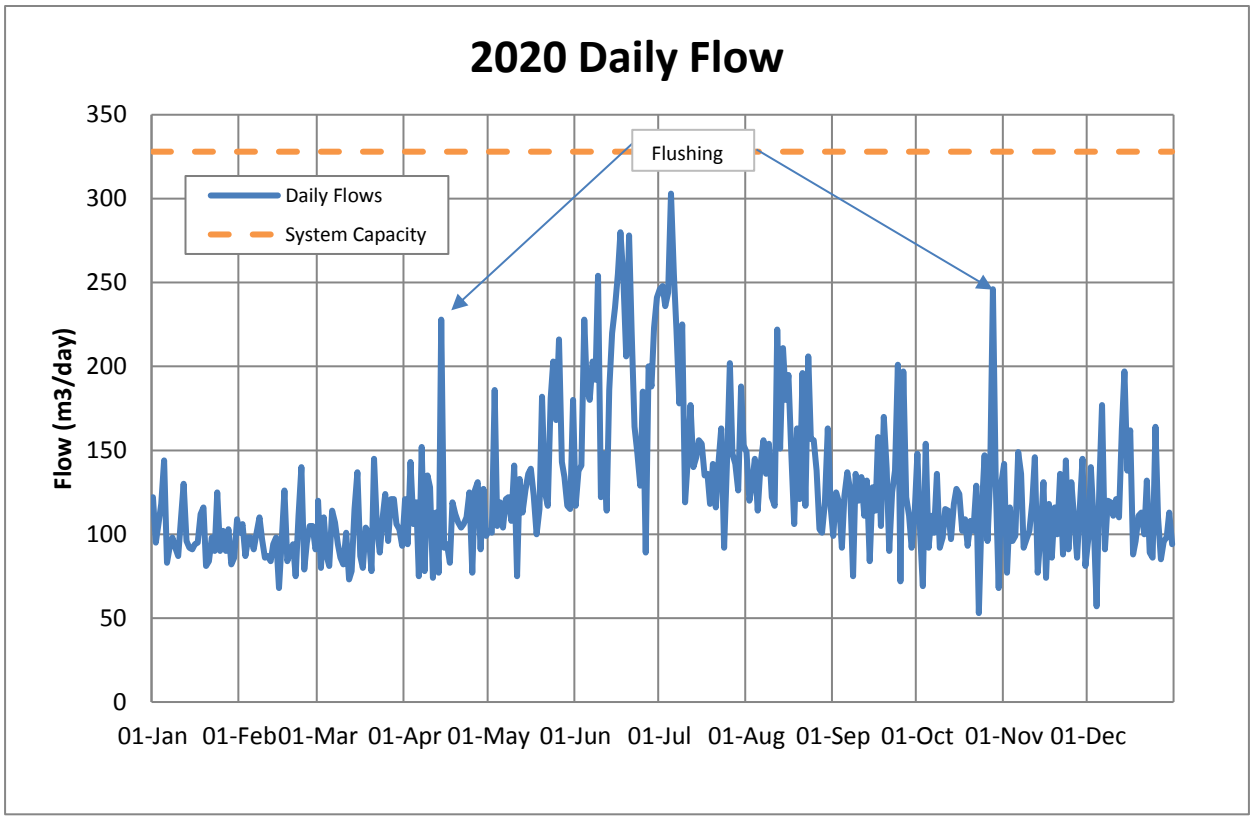
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 3 years for secure groundwater wells.

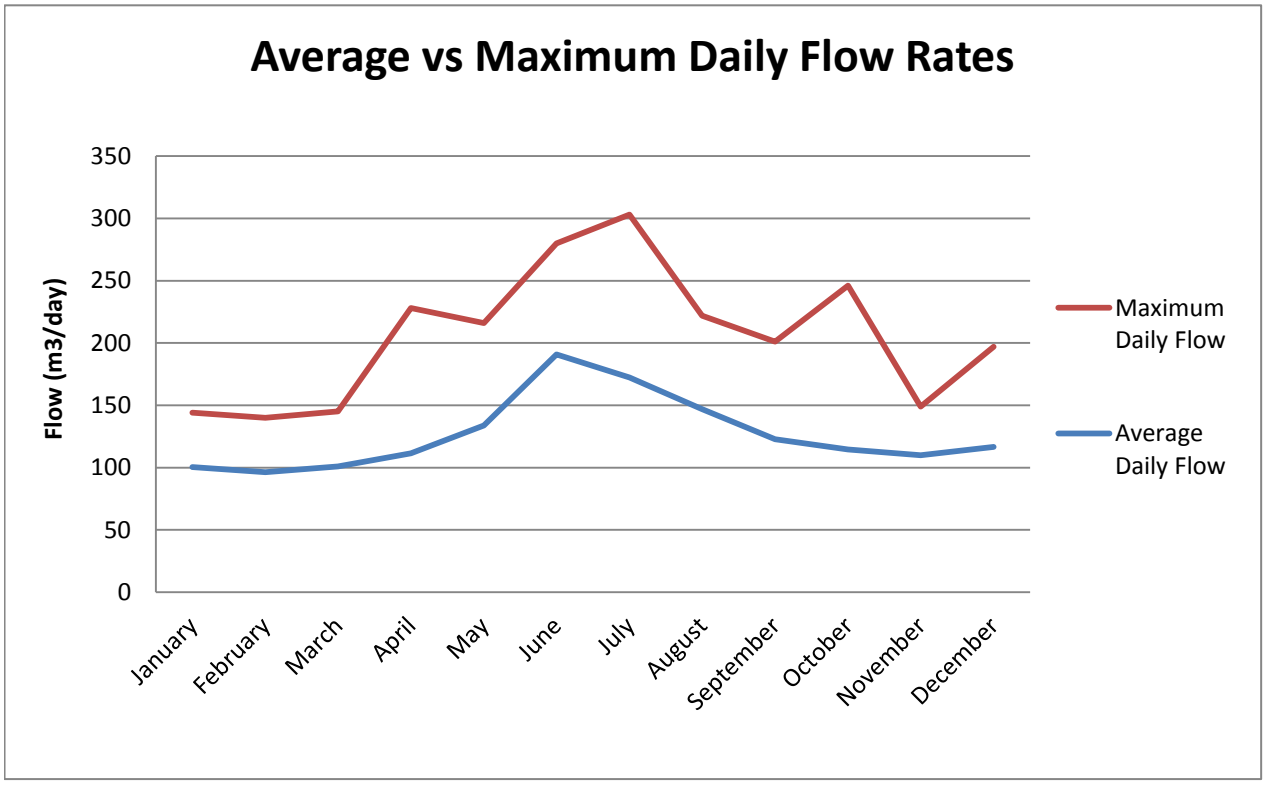
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	Feb 24, 2020	ND	6	0.02
Arsenic	"	ND	10	0.2
Barium	"	142	1000	0.01
Boron	"	80	5000	2
Cadmium	"	0.003	5	0.003
Chromium	"	0.65	50	0.08
Mercury	"	ND	1	0.01
Selenium	"	ND	50	0.04
Uranium	"	0.011	20	0.002

The following Table summarizes the most recent test results for the Organic parameters in Schedule 24. Testing is required every 3 years for secure groundwater wells.

Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	Feb 24, 2020	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.01
Azinphos-methyl	“	ND	20	0.01
Benzene	“	ND	1	0.32
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.05
Carbofuran	“	ND	90	0.01
Carbon Tetrachloride	“	ND	2	0.16
Chlorpyrifos	“	ND	90	0.02
Chlorpyrifos	“	ND	90	0.02
Diazinon	“	ND	20	0.02
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.41
1,4-Dichlorobenzene	“	ND	5	0.36
1,2-Dichloroethane	“	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	“	ND	14	0.33
Dichloromethane	“	ND	50	0.35
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.03
Diquat	“	ND	70	1
Diuron	“	ND	150	0.03
Glyphosate	“	ND	280	1
Malathion	“	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metolachlor	“	ND	50	0.01
Metribuzin	“	ND	80	0.02
Monochlorobenzene	“	ND	80	0.30
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.01
Picloram	“	ND	190	1
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.03
Simazine	“	ND	10	0.01
Terbufos	“	ND	1	0.01
Tetrachloroethylene	“	ND	10	0.35
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.01
Trichloroethylene	“	ND	5	0.43
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.02
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Mount Elgin Water System Capacity 328 m^3/day

Oxford County
Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Oxford South Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Oxford South Water System
Drinking Water System Number:	2200000601
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Oxford South Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 5,340. Transmission watermains interconnect the communities of Otterville, Springford and Norwich.

The system consists of 7 secure groundwater wells and four treatment facilities as follows:

Treatment Facility	*Location*	*Wells*	*Treatment*
Pitcher Street	Norwich	N2 N5	Filtration for iron removal and disinfection with sodium hypochlorite
Main Street	Norwich	N4	Iron sequestering with sodium silicate and disinfection with sodium hypochlorite
Otterville	Otterville	O3 O4	Disinfection with sodium hypochlorite
Springford	Springford	S4 S5	Disinfection with sodium hypochlorite

The treatment facilities each house high lift pumps, and monitoring and treatment equipment for the supply wells. A 1,818 m^3 water tower at Norwich and a 1,440 m^3 water tower in Otterville provide storage and maintain pressure in the system.

In 2020, approximately 15,580 L of sodium hypochlorite and 1,640 L (2,320 kg) of sodium silicate was used in the water treatment process. These chemicals are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

Standby generators are available at Norwich and Otterville to run the facilities in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Oxford South Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects for Oxford South included:

- $350,000 for replacement of distribution water mains in the Township systems
- $25,000 for consulting for Norwich water tower repair & painting
- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. E. coli and Total Coliform

Bacteriological tests for *E. coli* and total coliforms are required weekly from the raw and treated water at the facility and from the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 347 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	304	0 - 1	0 - 16
Treated	176	0	0
Distribution	171	0	0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	171	0 - 10
Distribution	47	0 - 190

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Oxford South system is provided below.

3.1. Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, sodium will not impair the taste of water.

When sodium levels are above 20 mg/L the MECP and Medical Officer of Health (MOH) are notified. Southwest Public Health maintain an information page on sodium in drinking water at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf in order to help people on sodium restricted diets control their sodium intake. The sodium levels in the Oxford South system range from 23.2 to 48.4 mg/L, depending on which wells are in use.

3.2. Fluoride

Fluoride levels are sampled once every five years and levels above 1.5 mg/L must be reported to the MECP and MOH. Levels under 2.4 mg/L are considered safe for consumption, however at levels between 1.5 and 2.4 mg/L of fluoride may cause staining or pitting of teeth in children less than 6 years old. Further information on fluoride can be found on the Southwest Public Health web page at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Fluoride-20201203.pdf

Oxford County does not add fluoride to the water at any of its drinking water systems, however the Springford wells have naturally occurring fluoride levels. The fluoride levels in the Springford wells are 1.68 mg/L. All the other wells in the system have fluoride levels below the reportable levels.

3.3. Hardness, Iron and Manganese

These are aesthetic parameters that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer.

The hardness in the Oxford South system depends on the wells being used. The Norwich wells supply a larger proportion of the water to the entire system. The water hardness in the well fields are:

- Springford wells 89 mg/L (equivalent to 6 grains)
- Otterville wells 260 mg/L (18 grains)
- Norwich well 299 mg/L (21 grains)

Iron levels less than 0.30 mg/L (ppm) are not considered to cause aesthetic problems such as discoloured water. The Otterville and Springford wells have less than 0.30 mg/L iron. Iron is removed by filtration at the Norwich Pitcher St. facility, wells N2 and N5. The iron level at the Norwich Main St. facility well N4 is 0.43 mg/L (ppm) and sodium silicate is added to keep the iron in suspension. Manganese is commonly found in conjunction with iron

and also causes discoloured water Manganese levels at the Norwich Main St. facility (W4) and the Springford wells are above a new proposed aesthetic objective of 0.02 mg/L.

3.2. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from each well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

	Number of Tests or Monitoring Frequency	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.30 – 2.35) 1.12
Norwich Main St. E. WTF		
Chlorine Residual (mg/L)	Continuous	(0.23 – 2.85) 1.19
Turbidity (NTU)	"	(0.04 – 2.82) 0.15
Norwich Pitcher St. WTF		
Chlorine Residual (mg/L)	Continuous	(0.91 – 2.41) 1.36
Turbidity (NTU)	"	(0.02 – 2.42) 0.07
Otterville WTF		
Chlorine (mg/L)	Continuous	(0.21 – 3.34) 1.18
Turbidity (NTU)	"	(0.01– 3.34) 0.19
Springford WTF		
Chlorine (mg/L)	Continuous	(0.21 – 3.36 1.07
Turbidity (NTU)	"	(0.01 – 3.38) 0.08

5. WATER QUANTITY

Continuous monitoring of flow rates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	6,054 m^3/d
Municipal Drinking Water License Limit	6,054 m^3/d
2020 Average Daily Flow	1,203 m^3/d
2020 Maximum Daily Flow	2,470 m^3/d
2020 Average Monthly Flow	36,716 m^3
2020 Total Amount of Water Supplied	440,591 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in October 2020. There were no non-compliance findings and the 2020 Inspection Report rating was 100%.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions taken.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter & Location	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite			1.0	0.003
Norwich Main St. WTF	ND	ND		
Norwich Pitcher St. WTF	ND	ND		
Otterville WTF	ND	ND		
Springford WTF	ND	ND		
Nitrate			10.0	0.006
Norwich Main St. WTF	ND – 0.007	0.006		
Norwich Pitcher St. WTF	ND – 0.02	0.010		
Otterville WTF	7.21 – 8.18	7.76		
Springford WTF	ND – 0.011	0.007		

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	16	100	0.37
Haloacetic Acids (HAA)	2020	ND	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter & Location	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium			20.0*	0.01
Norwich Main St. WTF	May 27/19	17.9		
Norwich Pitcher St. WTF	Feb 19/19	23.2		
Otterville WTF	May 27/19	34.0		
Springford WTF	April 17/17	51.4		
Fluoride			1.5**	0.06
Norwich Main St. WTF	Aug. 22/16	1.09		
Norwich Pitcher St. WTF	"	0.96		
Otterville WTF	"	0.10		
Springford WTF	April 17/17	1.67		

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*		*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	216 - 238		6	30 – 500mg/L
Distribution pH	7.56 -8.0		6	6.5 – 8.5
Distribution Lead 2018	0.03 - 4.99		6	10 ug/L MAC

The following Table summarizes the most recent test results for Schedules 23.Testing is required every 3 years for secure groundwater wells.

Parameter	*Result Value (ug/L) Norwich Pitcher St. Dec. 7/20*	*Result Value (ug/L) Norwich Main St. Dec. 7/20*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	ND	ND	6	0.02
Arsenic	0.8*	1.5	10	0.2
Barium	174	226	1000	0.01
Boron	79	51	5000	2
Cadmium	ND	ND	5	0.003
Chromium	0.62	0.80	50	0.03
Mercury	ND	ND	1	0.01
Selenium	ND	ND	5	1
Uranium	0.088	0.386	20	0.001

Parameter	*Result Value (ug/L) Otterville WTF May 27/19*	*Result Value (ug/L) Springford WTF July 7/20*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	ND	ND	6	0.02
Arsenic	0.2	5.8*	10	0.2
Barium	35.0	116	1000	0.01
Boron	17	204	5000	2
Cadmium	0.012	0.003	5	0.003
Chromium	0.29	0.09	50	0.08
Mercury	ND	ND	1	0.01
Selenium	0.36	ND	5	0.04
Uranium	0.552	0.067	20	0.002

**average of 4 samples*

The following Tables summarize the most recent test results for Schedule 24. Testing is required every 3 years for secure groundwater wells.

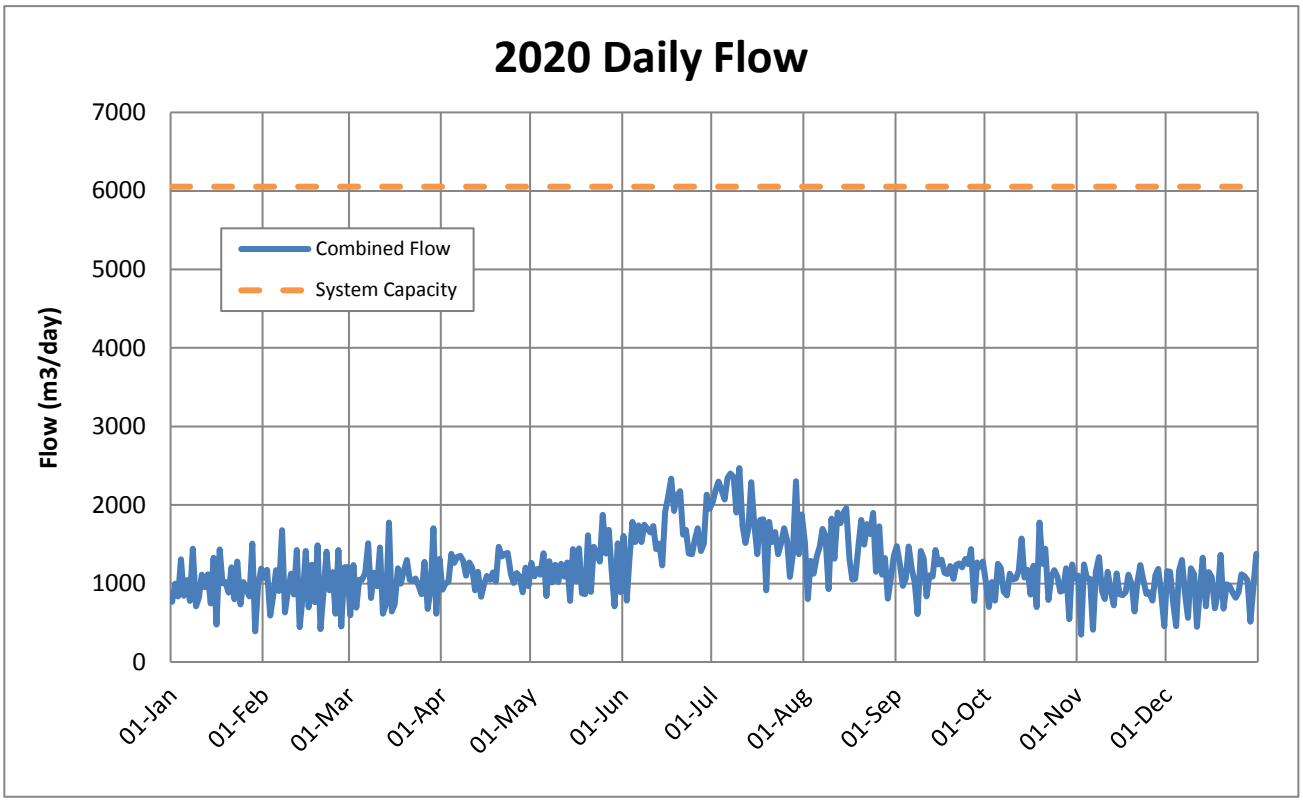
Parameter	*Result Value (ug/L) Norwich Pitcher St Nov. 20/17*	*Result Value (ug/L) Norwich Main St. Nov. 20/17*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	ND	ND	5	0.02
Atrazine + N-dealkylated metobolites	ND	ND	5	0.01
Benzene	ND	ND	1	0.32
Benzo(a)pyrene	ND	ND	0.01	0.004
Bromoxynil	ND	ND	5	0.33
Carbaryl	ND	ND	90	0.01
Carbofuran	ND	ND	90	0.01
Carbon Tetrachloride	ND	ND	2	0.16
Chlorpyrifos	ND	ND	90	0.02
Cyanazine	ND	ND	10	0.03
Diazinon	ND	ND	20	0.02
Dicamba	ND	ND	120	0.20
1,2-Dichlorobenzene	ND	ND	200	0.36

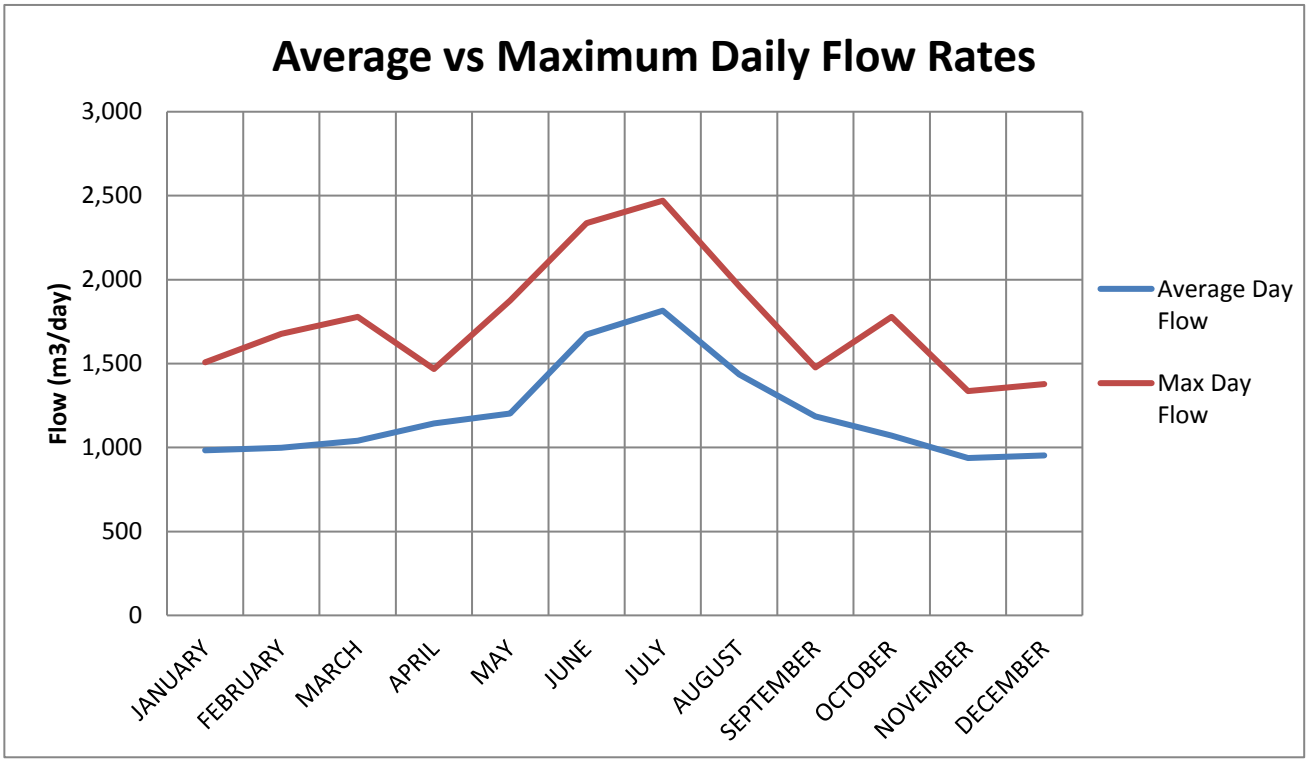
Parameter	*Result Value (ug/L) Norwich Pitcher St Nov. 20/17*	*Result Value (ug/L) Norwich Main St. Nov. 20/17*	*MAC (ug/L)*	*MDL (ug/L)*
1,4-Dichlorobenzene	ND	ND	5	0.36
1,2-Dichloroethane	ND	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	ND	14	0.33
Dichloromethane	ND	ND	50	0.35
2-4 Dichlorophenol	ND	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND		100	0.19
Diclofop-methyl	ND	ND	9	0.40
Dimethoate	ND	ND	20	0.03
Dinoseb				
Diquat	ND	ND	70	1
Diuron	ND	ND	150	0.003
Glyphosate	ND	ND	280	6
Malathion	ND	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	ND	ND	100	0.12
Methoxychlor	ND	ND	900	0.01
Metolachlor	ND	ND	50	0.01
Metribuzin	ND	ND	80	0.02
Monochlorobenzene	ND	ND	80	0.30
Paraquat	ND	ND	10	1
Pentachlorophenol	ND	ND	60	0.15
Phorate	ND	ND	2	0.01
Picloram	ND	ND	190	0.25
Polychlorinated Biphenyls(PCB)	ND	ND	3	0.04
Prometryne	ND	ND	1	0.03
Simazine	ND	ND	10	0.01
Terbufos	ND	ND	1	0.01
Tetrachloroethylene	ND	ND	10	0.44
2,3,4,6-Tetrachlorophenol	ND	ND	100	0.14
Triallate	ND	ND	230	0.01
Trichloroethylene	ND	ND	5	0.44
2,4,6-Trichlorophenol	ND	ND	5	0.25
Trifluralin	ND	ND	45	0.02
Vinyl Chloride	ND	ND	1	0.17

Parameter	*Result Value (ug/L) Otterville WTF June 4/18*	*Result Value (ug/L) Springford WTF July 6/20*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	ND	ND	5	0.02
Atrazine + N-dealkylated metobolites	ND	ND	5	0.01
Azinphos-methyl	ND	ND	20	0.02
Benzene	ND	ND	1	0.32
Benzo(a)pyrene	ND	ND	0.01	0.004
Bromoxynil	ND	ND	5	0.33
Carbaryl	ND	ND	90	0.01
Carbofuran	ND	ND	90	0.01
Carbon Tetrachloride	ND	ND	2	0.16
Chlorpyrifos	ND	ND	90	0.02
Diazinon	ND	ND	20	0.02
Dicamba	ND	ND	120	0.20

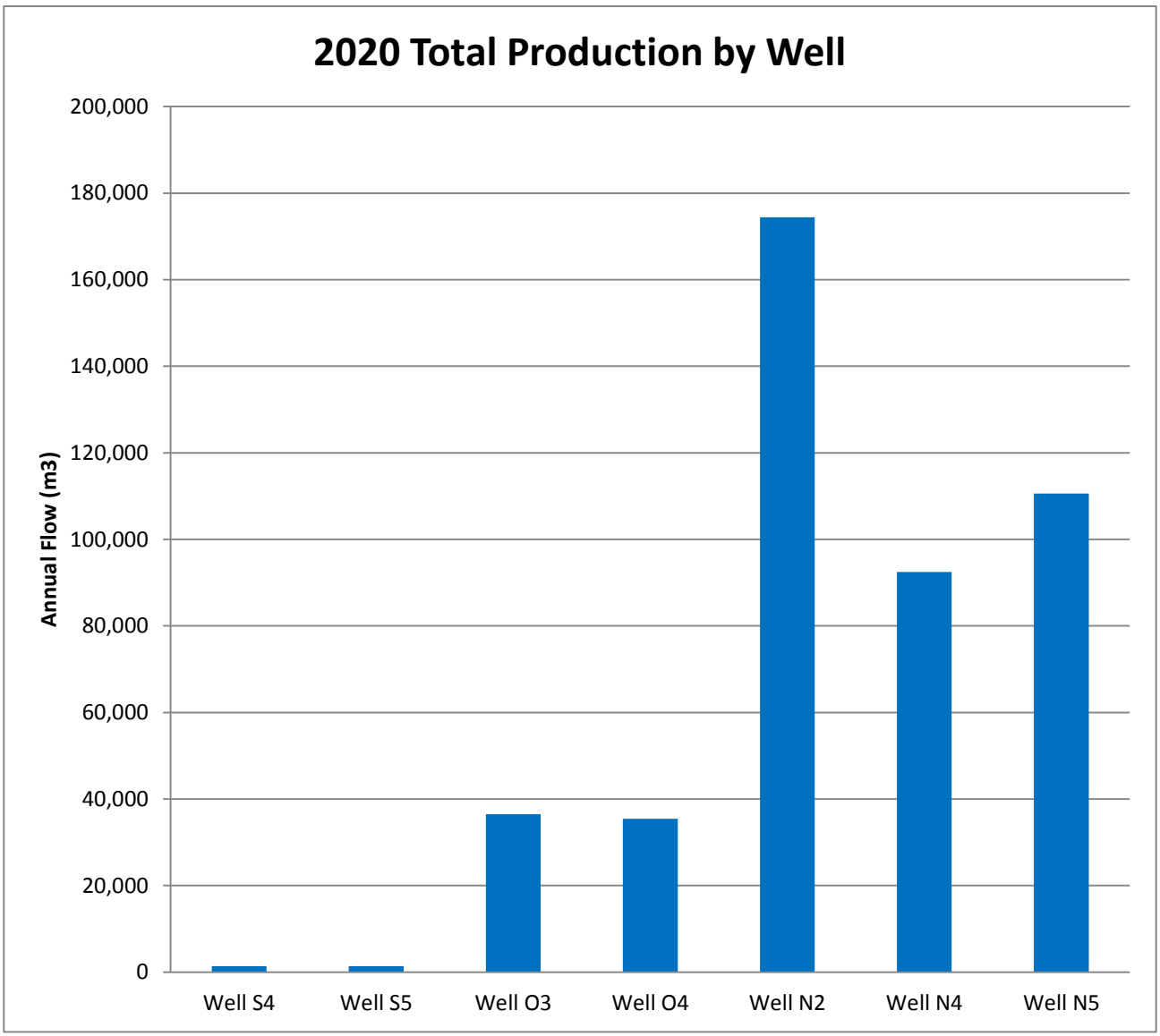
Parameter	*Result Value (ug/L) Otterville WTF June 4/18*	*Result Value (ug/L) Springford WTF July 6/20*	*MAC (ug/L)*	*MDL (ug/L)*
1,2-Dichlorobenzene	ND	ND	200	0.36
1,4-Dichlorobenzene	ND	ND	5	0.36
1,2-Dichloroethane	ND	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	ND	14	0.33
Dichloromethane	ND	ND	50	0.35
2-4 Dichlorophenol	ND	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	ND	100	0.19
Diclofop-methyl	ND	ND	9	0.40
Dimethoate	ND	ND	20	0.03
Diquat	ND	ND	70	1
Diuron	ND	ND	150	0.003
Glyphosate	ND	ND	280	6
Malathion	ND	ND	190	0.02
Methoxychlor	ND	ND	900	0.01
2-methyl-4chlorophenoxyacetic acid (MCPA)	NA	ND	100	0.12
Metolachlor	ND	ND	50	0.01
Metribuzin	ND	ND	80	0.02
Monochlorobenzene	ND	ND	80	0.30
Paraquat	ND	ND	10	1
Pentachlorophenol	ND	ND	60	0.15
Phorate	ND	ND	2	0.01
Picloram	ND	ND	190	0.25
Polychlorinated Biphenyls(PCB)	ND	ND	3	0.04
Prometryne	ND	ND	1	0.03
Simazine	ND	ND	10	0.01
Terbufos	ND	ND	1	0.01
Tetrachloroethylene	ND	ND	10	0.35
2,3,4,6-Tetrachlorophenol	ND	ND	100	0.14
Triallate	ND	ND	230	0.01
Trichloroethylene	ND	ND	5	0.44
2,4,6-Trichlorophenol	ND	ND	5	0.25
Trifluralin	ND	ND	45	0.02
Vinyl Chloride	ND	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Oxford South Water System Capacity 6,054 m^3/d



Oxford South Water System Capacity 6,054 m^3/d

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Plattsville Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Plattsville Water System
Drinking Water System Number:	210001291
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Plattsville Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 1,607. The system consists of 2 well sources which are secure groundwater wells. The water is treated with sodium hypochlorite for disinfection and sodium silicate to sequester iron. In 2020, approximately 4,100 L of sodium hypochlorite and 3,428 L (4,640 kg) of sodium silicate were used in the water treatment process. These chemicals are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The treatment facility houses pumps and monitoring equipment. A 1,830 m^3 water tower provides storage and maintains pressure in the distribution system. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Plattsville Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures Capital Improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems
- $36,000 for improvements to water facilities

Capital Improvement projects for all systems included:

-
- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli and Total Coliform*

Bacteriological tests for *E. coli* and total coliforms are required weekly on the raw and treated water at the facility and in the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 168 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	105	0	0
Treated	52	0	0
Distribution	116	0	0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	52	0 - 3
Distribution	36	0 - 15

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Beachville system is provided below.

3.1. Hardness, Iron and Manganese

These are aesthetic parameters that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the

efficiency of soaps and reduce iron levels. This information is included here to help set the water softener at the level recommended by the manufacturer. Levels of iron less than 0.30 mg/L (ppm) are not considered to cause aesthetic problems such as discoloured water. In Plattsville, sodium silicate is added to help keep iron in suspension. Manganese is commonly found in conjunction with iron and also causes discoloured water. Manganese levels in this system are at or above the aesthetic objective of 0.05 mg/L.

- Average hardness is 1,010 mg/L (equivalent to 71 grains)
- Average iron level is measured at 1.0 mg/L
- Manganese level is 0.07 mg/L (ppm)

3.2. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.41 – 2.55) 1.18
Chlorine residual after treatment (mg/L)	Continuous	(0.47 – 2.09) 1.36
Turbidity after treatment (NTU)	Continuous	(0.05 – 2.52) 0.11

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	4,579 m^3/d
Municipal Drinking Water License Limit	2,290 m^3/d
2020 Average Daily Flow	408 m^3/d
2020 Maximum Daily Flow	1,532m^3/d
2020 Average Monthly Flow	12,380 m^3
2020 Total Amount of Water Supplied	148,561 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon. The Plattsville system is currently operated to maximize turnover within the water tower during hot or cold weather in order to minimize temperature change of the water. This operational practice artificially increases the maximum daily flow. A more realistic maximum day is 983 m^3/d which averages flow over a three day period to moderate the variance in pumping.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The 2020 MECP annual inspection had not taken place at the time this report was prepared. Due to Covid-19 restrictions data review will occur first with the field inspection will take place at a later date. Final inspection results will be presented to County Council in a memo. The 2019 Inspection Report rating was 100%.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions are taken.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrate samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	0.114 – 0.352	0.231	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	14	100	0.37
Haloacetic Acids (HAA)	2020	6.7	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	Aug 22/16	16.9	20.0*	0.01
Fluoride	"	1.10	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	227 - 231	4	30 – 500mg/L
Distribution pH	7.2 - 7.4	4	6.5 – 8.5
Distribution Lead 2018	0.08 - 1.46	4	10 ug/L MAC

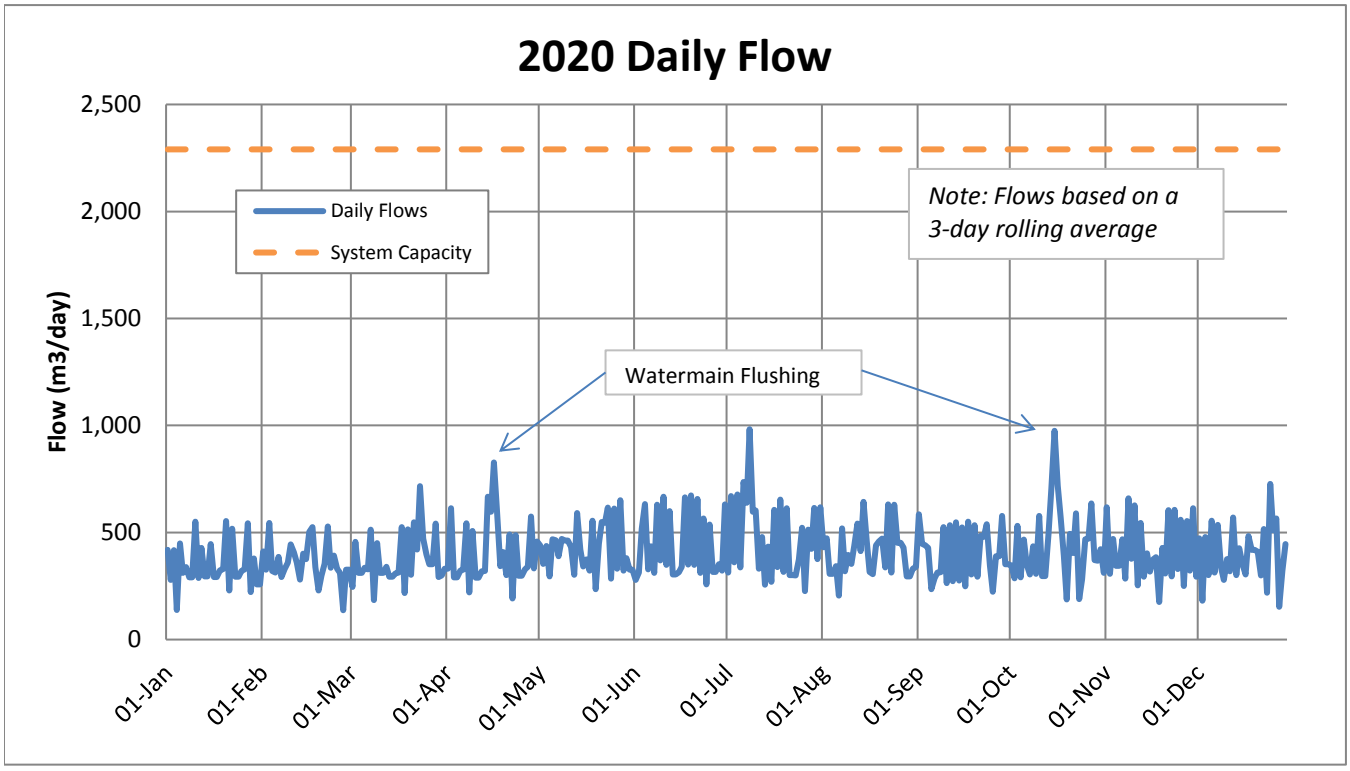
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 3 years for secure groundwater wells.

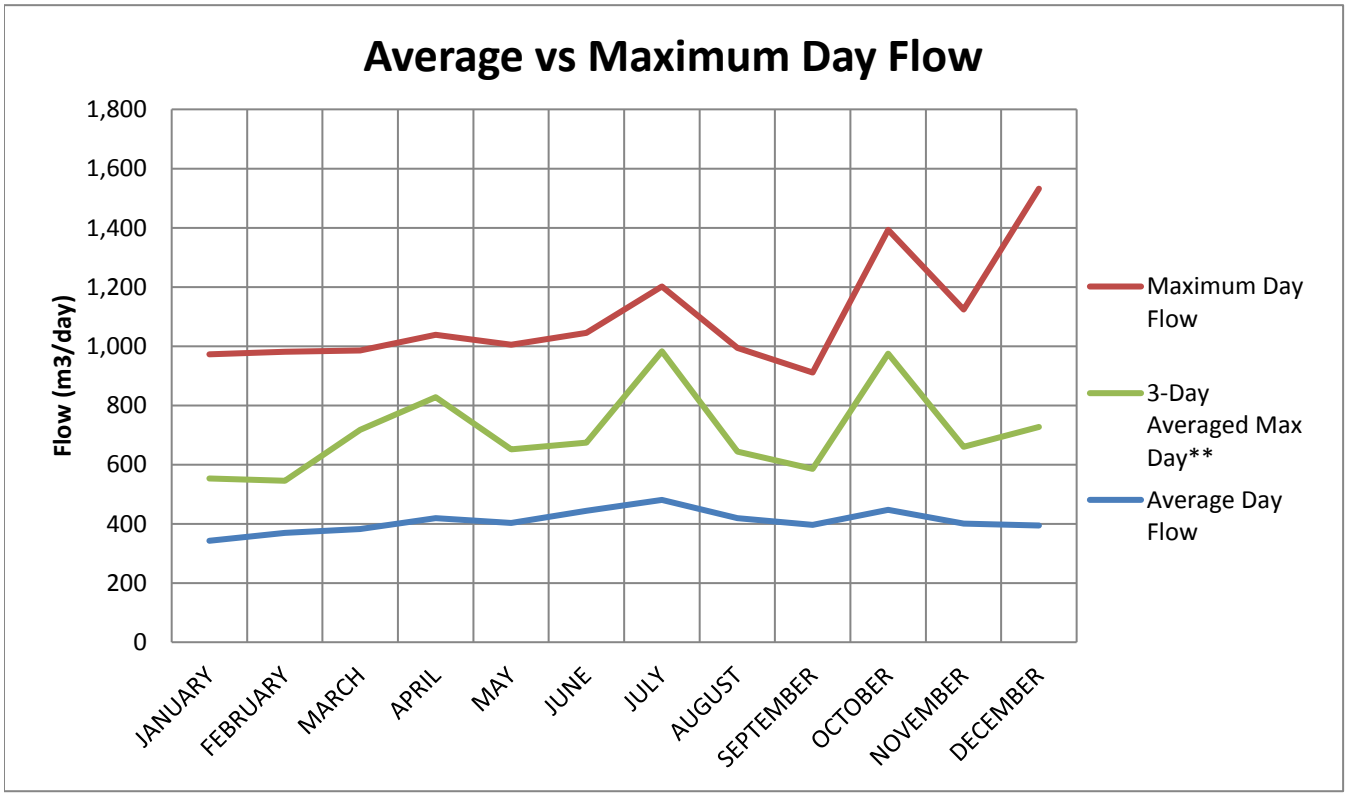
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	May 21/19	0..11	6	0.09
Arsenic	"	0.4	10	0.2
Barium	"	11.2	1000	0.01
Boron	"	106	5000	2
Cadmium	"	0.033	5	0.003
Chromium	"	0.15	50	0.03
Mercury	"	ND	1	0.01
Selenium	"	0.08	5	0.04
Uranium	"	0.519	20	0.002

The following Table summarizes the most recent test results for Schedule24. Testing is required every 3 years for secure groundwater wells.

Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	June 4/18	ND	5	0.11
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.12
Azinphos-methyl	“	ND	20	0.21
Benzene	“	ND	1	0.37
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.16
Carbofuran	“	ND	90	0.37
Carbon Tetrachloride	“	ND	2	0.41
Chlorpyrifos	“	ND	90	0.18
Diazinon	“	ND	20	0.081
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.50
1,4-Dichlorobenzene	“	ND	5	0.21
1,2-Dichloroethane	“	ND	5	0.43
1,1-Dichloroethylene(vinylidene chloride)	“	ND	14	0.41
Dichloromethane	“	ND	50	0.34
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.12
Diquat	“	ND	70	1
Diuron	“	ND	150	0.87
Glyphosate	“	ND	280	6
Malathion	“	ND	190	0.091
Metolachlor	“	ND	50	0.092
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metribuzin	“	ND	80	0.12
Monochlorobenzene	“	ND	80	0.58
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.11
Picloram	“	ND	190	0.25
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.23
Simazine	“	ND	10	0.15
Terbufos	“	ND	1	0.12
Tetrachloroethylene	“	ND	10	0.45
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.10
Trichloroethylene	“	ND	5	0.38
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.12
Vinyl Chloride	“	ND	1	0.17

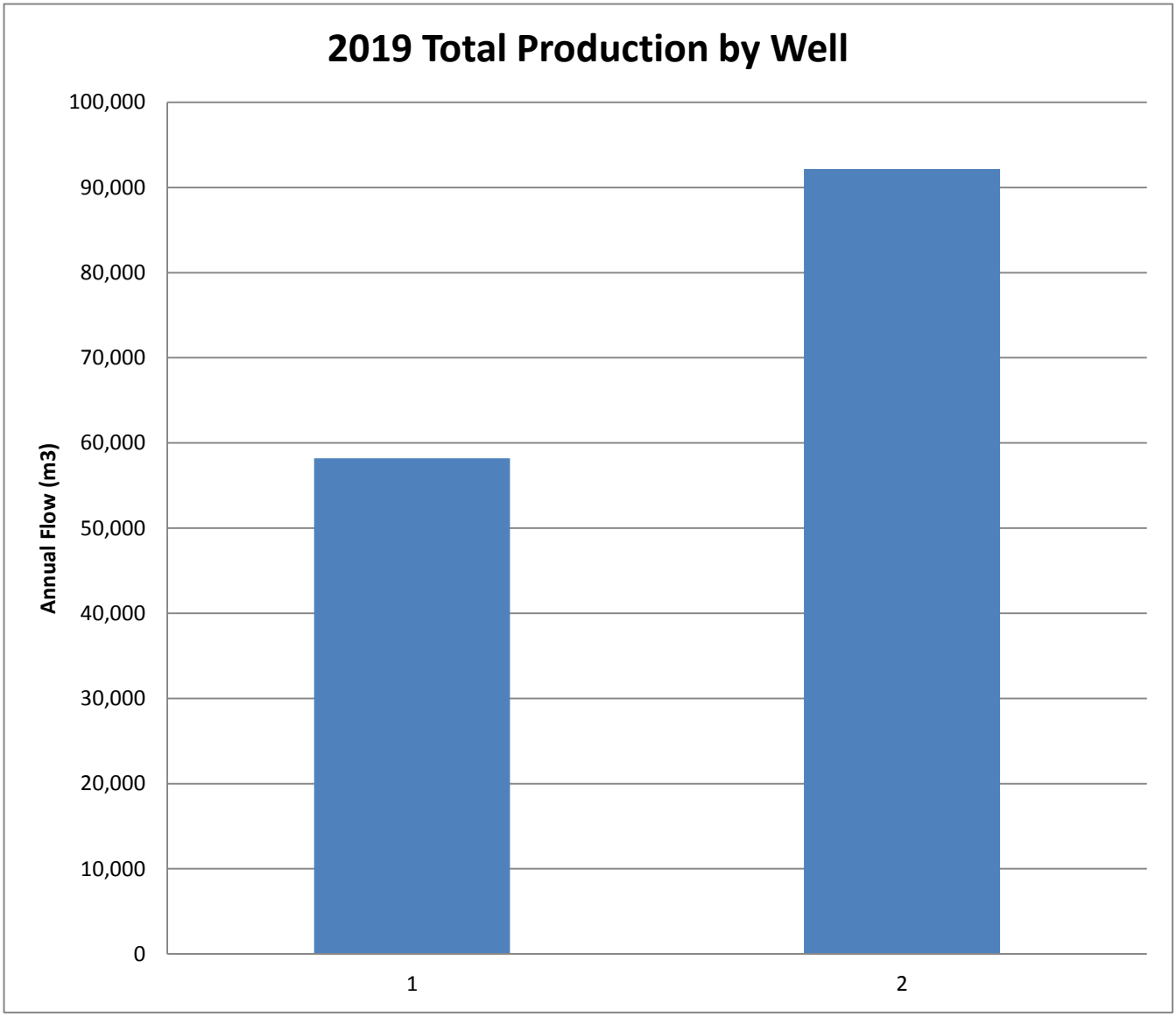
APPENDIX B: 2020 WATER QUANTITY SUMMARY





Plattsville Water System Capacity 2,290 m^3/d

** Operational practices artificially elevate the maximum day flows and they are recalculated to a 3 day maximum average day flow. See Section 5 of Annual Report



Plattsville Water System Capacity 2,290 m^3/d

ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Tavistock Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Tavistock Water System
Drinking Water System Number:	2200000647
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Tavistock Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 3,008. The system consists of 3 well sources which are secure groundwater wells. The water is treated with sodium hypochlorite for disinfection and sodium silicate to sequester iron. In 2020, approximately 23,370 L of sodium hypochlorite and 13,120 L (18,560 kg) of sodium silicate were used in the water treatment process. These chemicals are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The 1,590 m^3 water tower provides storage and maintains pressure in the system. The water tower also houses high lift pumps, treatment and monitoring equipment. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Tavistock Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000. In addition to regular operational and maintenance expenditures Capital Improvement projects included:

- $350,000 for replacement of distribution water mains in the Township systems
- $36,000 for improvements to water facilities
- $45,000 Class EA for new well 4

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli and Total Coliform*

Bacteriological tests for *E. coli* and total coliforms are required weekly on the raw and treated water at the facility and in the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 219 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	156	0	0 - 1
Treated	52	0	0
Distribution	167	0	0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	52	0 - 1
Distribution	36	0 - 29

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Tavistock system is provided below.

3.1. Hardness, Iron and Manganese

These are aesthetic parameters that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps and reduce iron levels. This information is included here to help set the water softener at the

level recommended by the manufacturer. Levels of iron less than 0.30 mg/L (ppm) are not considered to cause aesthetic problems such as discoloured water. In Tavistock sodium silicate is added to keep the iron in suspension. Manganese is commonly found in conjunction with iron and also causes discoloured water Manganese levels in this system are above a new proposed aesthetic objective of 0.02 mg/L.

- Hardness is 334 mg/L (equivalent to 23 grains)
- Average iron level is 0.72 mg/L

3.2. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.33 – 1.81) 1.05
Chlorine residual after treatment (mg/L)	Continuous	(0.33 – 2.08) 1.20
Turbidity after treatment (NTU)	Continuous	(0.02 – 0.26 0.04

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	5,616 m^3/d
Municipal Drinking Water License Limit	5,616 m^3/d
2020 Average Daily Flow	1,476 m^3/d
2020 Maximum Daily Flow	2,711 m^3/d
2020 Average Monthly Flow	45,030 m^3
2020 Total Amount of Water Supplied	540,363 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated,

corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The data review for the 2020 MECP annual inspection took place in January 2020. Due to Covid-19 restrictions the field inspection will take place at a later date. Final inspection results will be presented to County Council in a memo. The 2019 Inspection Report rating was 100%.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions taken.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrate samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND	ND	1.0	0.003
Nitrate	0.014 – 0.016	0.015	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	18	100	0.37
Haloacetic Acids (HAA)	2020	9.6	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	Aug 22/16	16.4	20.0*	0.01
Fluoride	"	0.71	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	238 - 255	4	30 – 500mg/L
Distribution pH	7.7 - 7.8	4	6.5 – 8.5
Distribution Lead 2018	0.01 - 0.25	4	10 ug/L MAC

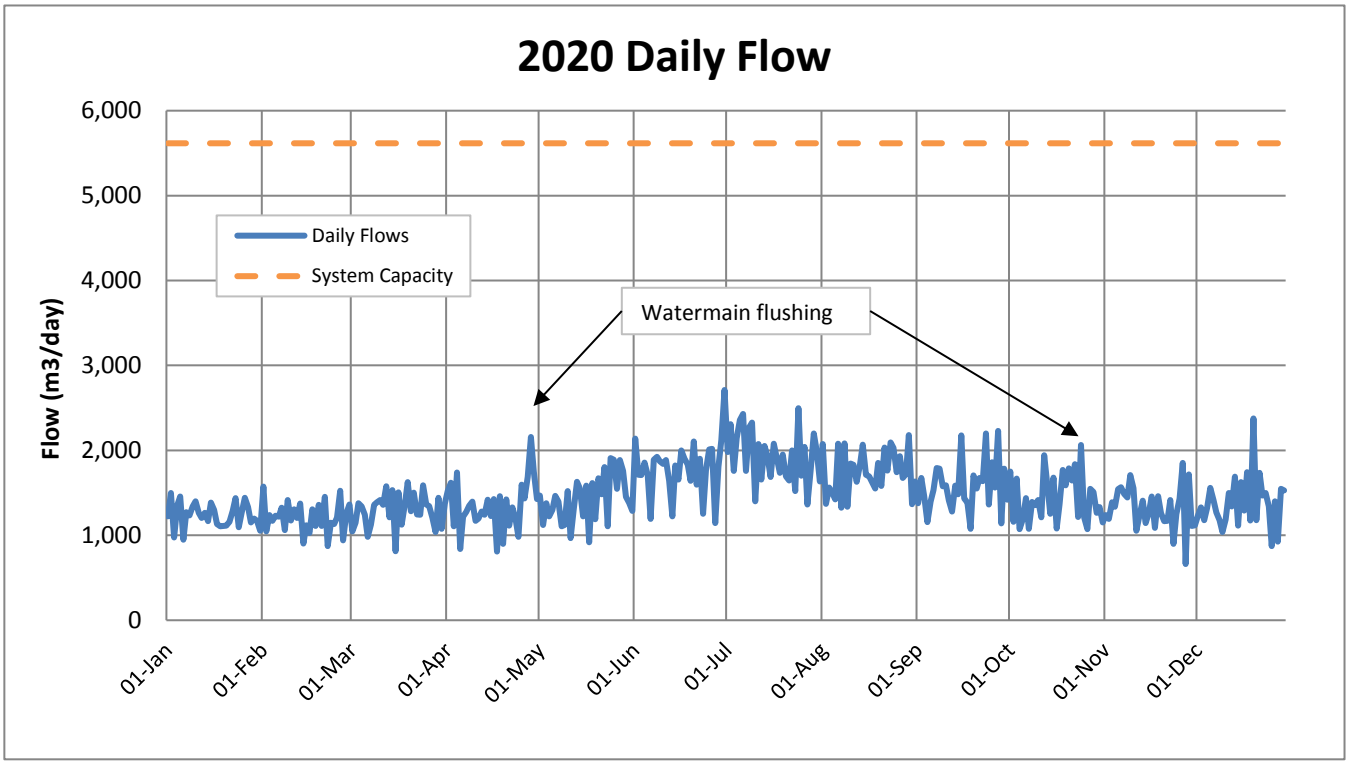
The following Table summarizes the most recent test results for Schedule 23. Testing is required every 3 years for secure groundwater wells.

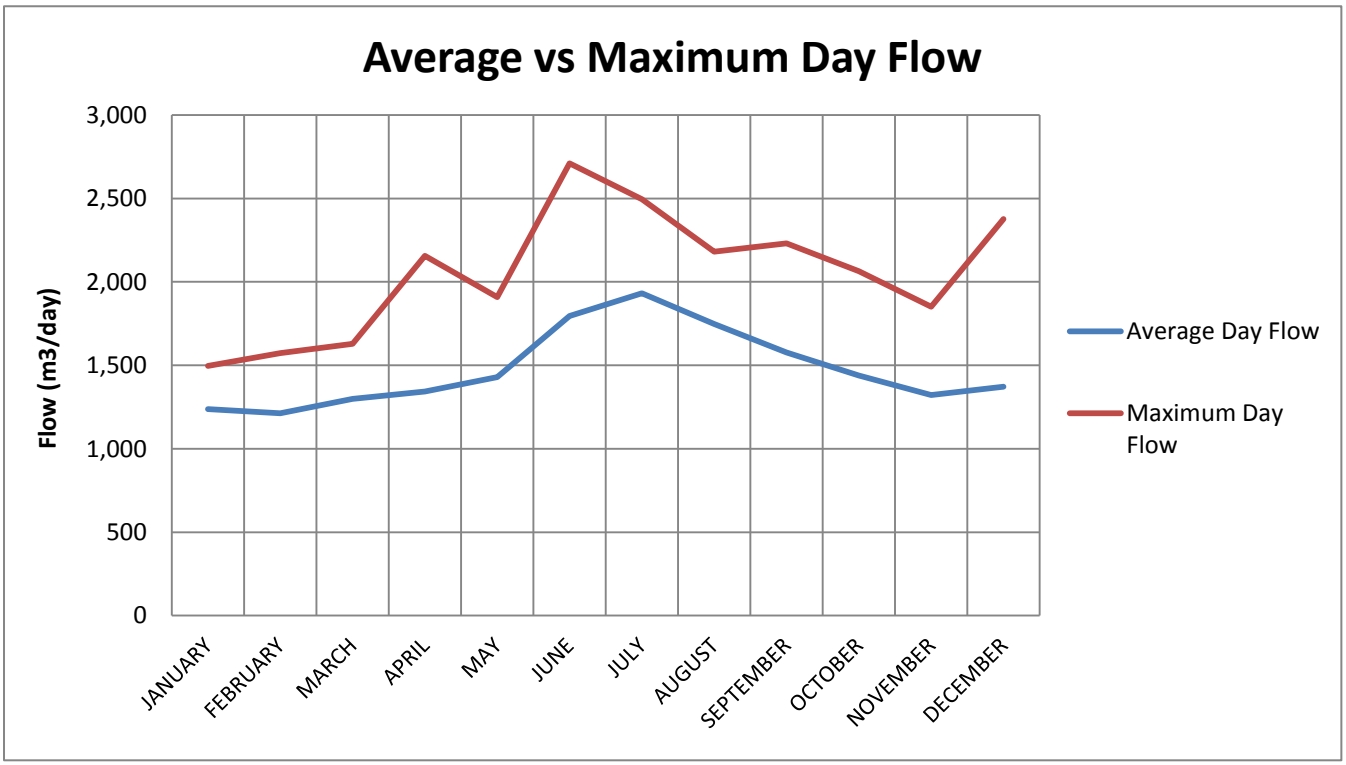
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	May 21/19	ND	6	0.09
Arsenic	"	1.4	10	0.2
Barium	"	266	1000	0.01
Boron	"	37	5000	2
Cadmium	"	ND	5	0.003
Chromium	"	0.13	50	0.03
Mercury	"	ND	1	0.01
Selenium	"	ND	5	0.04
Uranium	"	0.116	20	0.002

The following Table summarizes the most recent test results for Schedule 24. Testing is required every 3 years for secure groundwater wells.

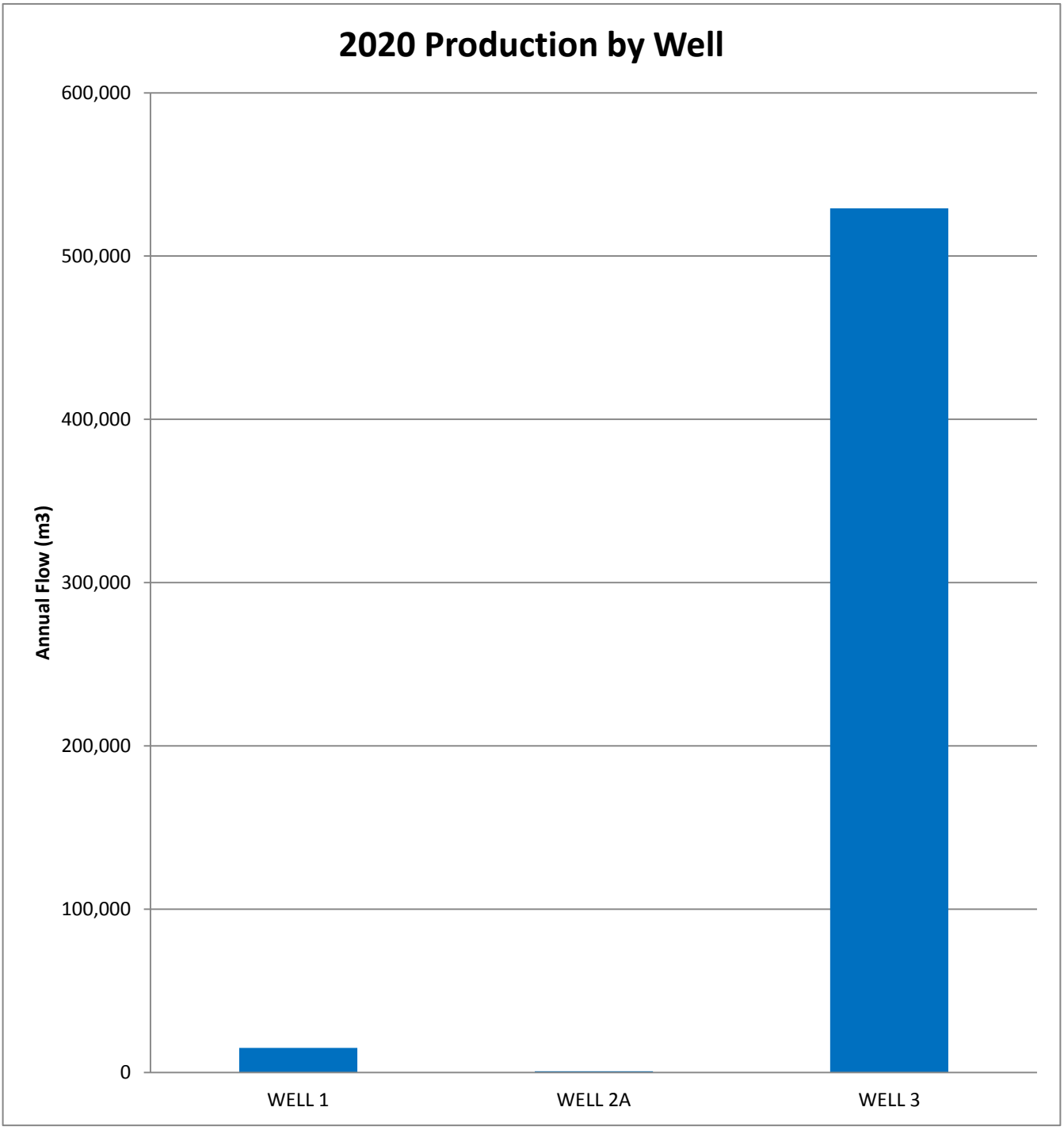
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	June 4/18	ND	5	0.11
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.12
Azinphos-methyl	“	ND	20	0.21
Benzene	“	ND	1	0.37
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.16
Carbofuran	“	ND	90	0.37
Carbon Tetrachloride	“	ND	2	0.41
Chlorpyrifos	“	ND	90	0.18
Diazinon	“	ND	20	0.081
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.50
1,4-Dichlorobenzene	“	ND	5	0.21
1,2-Dichloroethane	“	ND	5	0.43
1,1-Dichloroethylene(vinylidene chloride)	“	ND	14	0.41
Dichloromethane	“	ND	50	0.34
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.12
Diquat	“	ND	70	1
Diuron	“	ND	150	0.87
Glyphosate	“	ND	280	6
Malathion	“	ND	190	0.091
Metolachlor	“	ND	50	0.092
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metribuzin	“	ND	80	0.12
Monochlorobenzene	“	ND	80	0.58
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.11
Picloram	“	ND	190	0.25
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.23
Simazine	“	ND	10	0.15
Terbufos	“	ND	1	0.12
Tetrachloroethylene	“	ND	10	0.45
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.10
Trichloroethylene	“	ND	5	0.38
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.12
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Tavistock Water System Capacity 5,616 m^3/d



Tavistock Water System Capacity 5,616 m^3/d

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Thamesford Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Thamesford Water System
Drinking Water System Number:	2200000610
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Thamesford Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 2,430. The system consists of 3 well sources, 2 of which are classified as GUDI (Groundwater Under the Direct Influence of surface water). The third is a secure groundwater well. A new well at the River well site was developed and will be connected in 2021.The water is treated by filtration for iron and manganese removal followed by disinfection by Ultra Violet (UV) light and sodium hypochlorite. In 2020, approximately 11,275 L of sodium hypochlorite was used in the water treatment process. The chemical is certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The 2,050 m^3 water tower provides storage and maintains system pressure. A standby generator is available to run the facility in the event of a power failure. The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of failure of critical operational requirements.

1.2. Major Expenses

The Thamesford Water System is one of 14 water systems that have revenues and expenses pooled for economy of scale purposes. The systems are combined into the Township Water financial system and in 2020 had forecasted operating and maintenance expenditures of approximately $2,000,000.

In addition to regular operational and maintenance expenditures, Thamesford Capital Improvement projects included:

- $350,000 for painting and upgrades to the Thamesford water tower
- $75,000 for development of new well 4
- $350,000 for replacement of distribution water mains in the Township systems
- $36,000 for improvements to water facilities
- $170,000 Groundwater Model update for Beachville, Embro, Innerkip, Mt Elgin & Thamesford

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli and Total Coliform*

Bacteriological tests for *E. coli* and total coliforms are required weekly on the raw and treated water at the facility and in the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There was one adverse test results from 196 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	154	0	0 - 48
Treated	54	0	0
Distribution	142	0	0 - 5

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treatment and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	51*	0 - 2
Distribution	36	0 - 22

*a lab accident occurred with one sample and there was no result

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Thamesford system is provided below.

3.1. Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, sodium will not impair the taste of water.

When sodium levels are above 20 mg/L the MECP and MOH are notified. Southwestern Public Health maintain an information page on sodium in drinking water at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf in order to help people on sodium restricted diets control their sodium intake. The average sodium level in Thamesford is 26.0 mg/L.

3.2. Hardness

This is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. The Hardness in the Thamesford System is 467 mg/L (equivalent to 33 grains).

3.3. Additional Testing Required by MECP

None.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter	*Number of Tests or Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.29 – 1.67) 1.10
Chlorine residual after treatment (mg/L)	Continuous	(0.78 – 3.98) 1.38
Turbidity after treatment (NTU)	Continuous	(0.04 – 2.48) 0.07

4.3. 4.3. Ultra Violet (UV) Disinfection

Supply wells that have been classified as being GUDI require “enhanced disinfection” through ultra violet light (UV) followed by chlorination. A minimum UV dosage of 40 mJ/cm² is maintained to inactivate any microorganisms that may be present from contact with surface water. Insufficient dosage of UV lasting more than 10 minutes must be reported as inadequate disinfection. There were no occurrences of inadequate UV disinfection in 2020.

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	5,584 m^3/d
Municipal Drinking Water License Limit	5,391 m^3/d
2020 Average Daily Flow	754 m^3/d
2020 Maximum Daily Flow	2,248 m^3/d
2020 Average Monthly Flow	22,599 m^3
2020 Total Amount of Water Supplied	276,171 m^3

The max day was from refilling the water tower does not represent normal usage. A more realistic maximum day flow is 1,569 m^3/d. A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in September 2020. There were no non-compliance findings and the 2020 Inspection Report rating was 100%.

6.2. Adverse Results

Incident/Date	*Corrective Action*	*Resolution/Date*
Treated or Distribution Water Sample with Positive Test for *E.Coli* or Total Coliform Bacteria		
5 TC cfu/100mL – treated distribution sample May 19, 2020	Reported and resamples were taken	Resample results acceptable May 21, 2020

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite	ND – 0.006	<0.003	1.0	0.003
Nitrate	2.24 – 3.32	2.75	10.0	0.006

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	25	100	0.37
Haloacetic Acids (HAA)	2020	11.6	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium	May 21 /19	26.0	20.0*	0.01
Fluoride	May 21 /19	0.89	1.5**	0.06

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	253 - 258	4	30 – 500mg/L
Distribution pH	7.4 - 7.60	4	6.5 – 8.5
Distribution Lead 2018	0.08 - 1.91	4	10 ug/L MAC

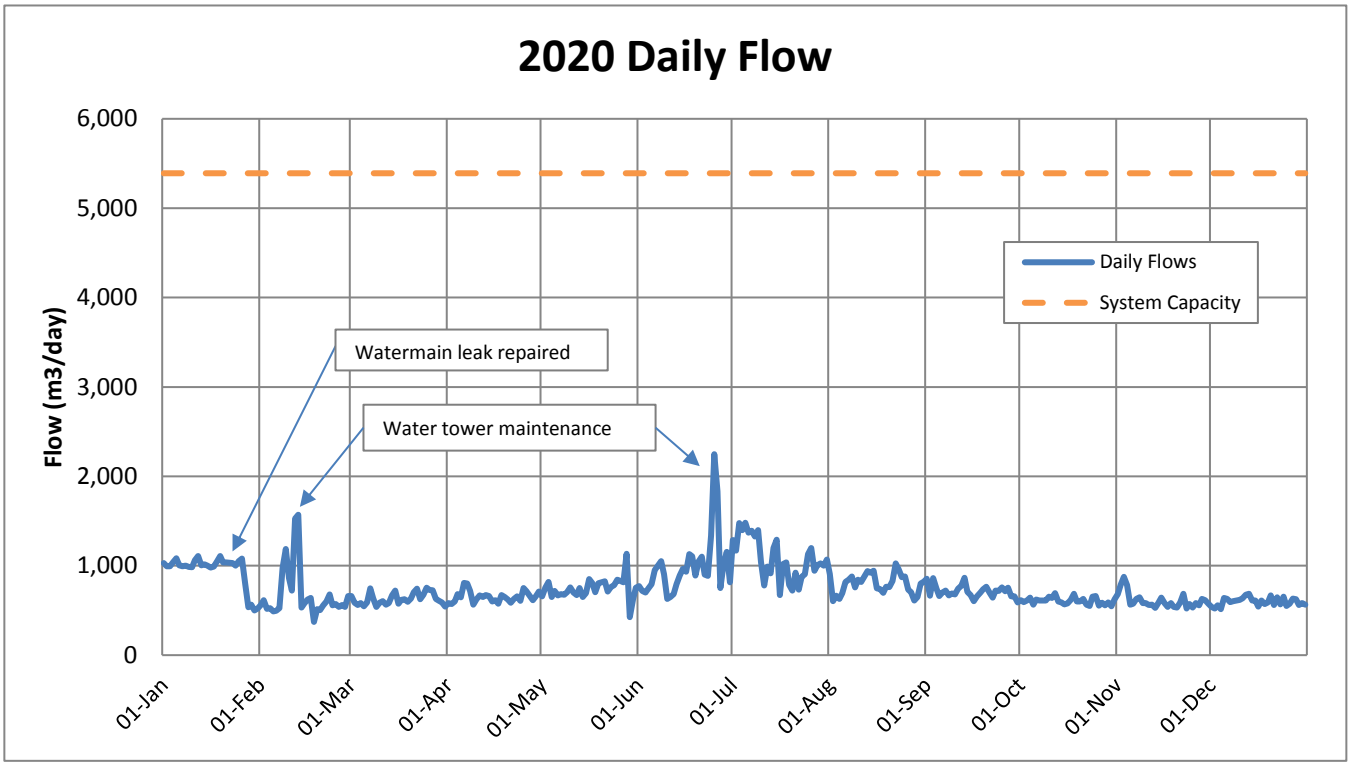
The following Table summarizes the most recent test results for Schedule 23. Testing is required annually for GUDI wells.

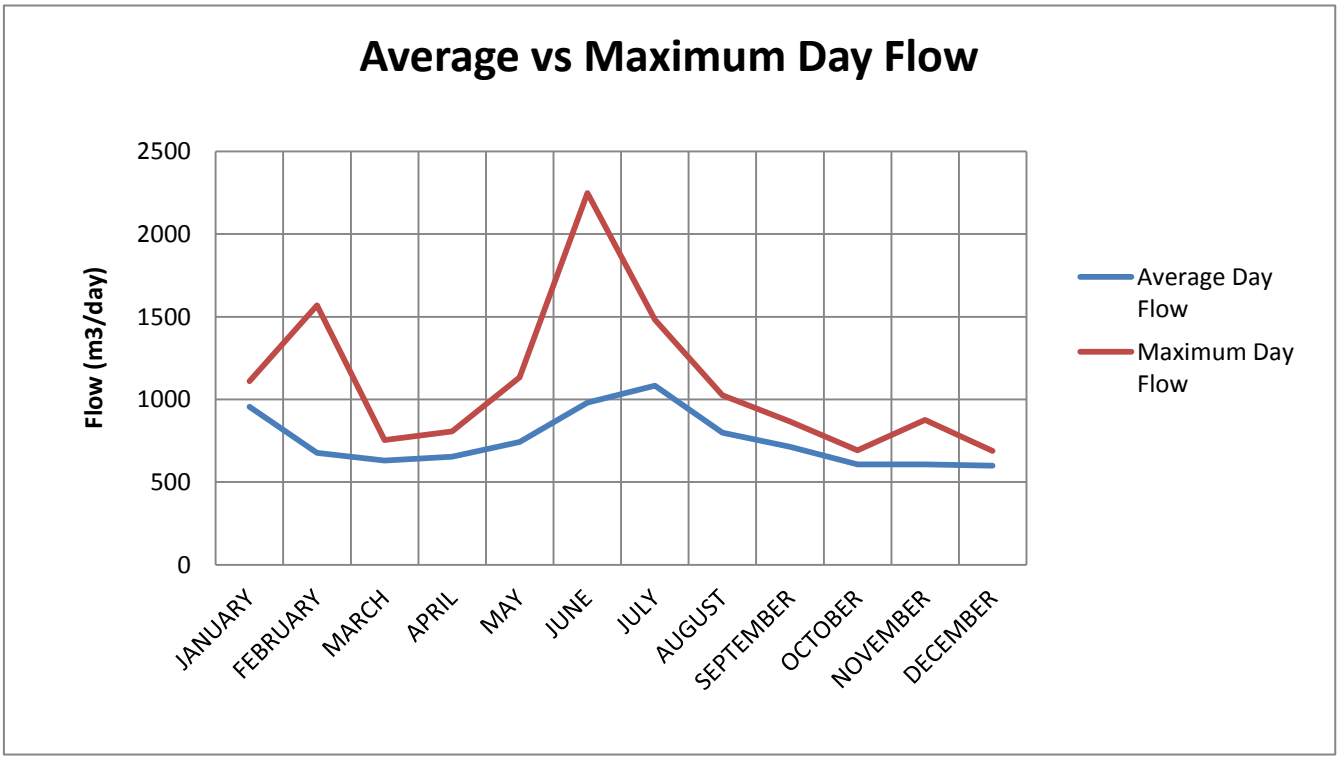
Parameter	*Sample Date*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	May 25/20	ND	6	0.09
Arsenic	"	0.2	10	0.2
Barium	"	62.6	1000	0.01
Boron	"	63	5000	2
Cadmium	"	ND	5	0.003
Chromium	"	0.2	50	0.08
Mercury	"	ND	1	0.01
Selenium	"	0.22	5	0.04
Uranium	"	0.318	20	0.001

The following Table summarizes the most recent test results for Schedule 24. Testing is required annually for GUDI wells.

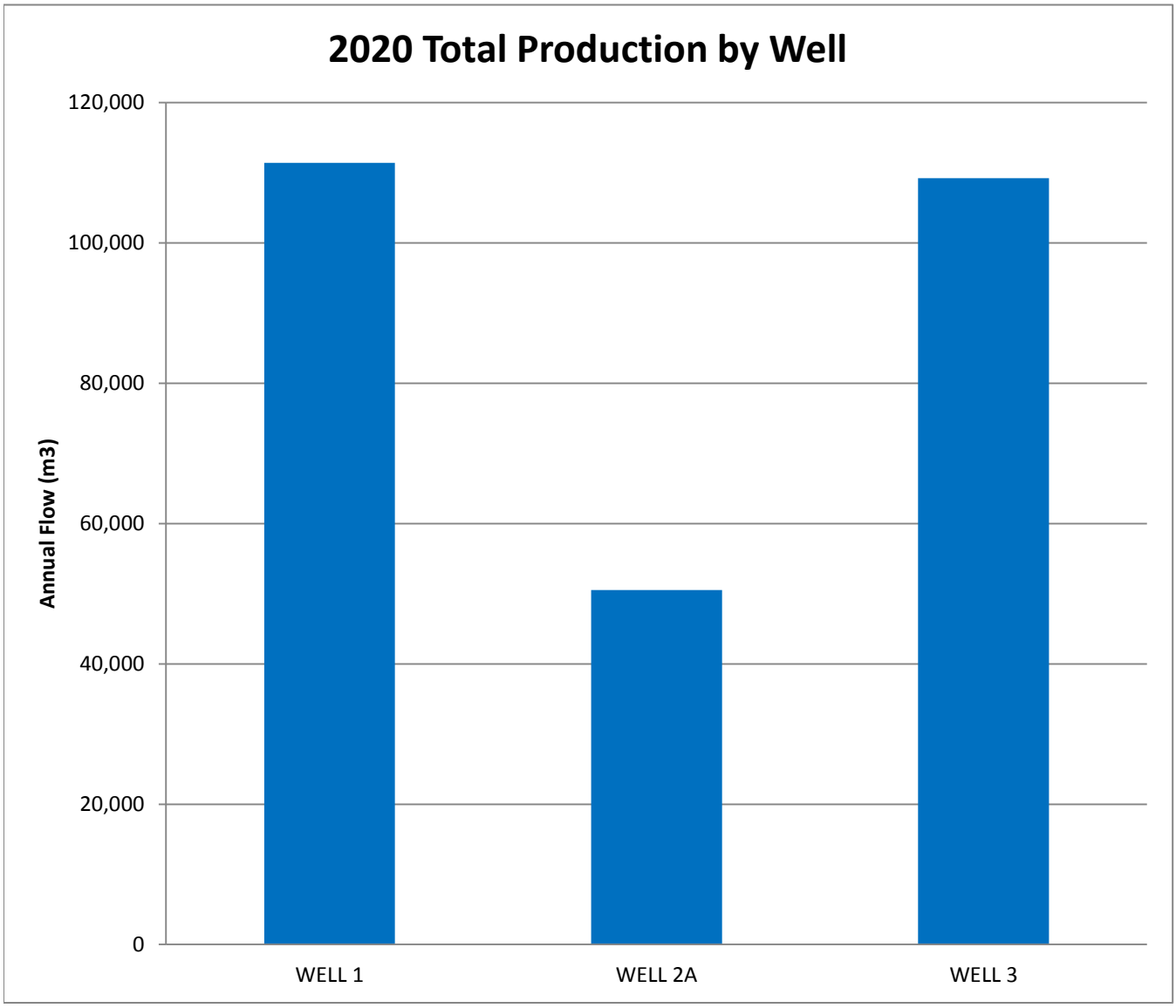
Parameter	*Sample Date*	*Result (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	May 25/20	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	“	ND	5	0.01
Azinphos-methyl	“	ND	20	0.01
Benzene	“	ND	1	0.32
Benzo(a)pyrene	“	ND	0.01	0.004
Bromoxynil	“	ND	5	0.33
Carbaryl	“	ND	90	0.05
Carbofuran	“	ND	90	0.01
Carbon Tetrachloride	“	ND	2	0.16
Chlorpyrifos	“	ND	90	0.02
Chlorpyrifos	“	ND	90	0.02
Diazinon	“	ND	20	0.02
Dicamba	“	ND	120	0.20
1,2-Dichlorobenzene	“	ND	200	0.41
1,4-Dichlorobenzene	“	ND	5	0.36
1,2-Dichloroethane	“	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	“	ND	14	0.33
Dichloromethane	“	ND	50	0.35
2-4 Dichlorophenol	“	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	“	ND	100	0.19
Diclofop-methyl	“	ND	9	0.40
Dimethoate	“	ND	20	0.03
Diquat	“	ND	70	1
Diuron	“	ND	150	0.03
Glyphosate	“	ND	280	1
Malathion	“	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	“	ND	100	0.12
Metolachlor	“	ND	50	0.01
Metribuzin	“	ND	80	0.02
Monochlorobenzene	“	ND	80	0.30
Paraquat	“	ND	10	1
Pentachlorophenol	“	ND	60	0.15
Phorate	“	ND	2	0.01
Picloram	“	ND	190	1
Polychlorinated Biphenyls(PCB)	“	ND	3	0.04
Prometryne	“	ND	1	0.03
Simazine	“	ND	10	0.01
Terbufos	“	ND	1	0.01
Tetrachloroethylene	“	ND	10	0.35
2,3,4,6-Tetrachlorophenol	“	ND	100	0.14
Triallate	“	ND	230	0.01
Trichloroethylene	“	ND	5	0.43
2,4,6-Trichlorophenol	“	ND	5	0.25
Trifluralin	“	ND	45	0.02
Vinyl Chloride	“	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Thamesford Water System Capacity 5,391 m^3/d



Thamesford Water System Capacity 5,391 m^3/d

Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Tillsonburg Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Tillsonburg Water System
Drinking Water System Number:	220000683
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Tillsonburg Water System is a Large Municipal Water system as defined by Regulation 170/03 and services a population of approximately 16,950. The system consists of ten well sources, seven of which are classified as GUDI (Groundwater Under Direct Influence of surface water) and three are secure groundwater wells. The treatment for each site is summarized below.

Treatment Facility	*Wells*	*Treatment*
Mall Road WTF	1A & 2	Filtration for iron removal and disinfection with ultraviolet (UV) and chlorine gas.
Fairview WTF	4, 5 & 7A	Disinfection with UV and chlorine gas. Sodium hypochlorite is added for disinfection at Well 7A and for secondary disinfection.
Plank Line WTF	6A	Disinfection with chlorine gas
Bell Mill Road WTF	9, 10 & 11	Filtration for iron removal and disinfection with UV and chlorine gas.
Rokeby Road WTF	12	Disinfection with chlorine gas.

The treatment facilities each house high lift pumps, monitoring and treatment equipment for the supply wells. Three standby generators are available to run facilities in the event of a power failure. Water storage is provided by a 9,100 m^3 reservoir located north of the Town. There is a pressure boosting station on Fairview Street.

In 2020, approximately 6,052 kg of chlorine gas and 6,560 L of sodium hypochlorite were used in the water treatment process. The chemicals are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

The system is maintained by licensed water system operators, who operate treatment and monitoring equipment and collect samples as specified by the Regulation. Alarms automatically notify operators in the event of a failure of critical operational requirements.

1.2. Major Expenses

In 2020, The Tillsonburg Water System had forecasted operation and maintenance expenditures of approximately $2,200,000. Capital Improvement projects included:

- $33,000 for improvements to water facilities
- $50,000 for in-distribution water storage study & modelling
- $125,000 Town Projects (reconstruction and repairs)
- $12,000 standby power at the reservoir
- $65,000 for looping to Broadway through Langrell

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli* and Total Coliform

Bacteriological tests for *E. coli* and total coliforms are taken weekly from the raw and treated water at the facility and from the distribution system. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were 4 adverse test results from 598 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	458	0	0 - 49
Treated	248	0	0 - 1
Distribution	350	0 – 1	0 - 1

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	247	0 - 9
Distribution	114	0 - 93

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 50 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Tillsonburg system is provided below.

3.2. Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, sodium will not impair the taste of the water.

When sodium levels are above 20 mg/L the MECP and MOH are notified. Southwestern Public Health maintain an information page on sodium in drinking water at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf in order to help people on sodium restricted diets control their sodium intake. The sodium level in water from the Tillsonburg Fairview WTF is 40.8 mg/L. Well 6A at Plank Line has sodium at 39.3 mg/L, however it was not running in 2020. All other locations are under 20 mg/L.

3.3. Hardness

This is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. The Hardness ranges from 222 to 372 mg/L (equivalent to 16-26 grains) depending on the wells in use.

3.4. Additional Testing Required by MECP

None

4. OPERATIONAL MONITORING

4.1 Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked at least twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable

however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter & Location	*Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.21 – 1.54) 0.91
Bell Mill Road WTF		
Chlorine mg/L	Continuous	(0.14 – 2.20) 1.38
Turbidity NTU	Continuous	(0.04 – 1.50) 0.07
Fairview WTF/North Street West		
Chlorine mg/L	Continuous	(0.21 – 3.79) 1.16
Turbidity NTU	Continuous	(0.03 – 1.86) 0.05
Mall Road WTF		
Chlorine mg/L	Continuous	(0.31 – 2.07) 1.37
Turbidity NTU	Continuous	(0.02 – 3.07) 0.07
Plank Line WTF		
Chlorine mg/L	Continuous	Not running
Turbidity NTU	Continuous	"
Rokeby Road WTF		
Chlorine mg/L	Continuous	(0.30 – 2.59) 1.03
Turbidity NTU	Continuous	(0.04 – 3.99) 0.11

4.3. Ultra Violet (UV) Disinfection

Supply wells that have been classified as being GUDI require "enhanced disinfection" through ultra violet light (UV) followed by chlorination. A minimum UV dosage of 40 mJ/cm^2 is maintained to inactivate any microorganisms that may be present from contact with surface water. Insufficient dosage of UV lasting more than 10 minutes must be reported as inadequate disinfection. There were no occurrences of inadequate UV disinfection in 2020.

5. WATER QUANTITY

Continuous monitoring of flowrates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	17,913 m^3/d
Municipal Drinking Water License Limit	17,440 m^3/d
2020 Average Daily Flow	5,304 m^3/d
2020 Maximum Daily Flow	9,067 m^3/d
2020 Average Monthly Flow	161,862 m^3/d
2020 Total Amount of Water Supplied	1,942,338 m^3

In order to meet the long term growth need of the Town, the County intends to construct a transmission main from Tillsonburg to the Oxford South system in Springford. The construction is currently anticipated to occur within the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system's Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County's Drinking Water Quality Management System (DWQMS) procedures.

6.1 Non-Compliance Findings

The annual MECP inspection took place in November 2020. There were no non-compliance findings and the 2020 Inspection Report rating was 100%.

6.2. Adverse Results

Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions taken. Below is a summary of the three adverse/reportable occurrences for 2020 along with the corresponding resolution.

Incident/Date	*Corrective Action*	*Resolution/Date*
Treated or Distribution Water Sample with Positive Test for *E.Coli* or Total Coliform Bacteria		
1 TC cfu/100mL in a treated WTF water sample taken Feb 03, 2020	Reported and a samples collected for confirmation	Resample results were acceptable Feb 05, 2020.
1 TC cfu/100mL in a distribution water sample taken Mar 30, 2020	Reported and a samples collected for confirmation	Resample results were acceptable Apr 02, 2020.
NDOGN* in a distribution water sample taken Nov 23, 2020	Reported and a samples collected for confirmation	Resample results taken Nov 25 & 26, 2020 were acceptable.

*NDOGN means "No Data - Overgrown with Non-Target bacteria. The plate cannot be counted so is considered adverse for both *EC* and TC.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document at https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB 4449e01, titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are required every 3 months in normal operation.

Parameter & Location	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite			1.0	0.003
Bell Mill Road WTF	ND	ND		
Fairview WTF	ND	ND		
Mall Road WTF	ND	ND		
Plank Line WTF+	NA	NA		
Rokeby Road WTF	ND	ND		
Nitrate			10.0	0.006
Bell Mill Road WTF	2.84 – 3.02	2.91		
Fairview WTF	6.39 – 7.17	6.73		
Mall Road WTF	1.90 – 2.56	2.12		
Plank Line WTF+	NA	NA		
Rokeby Road WTF	5.06 – 5.70	5.34		

+not running in 2020

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	24.2	100	0.37
Haloacetic Acids (HAA)	2020	5.4	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter & Location	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium			20.0*	0.01
Bell Mill Road WTF	August 22/16	5.93		
Fairview WTF	May 27/19	40.8		
Mall Road WTF	August 22/16	11.5		
Plank Line WTF+	August 22/16	39.3		
Rokeby Road WTF	August 22/16	2.46		
Fluoride			1.5**	0.06
Bell Mill Road WTF	August 22/16	0.10		
Fairview WTF	May 27/19	0.35		
Mall Road WTF	August 22/16	0.08		
Plank Line WTF+	August 22/16	1.51		
Rokeby Road WTF	August 22/16	0.08		

*Sodium levels between 20 – 200 mg/L must be reported every 5 years

**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

+not running in 2020

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	181 – 245	8	30 – 500mg/L
Distribution pH	7.3– 7.68	8	6.5 – 8.5
Distribution Lead 2018	0.02 – 2.85	8	10 ug/L MAC

The following Table summarizes the most recent test results for Schedules 23.Testing is required annually for GUDI wells at Bell Mill Road, Fairview and Mall Road.

Parameter	*Results (ug/L) Bell Mill Road WTF December 07/20*	*Results (ug/L) Fairview WTF December 07/20*	*Results (ug/L) Mall Road WTF December 07/20*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	ND	ND	ND	6	0.09
Arsenic	ND	1.8	ND	10	0.02
Barium	32.4	130	58.2	1000	0.01
Boron	13	54	17.0	5000	2.0
Cadmium	ND	0.005	ND	5	0.003
Chromium	0.74	1.00	0.63	50	0.08
Mercury	ND	ND	ND	1	0.01
Selenium	0.16	0.33	0.07	5	0.04
Uranium	0.523	0.367	1.68	20	0.002

The following Table summarizes the most recent test results for Schedules 23.Testing is required every 3 years in secure, Non-GUDI wells at Plank Line and Rokeby Road.

Parameter	*Results (ug/L) Plank Line WTF June 6/16+*	*Results (ug/L) Rokeby Road WTF May 27/19*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	ND	ND	6	0.02
Arsenic	10.0	1.2	10	0.2
Barium	52.4	29.6	1000	0.01
Boron	153	14	5000	2.0
Cadmium	ND	ND	5	0.003
Chromium	3.94	0.52	50	0.03
Mercury	ND	ND	1	0.01
Selenium	0.09	0.26	5	0.04
Uranium	0.185	1.63	20	0.002

+not running in 2020

Summary of Organic parameters in Schedule 24 sampled during this reporting period or the most recent sample results. Testing is required annually for GUDI wells at Bells Mill Road, Fairview and Mall Road.

Parameter	*Results (ug/L) Bell Mill Rd. WTF December 07/20*	*Results (ug/L) Fairview WTF December 07/20*	*Results (ug/L) Mall Road WTF December 07/20*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	ND	ND	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	ND	0.02	ND	5	0.01
Azinphos-methyl	ND	ND	ND	20	0.01
Benzene	ND	ND	ND	1	0.32
Benzo(a)pyrene	ND	ND	ND	0.01	0.004
Bromoxynil	ND	ND	ND	5	0.33
Carbaryl	ND	ND	ND	90	0.05
Carbofuran	ND	ND	ND	90	0.01
Carbon Tetrachloride	ND	ND	ND	2	0.16
Chlorpyrifos	ND	ND	ND	90	0.02
Chlorpyrifos	ND	ND	ND	90	0.02
Diazinon	ND	ND	ND	120	0.02
Dicamba	ND	ND	ND	200	0.20
1,2-Dichlorobenzene	ND	ND	ND	5	0.41
1,4-Dichlorobenzene	ND	ND	ND	30	0.36
1,2-Dichloroethane	ND	ND	ND	14	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	ND	ND	50	0.33
Dichloromethane	ND	ND	ND	900	0.35
2-4 Dichlorophenol	ND	ND	ND	100	0.15

Parameter	*Results (ug/L) Bell Mill Rd. WTF December 07/20*	*Results (ug/L) Fairview WTF December 07/20*	*Results (ug/L) Mall Road WTF December 07/20*	*MAC (ug/L)*	*MDL (ug/L)*
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	ND	ND	9	0.19
Diclofop-methyl	ND	ND	ND	20	0.40
Dimethoate	ND	ND	ND	10	0.03
Diquat	ND	ND	ND	150	1
Diuron	ND	ND	ND	280	0.03
Glyphosate	ND	ND	ND	3	1
Malathion	ND	ND	ND	900	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	ND	ND	ND	100	0.12
Metolachlor	ND	ND	ND	80	0.01
Metribuzin	ND	ND	ND	80	0.02
Monochlorobenzene	ND	ND	ND	10	0.30
Paraquat	ND	ND	ND	50	1
Pentachlorophenol	ND	ND	ND	2	0.15
Phorate	ND	ND	ND	190	0.01
Picloram	ND	ND	ND	3	1
Polychlorinated Biphenyls(PCB)	ND	ND	ND	1	0.04
Prometryne	ND	ND	ND	10	0.03
Simazine	ND	ND	ND	280	0.01
Terbufos	ND	ND	ND	30	0.01
Tetrachloroethylene	ND	ND	ND	100	0.35
2,3,4,6-Tetrachlorophenol	ND	ND	ND	230	0.14
Triallate	ND	ND	ND	5	0.01
Trichloroethylene	ND	ND	ND	5	0.43
2,4,6-Trichlorophenol	ND	ND	ND	280	0.25
Trifluralin	ND	ND	ND	2	0.02
Vinyl Chloride	ND	ND	ND	1	0.17

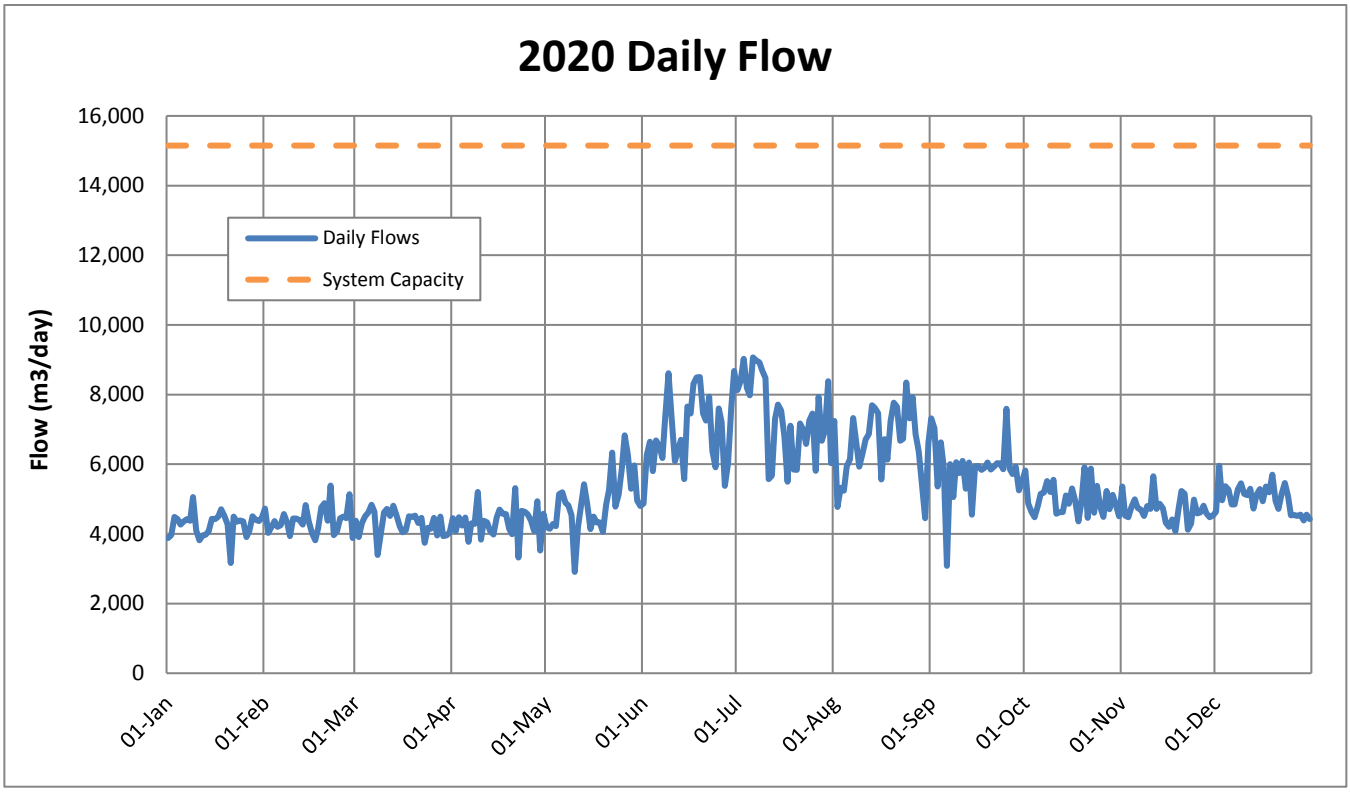
Summary of Organic parameters in Schedule 24 sampled during this reporting period or the most recent sample results. Testing is required every 3 years in secure, Non-GUDI wells at Plank Line and Rokeby Road.

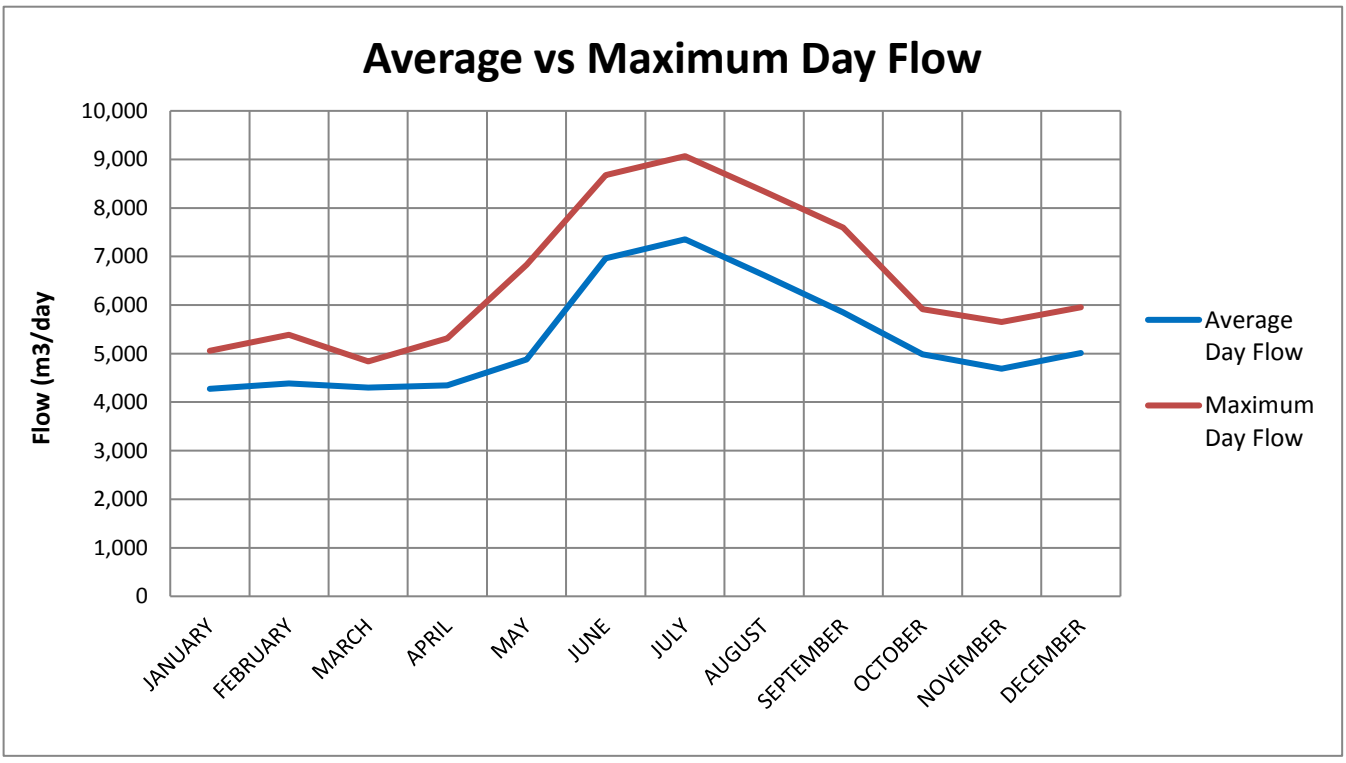
Parameter	*Results (ug/L) Plank Line WTF June 6/16+*	*Results (ug/L) Rokeby Road WTF June 4/18*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	ND	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	ND	0.02	5	0.01
Azinphos-methyl	ND	ND	20	0.01
Benzene	ND	ND	1	0.32
Benzo(a)pyrene	ND	ND	0.01	0.004
Bromoxynil	ND	ND	5	0.33
Carbaryl	ND	ND	90	0.05
Carbofuran	ND	ND	90	0.01
Carbon Tetrachloride	ND	ND	2	0.16
Chlorpyrifos	ND	ND	90	0.002
Chlorpyrifos	ND	ND	20	0.02
Diazinon	ND	ND	20	0.02
Dicamba	ND	ND	120	0.20
1,2-Dichlorobenzene	ND	ND	200	0.41
1,4-Dichlorobenzene	ND	ND	5	0.36
1,2-Dichloroethane	ND	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	ND	14	0.33
Dichloromethane	ND	ND	50	0.35
2-4 Dichlorophenol	ND	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	ND	100	0.19
Diclofop-methyl	ND	ND	9	0.40
Dimethoate	ND	ND	20	0.03

Parameter	*Results (ug/L) Plank Line WTF June 6/16+*	*Results (ug/L) Rokeby Road WTF June 4/18*	*MAC (ug/L)*	*MDL (ug/L)*
Diquat	ND	ND	70	1
Diuron	ND	ND	150	0.03
Glyphosate	ND	ND	280	1
Malathion	ND	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA) *	+	ND	100	0.12
Metolachlor	ND	ND	50	0.01
Metribuzin	ND	ND	80	0.02
Monochlorobenzene	ND	ND	80	0.30
Paraquat	ND	ND	10	1
Pentachlorophenol	ND	ND	60	0.15
Phorate	ND	ND	2	0.01
Picloram	ND	ND	190	1
Polychlorinated Biphenyls(PCB)	ND	ND	3	0.04
Prometryne	ND	ND	1	0.03
Simazine	ND	ND	10	0.01
Terbufos	ND	ND	1	0.01
Tetrachloroethylene	ND	ND	10	0.35
2,3,4,6-Tetrachlorophenol	ND	ND	100	0.14
Triallate	ND	ND	230	0.01
Trichloroethylene	ND	ND	5	0.43
2,4,6-Trichlorophenol	ND	ND	5	0.25
Trifluralin	ND	ND	45	0.02
Vinyl Chloride	ND	ND	1	0.17

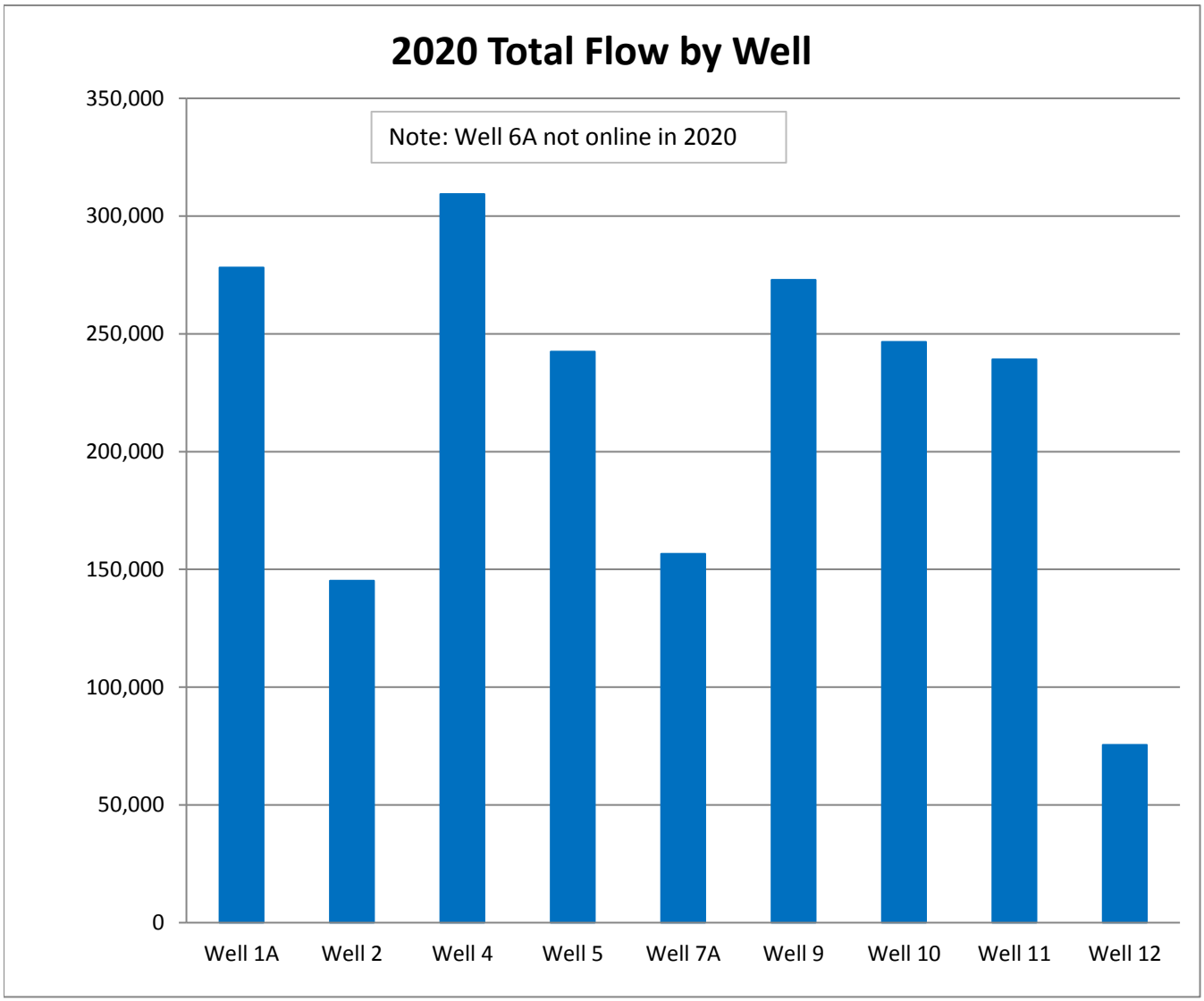
*+not running in 2020, * MCPA was added in 2017*

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Tillsonburg Water System Capacity 15,148 m^3/d



Tillsonburg Water System Capacity 15,148 m^3/d

Oxford County
Growing stronger together

2020 ANNUAL DRINKING WATER SYSTEM SUMMARY REPORT
Woodstock Water System

1. GENERAL INFORMATION

Oxford County prepares a report summarizing system operation and water quality for every municipal drinking water system annually. The reports detail the latest water quality testing results, water quantity statistics and any adverse conditions that may have occurred for the previous year. They are available for review by the end of February on the Oxford County website at www.oxfordcounty.ca/drinkingwater or by contacting the Public Works Department.

All efforts have been made to ensure the information presented in this report is accurate. If you have any questions or comments concerning the report please contact the County of Oxford at the address and phone number listed below or by email at publicworks@oxfordcounty.ca.

Drinking Water System:	Woodstock Water System
Drinking Water System Number:	220000709
Drinking Water System Owner & Contact Information:	Oxford County Public Works Department Water Services P.O. Box 1614 21 Reeve Street Woodstock, ON N4S 7Y3 Telephone: 519-539-9800 Toll Free: 866-537-7778 Email: publicworks@oxfordcounty.ca
Reporting Period:	January 1, 2020 – December 31, 2020

1.1. System Description

The Woodstock Water System is a Large Municipal Water system as defined by Regulation 170/03 and serves a population of approximately 44,790. The system consists of eleven well sources, six of which are classified as GUDI (Groundwater Under Direct Influence of surface water) and five are secure groundwater wells.

The system consists of four water treatment facilities (WTF), as follows:

Treatment Facility	*Wells*	*Treatment*
Thornton WTF	1, 2, 3, 4, 5, 8 & 11	Ultra violet (UV) light and gas chlorination for disinfection
Southside WTF	6 & 9	Disinfection with gas chlorination & sodium hypochlorite respectively
Sutherland WTF	7	Filtration for iron removal and disinfection with gas chlorination
Trillium Line WTF	12	Disinfection with sodium hypochlorite

The treatment facilities each house high lift pumps, monitoring equipment and treatment equipment for the supply wells. In 2020, approximately 9,248 kg of chlorine gas and 4,100 L of sodium hypochlorite was used in the water treatment process.

Approximately 32,745 m^3 of water storage is provided within the Bower Hill and Southside Park reservoirs and the Northwest and East water towers. There are pressure boosting stations on Athlone Street, Nellis Street, County Road 17 and Universal Road that maintain pressure and monitor chlorine residual in segments of the distribution system. Chlorine gas and sodium hypochlorite are certified to meet standards set by the Standards Council of Canada or American National Standards Institute.

1.2. Major Expenses

In 2020 the Woodstock Water System had operating and maintenance expenditures of approximately $4,600,000. In addition to regular operational and maintenance expenditures, Woodstock Capital Improvement projects included:

- $45,000 for improvements to water facilities
- $1,100,000 for city projects (reconstruction and repairs)
- $120,000 to design & tender the CR4 & Lansdowne WM
- $660,000 for installation of CR17 watermain

Capital Improvement projects for all systems included:

- $280,000 to develop Countywide SCADA Master Plan for all water systems
- $50,000 Updated Water Modelling
- $10,000 Asset Management valuation for all treatment, pumping and storage facilities
- $75,000 Two mobile generators

2. MICROBIOLOGICAL TESTING

2.1. *E. coli* and Total Coliform

Bacteriological tests for *E. coli* and total coliforms are taken weekly from the raw and treated water at the facility. Extra samples are taken after major repairs or maintenance work. Any *E. coli* or total coliform results above 0 in treated water must be reported to the Ministry of Environment, Conservation and Parks (MECP) and Medical Officer of Health (MOH). Resamples and any other required actions are taken as quickly as possible. The results from the 2020 sampling program are shown on the table below. There were no adverse test results from 912 treated water samples in this reporting period.

	Number of Samples	*Range of E. coli Results Min - Max MAC = 0*	*Range of Total Coliform Results Min - Max MAC = 0*
Raw	567	0	0 - 9
Treated	208	0	0
Distribution	704	0	0

2.2. Heterotrophic Plate Count (HPC)

HPC analyses are required from the treated and distribution water. The tests are required weekly for treated water and for 25% of the required distribution system bacteriological samples. HPC should be less than 500 colonies per 1 mL. Results over 500 colonies per 1 mL may indicate a change in water quality but it is not considered an indicator of unsafe water. 2020 results are shown in the table below.

	Number of Samples	*Range of HPC Min - Max*
Treated	206	0 - 10
Distribution	123	0 - 10

3. CHEMICAL TESTING

The Safe Drinking Water Act requires periodic testing of the water for approximately 60 different chemical parameters. The latest results for all parameters are provided in Appendix A. The sampling frequency varies for different types and sizes of water systems and chemical parameters. If the concentration of a parameter is above half of the Maximum Allowable Concentration (MAC) under the Ontario Drinking Water Quality Standards, an increased testing frequency of once every three months is required by the Regulation. Where concerns regarding a parameter exist, the MECP can also require additional sampling be undertaken.

Information on the health effects and allowable limits of components in drinking water may be found on the MECP web page through the link provided in Appendix A. Additional information on common chemical parameters specific to the Woodstock system is provided below.

3.1. Sodium

Sodium levels in drinking water are tested once every five years. The aesthetic objective is 200 mg/L meaning at levels less than this, sodium will not impair the taste of the water.

When sodium levels are above 20 mg/L the MECP and MOH are notified. Southwestern Public Health maintain an information page on sodium in drinking water at https://www.swpublichealth.ca/en/partners-and-professionals/resources/Health-Care-Providers/Alerts-Advisories-Updates/Advisories/ADV_HIA-Sodium-20201203.pdf in order to help people on sodium restricted diets control their sodium intake. The sodium level in water from the Woodstock Sutherland WTF is 92.6 mg/L. All other locations are under 20 mg/L.

3.2. Hardness

This is an aesthetic parameter that may affect the appearance of the water but is not related to health. Well water commonly has high levels of hardness and other minerals from being in contact with underground rock formations. Many households have water softeners to help reduce white calcium deposits and improve the efficiency of soaps. This information is included here to help set the water softener at the level recommended by the manufacturer. The Hardness in the Woodstock System is approximately 427 mg/L (equivalent to 30 grains).

3.3. Additional Testing Required by MECP

Weekly nitrate samples of the treated water from Thornton WTF are required by the Municipal Drinking Water License issued June 9, 2020. Nitrate concentrations must be less than 10.0 mg/L in drinking water. The 2020 nitrate results ranged from 5.18 to 6.91 mg/L.

4. OPERATIONAL MONITORING

4.1. Chlorine Residual

Free chlorine levels of the treated water are monitored continuously at the discharge point of the Water Treatment Facility. In the distribution system, free chlorine is checked twice weekly at various locations. As a target, free chlorine residual within the distribution system should be above 0.20 mg/L. A free chlorine level lower than 0.05 mg/L must be reported and corrective action taken. There were no reportable incidents in 2020. A summary of the chlorine residual readings is provided in the table below.

4.2. Turbidity

Turbidity of treated water is continuously monitored at the treatment facility, as a change in turbidity can indicate an operational problem. The turbidity of untreated water from the well is checked weekly. Turbidity is measured in nephelometric turbidity units (NTU). Under Regulation 170/03 turbidity in groundwater is not reportable however turbidity should be < 1 NTU at the treatment plant and < 5 NTU in the distribution system. A summary of the monitoring results for 2020 is provided in the table below.

Parameter & Location	*Monitoring Frequency*	*Range of Results (Min – Max) and Average*
Chlorine residual in distribution (mg/L)	Continuous	(0.25 – 2.46) 1.09
Thornton WTF after treatment		
Chlorine mg/L	Continuous	(0.49 – 1.61) 1.29
Turbidity NTU	Continuous	(0.01 – 2.43) 0.08
Southside WTF after treatment		
Chlorine mg/L	Continuous	(0.30 – 2.86) 1.25
Turbidity NTU	Continuous	(0.03 – 3.99) 0.06
Sutherland WTF after treatment		
Chlorine mg/L	Continuous	(0.25– 2.46) 1.09
Turbidity NTU	Continuous	(0.05 – 1.6) 0.10
Trillium Line WTF after treatment		
Chlorine mg/L	Continuous	(0.62 – 2.03) 1.25
Turbidity NTU	Continuous	(0.04 – 3.99) 0.07

4.3. Ultra Violet (UV) Disinfection

Supply wells that have been classified as being GUDI require “enhanced disinfection” through ultra violet light (UV) followed by chlorination. A minimum UV dosage of 40 mJ/cm² is maintained to inactivate any microorganisms that may be present from contact with surface water. Insufficient dosage of UV lasting more than 10 minutes must be reported as inadequate disinfection. There were no occurrences of inadequate UV disinfection in 2020.

5. WATER QUANTITY

Continuous monitoring of flow rates from supply wells into the treatment system and from the facility into the distribution system is required by Regulation 170/03. The Municipal Drinking Water License and Permit to Take Water issued by the MECP regulate the amount of water that can be utilized over a given time period. A summary of the 2020 flows are provided in the Table below and presented graphically in Appendix B.

Flow Summary	*Quantity*
Permit to Take Water Limit	57,775 m^3/d
Municipal Drinking Water License Limit	56,325 m^3/d
2020 Average Daily Flow	14,363 m^3/d
2020 Maximum Daily Flow	24,143 m^3/d
2020 Average Monthly Flow	438,354 m^3
2020 Total Amount of Water Supplied	5,260,252 m^3

A review of the available supply capacity and the anticipated growth forecasted for the community indicates that the system has sufficient capacity over the 20 year planning horizon.

6. NON-COMPLIANCE FINDINGS AND ADVERSE RESULTS

This section documents any known incidents of non-compliance or adverse results and the associated correction actions taken to resolve the issue. Non-compliance issues are typically identified by either the Operating Authority or the MECP Drinking Water Inspectors. The issues and associated required actions are documented by the Inspectors in the system’s Annual Inspection Report. All non-compliance issues are investigated, corrective actions taken and documented using the County’s Drinking Water Quality Management System (DWQMS) procedures.

6.1. Non-Compliance Findings

The annual MECP inspection took place in August 2020. There was one non-compliance findings and the Inspection Report rating was 96%.

- During the commissioning of a new booster pump facility the incorrect disinfection procedure was followed. A period of 24 hours holding time to ensure disinfection was not provided. The bacteriological samples taken to verify disinfection were acceptable. The AWWA Standards C651 and C652, were reviewed with operations staff and the form verifying the proper procedure was followed was revised.

6.2. Adverse Results

There were no adverse or reportable occurrences in 2020. Any adverse results from bacteriological, chemical samples or observations of operational conditions that indicate adverse water quality are reported as required and corrective actions are taken.

APPENDIX A: SUMMARY OF CHEMICAL RESULTS

UNDERSTANDING CHEMICAL TEST RESULTS

The following tables summarize the laboratory results of the chemical testing Oxford County is required to complete. Different types of parameters are required to be tested for at different frequencies as noted below. Explanations on the health impacts of these parameters can be found in the MECP document https://cvc.ca/wp-content/uploads/2011/03/std01_079707.pdf PSIB4449e01 titled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines".

Results are shown as concentrations with units of either milligrams per litre (mg/L) or micrograms per litre (ug/L). 1 mg/L is equal to 1000 ug/L. The Maximum Acceptable Concentration (MAC) is the highest amount of a parameter that is acceptable in Municipal drinking water and can be found in the MECP Drinking Water Standards. The Method Detection Limit (MDL) is the lowest amount to which the laboratory can confidently measure. A result of "ND" stands for "Not Detected" and means that the concentration of the chemical is lower than the laboratory's equipment is capable of measuring.

Nitrate and nitrite samples are normally required every 3 months of operation. Weekly nitrate sampling is required at the Thornton WTF.

Parameter & Location	*Result Range* Min – Max *(mg/L)*	*Average Result (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Nitrite			1.0	0.003
Thornton WTF	ND – 0.003	ND		
Southside WTF	ND	ND		
Sutherland WTF	ND	ND		
Trillium Line WTF	ND	ND		
Nitrate			10.0	0.006
Thornton WTF	5.10 – 6.91	5.65		
Southside WTF	4.55 – 506	4.76		
Sutherland WTF	0.01 – 0.05	0.03		
Trillium Line WTF	2.08 – 2.13	2.00		

Trihalomethane (THM) and total Haloacetic Acids (HAA) are by-products of the disinfection process. The samples are required every 3 months from the distribution system.

Parameter	*Annual Average*	*Result Value (ug/L)*	*MAC (ug/L)*	*MDL (ug/L)*
Trihalomethane (THM)	2020	8.2	100	0.37
Haloacetic Acids (HAA)	2020	ND	80	5.3

The following Table summarizes the most recent test results for Sodium and Fluoride. Testing and reporting any adverse results is required every 5 years.

Parameter & Location	*Sample Date*	*Result Value (mg/L)*	*MAC (mg/L)*	*MDL (mg/L)*
Sodium			20.0*	0.01
Thornton WTF	May 27/19	14.4		
Southside WTF	Mar 12/18	17.0		
Sutherland WTF	May 25/20	92.6		
Trillium Line WTF	Oct. 21/16	14.9		
Fluoride			1.5**	0.06
Thornton WTF	May 27/19	0.27		
Southside WTF	Mar 12/18	0.41		
Sutherland WTF	May 25/20	0.72		
Trillium Line WTF	Oct. 21/16	0.46		

*Sodium levels between 20 – 200 mg/L must be reported every 5 years.
**Natural levels of fluoride between 1.5 – 2.4 mg/L must be reported every 5 years.

The following Table summarizes the most recent results for the Lead Testing Program. Lead samples are taken every 3 years. Levels of alkalinity and pH are monitored twice per year in the distribution system to ensure water quality is consistent and does not facilitate leaching of lead into the water.

Parameter	*Result Range (Min - Max)*	*Number of Samples*	*Acceptable Level*
Distribution Alkalinity	251 - 276	8	30 – 500mg/L
Distribution pH	7.4 - 7.7	8	6.5 – 8.5
Distribution Lead 2018	0.03 - 5.1	8	10 ug/L MAC

The following Table summarizes the most recent test results for Schedule 23. Testing is required annually for GUDI wells at Thornton.

Parameter	*Result (ug/L) Thornton WTF Dec 07/20*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	ND	6	0.09
Arsenic	0.2	10	0.2
Barium	55.7	1000	0.02
Boron	12	5000	2
Cadmium	ND	5	0.003
Chromium	0.86	50	0.08
Mercury	ND	1	0.01
Selenium	0.36	5	0.04
Uranium	0.768	20	0.002

The following Table summarizes the most recent test result for Schedule 23. Testing is required every 3 years for secure, Non-GUDI wells at Southside, Sutherland and Trillium Line.

Parameter	*Result (ug/L) Trillium Line WTF Feb 19/19*	*Result (ug/L) Southside WTF Nov* 29/19	*Result (ug/L) Sutherland WTF May30/18*	*MAC (ug/L)*	*MDL (ug/L)*
Antimony	ND	ND	0.03	6	0.09
Arsenic	0.4	0.2	0.2	10	0.2
Barium	60.9	44.7	110	1000	0.02
Boron	12.5	41	72	5000	2
Cadmium	0.004	ND	ND	5	0.003
Chromium	ND	0.28	0.03	50	0.08
Mercury	ND	ND	0.02	1	0.01
Selenium	0.16	0.26	ND	5	0.04
Uranium	0.970	0.690	0.094	20	0.002

The following Table summarizes the Organic parameters in Schedule 24 sampled during this reporting period or the most recent sample results. Testing is required annually for GUDI wells at Thornton.

Parameter	*Result (ug/L) Thornton WTF Dec 07/20*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	ND	5	0.01
Azinphos-methyl	ND	20	0.01
Benzene	ND	1	0.32
Benzo(a)pyrene	ND	0.01	0.004
Bromoxynil	ND	5	0.33
Carbaryl	ND	90	0.05
Carbofuran	ND	90	0.01
Carbon Tetrachloride	ND	2	0.16
Chlorpyrifos	ND	90	0.02
Diazinon	ND	20	0.02
Dicamba	ND	120	0.20
1,2-Dichlorobenzene	ND	200	0.41
1,4-Dichlorobenzene	ND	5	0.36
1,2-Dichloroethane	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	14	0.33
Dichloromethane	ND	50	0.35
2-4 Dichlorophenol	ND	900	0.15

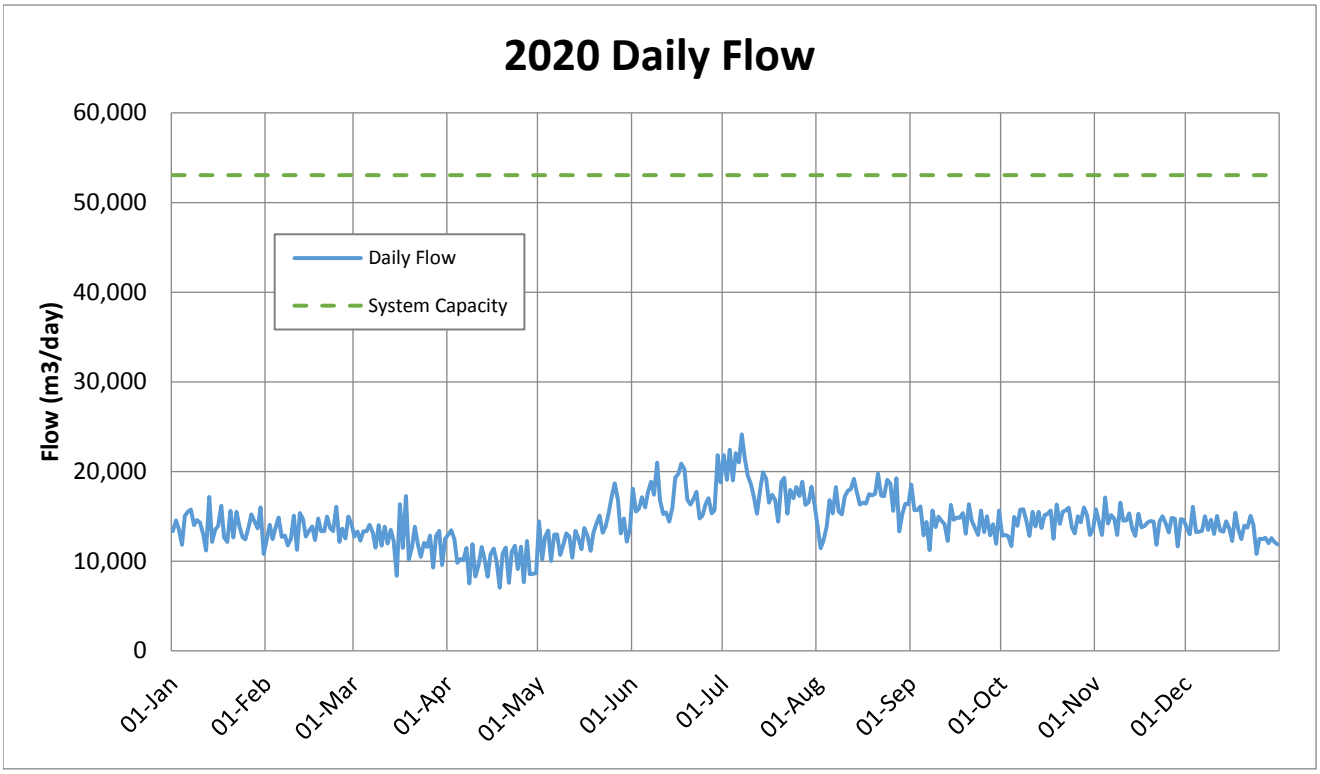
Parameter	*Result (ug/L) Thornton WTF Dec 07/20*	*MAC (ug/L)*	*MDL (ug/L)*
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	100	0.19
Diclofop-methyl	ND	9	0.40
Dimethoate	ND	20	0.03
Diquat	ND	70	1
Diuron	ND	150	0.03
Glyphosate	ND	280	1
Malathion	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	ND	100	0.12
Metolachlor	ND	50	0.01
Metribuzin	ND	80	0.02
Monochlorobenzene	ND	80	0.30
Paraquat	ND	10	1
Pentachlorophenol	ND	60	0.15
Phorate	ND	2	0.01
Picloram	ND	190	1
Polychlorinated Biphenyls(PCB)	ND	3	0.04
Prometryne	ND	1	0.03
Simazine	ND	10	0.01
Terbufos	ND	1	0.01
Tetrachloroethylene	ND	10	0.35
2,3,4,6-Tetrachlorophenol	ND	100	0.14
Triallate	ND	230	0.01
Trichloroethylene	ND	5	0.43
2,4,6-Trichlorophenol	ND	5	0.25
Trifluralin	ND	45	0.02
Vinyl Chloride	ND	1	0.17

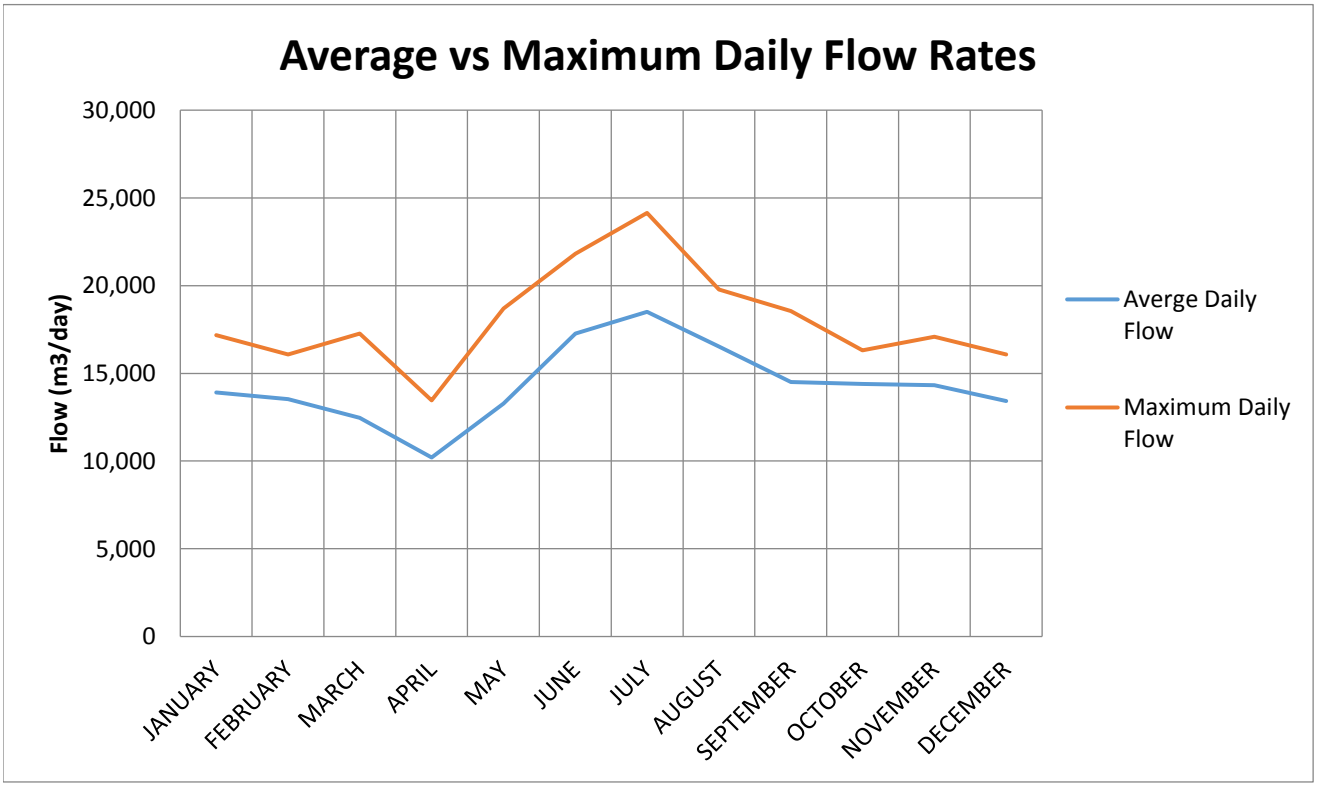
The following Table is a summary of Organic parameters in Schedule 24 sampled during this reporting period or the most recent sample results. Testing is required annually every 3 years for secure, Non-GUDI wells at Southside, Sutherland and Trillium Line.

Parameter	*Result (ug/L) Trillium Line WTF Feb 19/19*	*Result (ug/L) Southside WTF Nov 29/19*	*Result (ug/L) Sutherland WTF May 30/18*	*MAC (ug/L)*	*MDL (ug/L)*
Alachlor	ND	ND	ND	5	0.02
Atrazine + N-dealkylatedmetobolites	ND	ND	ND	5	0.01
Azinphos-methyl	ND	ND	ND	20	0.02
Benzene	ND	ND	ND	1	0.32
Benzo(a)pyrene	ND	ND	ND	0.01	0.004
Bromoxynil	ND	ND	ND	5	0.33
Carbaryl	ND	ND	ND	90	0.01
Carbofuran	ND	ND	ND	90	0.01
Carbon Tetrachloride	ND	ND	ND	2	0.16
Chlorpyrifos	ND	ND	ND	90	0.02
Diazinon	ND	ND	ND	20	0.02
Dicamba	ND	ND	ND	120	0.20
1,2-Dichlorobenzene	ND	ND	ND	200	0.41
1,4-Dichlorobenzene	ND	ND	ND	5	0.36
1,2-Dichloroethane	ND	ND	ND	5	0.35
1,1-Dichloroethylene (vinylidene chloride)	ND	ND	ND	14	0.33
Dichloromethane	ND	ND	ND	50	0.35
2-4 Dichlorophenol	ND	ND	ND	900	0.15
2,4-Dichlorophenoxy acetic acid (2,4-D)	ND	ND	ND	100	0.19
Diclofop-methyl	ND	ND	ND	9	0.40
Dimethoate	ND	ND	ND	20	0.03

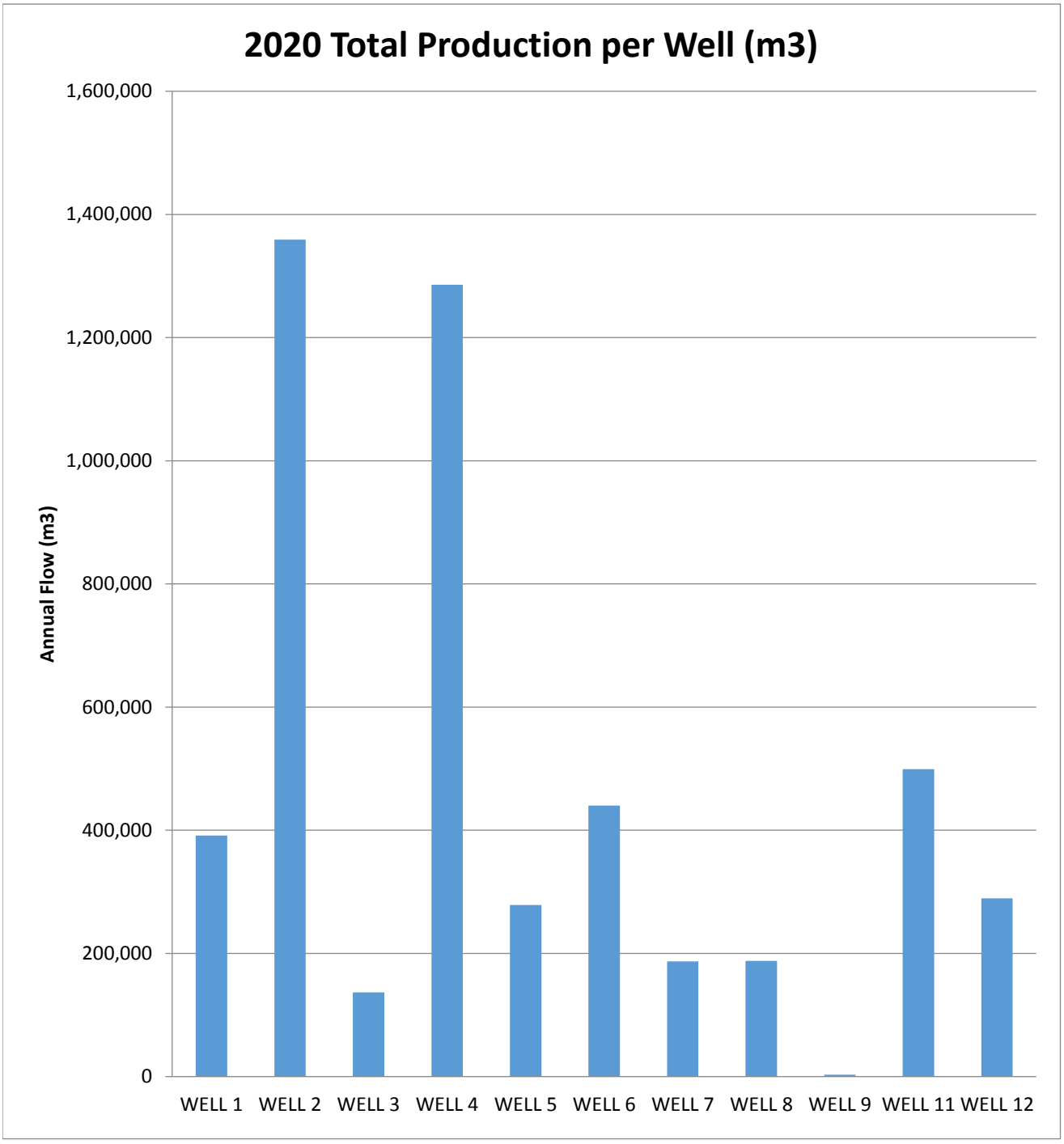
Parameter	*Result (ug/L) Trillium Line WTF Feb 19/19*	*Result (ug/L) Southside WTF Nov 29/19*	*Result (ug/L) Sutherland WTF May 30/18*	*MAC (ug/L)*	*MDL (ug/L)*
Diquat	ND	ND	ND	70	1
Diuron	ND	ND	ND	150	0.03
Glyphosate	ND	ND	ND	280	1
Malathion	ND	ND	ND	190	0.02
2-methyl-4chlorophenoxyacetic acid (MCPA)	ND	ND	ND	100	0.12
Metolachlor	ND	ND	ND	50	0.01
Metribuzin	ND	ND	ND	80	0.02
Monochlorobenzene	ND	ND	ND	80	0.30
Paraquat	ND	ND	ND	10	1
Pentachlorophenol	ND	ND	ND	60	0.15
Phorate	ND	ND	ND	2	0.01
Picloram	ND	ND	ND	190	1
Polychlorinated Biphenyls(PCB)	ND	ND	ND	3	0.04
Prometryne	ND	ND	ND	1	0.03
Simazine	ND	ND	ND	10	0.01
Terbufos	ND	ND	ND	1	0.01
Tetrachloroethylene	ND	ND	ND	10	0.35
2,3,4,6-Tetrachlorophenol	ND	ND	ND	100	0.14
Triallate	ND	ND	ND	230	0.01
Trichloroethylene	ND	ND	0.48	5	0.44
2,4,6-Trichlorophenol	ND	ND	ND	5	0.14
Trifluralin	ND	ND	ND	45	0.02
Vinyl Chloride	ND	ND	ND	1	0.17

APPENDIX B: 2020 WATER QUANTITY SUMMARY





Woodstock Water System Capacity 53,050 m^3/d



Notes: Volumes pumped in 2020
Well 9: 3,257 m^3

Woodstock Water System Capacity 53,050 m^3/d

Oxford County
Growing stronger together

Report No: HS 2021-05
HUMAN SERVICES
Council Date: February 24, 2021

To: **Warden and Members of County Council**

From: **Director of Human Services**

2020 Annual Progress Report - 10 Year Shelter Plan

RECOMMENDATION

1. **That Council approve the 2020 Annual Progress Report of the 10 Year Shelter Plan as illustrated in Attachment 1 and as outlined in Report No. HS 2021-05.**

REPORT HIGHLIGHTS

- The 2020 Annual Progress Report of the County 10 Year Shelter Plan includes measures and progress that has been achieved to meet the objectives and targets of the Plan.
- Under a variety of different housing programs, 75 additional households received a rent subsidy, while 4 ownership households received financial assistance to purchase their first home. One affordable housing project is nearing completion (24 units), one project was initiated (48 affordable units) and three projects are scheduled to commence construction (totaling 80 affordable units).
- Housing crisis looms in Oxford County as the demand for housing greatly exceeds the current supply.

Implementation Points

Following Council's review of the Annual Report, a copy will be provided to the Ministry of Municipal Affairs and Housing (MMAH) and be made available to the public, in accordance with the *Housing Services Act, 2011.*

Financial Impact

There is no financial impact associated with the approval of the 2020 Annual Progress Report of the 10 Year Shelter Plan.

Communications

This report provides details with respect to the Annual Progress Report that is required in accordance with the *Housing Services Act, 2011.* In light of this, details of this report have been shared with the Ministry of Municipal Affairs and Housing (MMAH) and will be made available to the public, local municipalities and the Canadian Mortgage Housing Corporation (CMHC) upon approval.

Strategic Plan (2015-2018)

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

DISCUSSION

Background

In 2010, the Ministry of Municipal Affairs and Housing (formerly Ontario Ministry of Housing), released the Long-Term Affordable Housing Strategy (LTAHS) and sequentially the Housing Services Act, 2011, replacing the former Social Housing Reform Act, 2000. In accordance with the Housing Services Act, 2011, Municipal Service Managers are required to develop a 10 Year Housing and Homelessness Plan to identify objectives and targets related to housing and homelessness, as well as actions proposed to meet those objectives. To ensure targets and objectives are being met, Service Managers are required to complete annual progress reports, as well as a five-year review.

Housing and Homelessness (Shelter) Plans play a critical function in setting out how Service Managers are addressing housing and homelessness locally, including housing affordability, coordination of homelessness and related support services, preventing homelessness and ending chronic homelessness. As such, the Housing and Homelessness (Shelter) Plan is an important tool to support poverty reduction.

By way of background, on June 10, 2015, County Council approved the 10 Year Shelter Plan presented in Report No. HS 2015-07. This Plan sets a long-term vision, targets and strategies to promote housing stability across the shelter continuum. As required under the Housing Services Act, 2011, a five year review of the Shelter Plan was also completed in December, 2019. The five year review highlighted changes in local demographics, needs associated with housing and homelessness, as well as the progress that has been achieved to date. This review also identified

5 projected outcomes and strategies for 2020 to 2024, as follows:

1. Increase affordable rental housing supply
2. Preserve and optimise existing housing stock
3. Reduce chronic homelessness
4. Increase housing with related supports
5. Increase rent supplement units in the community

Details regarding the progress of each strategy are included in Attachment 1.

Comments

The 2020 Annual Progress Report provides a summary of the County's achievements as of December 31, 2020. The progress of the 10 Year Shelter Plan is regularly monitored by staff, to ensure ongoing review of recommendations, relevance to community needs and alignment with the County's strategic priorities. The Plan is a living document that ensures the County is growing stronger together by creating "vibrant communities where residents have access to affordable, appropriate and stable housing and a good quality of life".

The 2020 Annual Progress Report shows that there was activity in most of the actions areas, as planned. The key accomplishments are summarized below:

- 75 additional households received a rent subsidy.
- Approval of a 98 unit apartment building, including 62 affordable units, at 1231 Nellis Street, Woodstock.
- Approval of 2 Habitat for Humanity dwellings in Drumbo, Township of Blandford-Blenheim.
- Approval of a 30 unit apartment building, including 16 affordable units, in the Village Plattsville, Township of Blandford-Blenheim.
- Initiation of a 48 unit affordable housing project at 785 Southwood Way, Woodstock.
- Approval of 4 Homeownership Assistance (down payment) Loans.

In April 2016, Council approved HS Report 2016-01 which established an annual target of 50 new affordable units per year. While no newly build rental units were added to the affordable housing stock in 2020, one project is nearing completion (24 units), one project was initiated (48 affordable units) and three projects are scheduled to commence construction by May 2021 (totaling 80 affordable units). In total, 152 affordable units are proposed to be added to County's affordable housing stock.

While the 2020 annual target has been met, the County continues to face a housing crisis, where the housing demand greatly outweighs supply. Housing is essential to the wellbeing and economic viability of our community. Without adequate housing, it is difficult for individuals to have employment, food security, social and educational opportunities, or even good health. With low rental vacancies, unaffordable rents, and the lack of the "missing middle" housing options, finding suitable and affordable housing is a crisis for many members of the public. Attachment 2 includes statistics that identify the need to increase housing supply across the housing continuum.

In February, 2019, the County hosted an information session for senior leaders, planners, builders, employers and surrounding municipalities to learn more about the housing crisis across the Province. The objective of the information session was to bring new and innovative ideas together to build a solutions toolbox that complements the existing housing plan. For Council's information, Attachment 3 includes a summary report of the information session, prepared by SHS Consulting Inc.

Conclusions

The 2020 Annual Progress Report on the Oxford County 10-Year Shelter Plan includes details with respect to the measures that have been taken and the progress that has been achieved to meet the County's goals and objectives with respect to affordable housing.

In the year 2020, a total of 75 rent supplements were offered to low income households; 4 households received financial assistance to purchase their first home; one affordable housing project is nearing completion (24 units); and a total of 128 affordable units were approved.

The Annual Progress Report regarding the County's 10 Year Shelter Plan is required by the Ministry of Municipal Affairs and Housing and demonstrates the success of our efforts in 2020 to address the ongoing affordable housing crisis in our community.

SIGNATURES

Report Author:

Original signed by

Rebecca Smith, MCIP, RPP
Manager of Housing Development

Departmental Approval:

Original signed by

Paul Beaton
Director of Human Services

Report No: HS 2021-05
HUMAN SERVICES
Council Date: February 24, 2021

Approved for submission:

Original signed by

Michael Duben, B.A., LL.B.
Chief Administrative Officer

ATTACHMENTS

Attachment 1 – 2020 Annual Progress Report on the 10 Year Shelter Plan, February 24, 2021
Attachment 2 – Info graphic – Housing Continuum in Oxford County
Attachment 3 – Summary Report – Solution Development Workshop, March 2019

Recommendation #1	Actions	Measures	Targets	Outcomes	Status	Comments
Increase affordable rental housing supply	15 solutions identified in the 100% Housed Plan (2020) were examined and/ or implemented where appropriate. New Affordable housing units are created.	Additional rental stock is created through the County. Government, non-profit and private sector resources are leveraged to stimulate housing supply.	Create 50 new affordable units per year	• Some of the 15 solutions identified in the 100% Housed Plan (2020) were examined and or implemented where appropriate. • 24 new affordable rental units are close to completion at 786 Southwood Way, Woodstock. • 98 units (including 62 affordable) were approved to be developed at 1235 Nellis Street, Woodstock. • 30 units (including 16 affordable) were approved to be developed at 112 Mill Street, Plattsville. • 48 unit affordable housing development at 785 Southwood was initiated.	Ongoing	As a result of COVID, examining the solutions identified in the 100% Housed Plan was challenging. That said, Staff continued to promote advanced construction techniques (modular), additional residential units, special zone provisions, development of multi-unit affordable housing projects, the availability of shovel-ready land and communication regarding the development process.
Recommendation #2	**Actions**	**Measures**	**Targets**	**Outcomes**	**Status**	**Comments**
Preserve and optimize existing housing stock	34 housing projects listed in Schedule 25 of Regulation 368/11 are maintained.	Rent subsidies are maintained in current non-profit housing and Oxford County housing portfolios. New Agreements are signed between the County and non-profit housing providers whose operating agreements are expiring (provincial subsidies ceasing). Building Condition Assessments (BCA) are completed for Oxford County housing stock 5 year capital plans are completed based on BCA's.	100% of existing housing stock is preserved.	• 34 housing projects listed in Schedule 25 of Regulation 368/11 were maintained. • Worked with housing providers that have agreements near completion.	Complete and ongoing	
Recommendation #3	**Actions**	**Measures**	**Targets**	**Outcomes**	**Status**	**Comments**

Reduce chronic homelessness	Increase the number of individuals who are successfully housed. Work with community partners to ensure secured housing is sustained.	Individuals and families are supported by community partners to obtain and sustain shelter or permanent housing.	100% of homelessness population is provided with shelter or permanent housing	• Increased the number of individuals who are successfully housed. This included over 200 RGI and rent supplement applications. • Worked with community partners to ensure secured housing is sustained.	Ongoing	There is a continued and ongoing need to reduce chronic homelessness.
Recommendation #4	**Actions**	**Measures**	**Targets**	**Outcomes**	**Status**	**Comments**
Increase housing with related supports (supportive)	Increase number of supportive housing units are available. The Ministry of Health and Long Term care increases funding to allow outreach workers to provide the necessary supports to individuals and families who require supports to sustain their home.	Provide rent supplements to allow individuals who require supportive housing to focus on their wellness. Advocate to the Local Health Integration Network or Ontario Health Team to ensure appropriate funding is allocated to Oxford to increase supportive housing units.	100% of those in need of housing with related supports (supportive) are accommodated.	• Increased the number of supportive housing units that are available. • The Ministry of Health and Long Term care increases funding to allow outreach workers to provide the necessary supports to individuals and families who require supports to sustain their home. • Created 6 new supportive units at 786 Southwood Way and 10 additional units throughout the County.	Ongoing	There is a continued and ongoing need to increase housing related support.
Recommendation #5	**Actions**	**Measures**	**Targets**	**Outcomes**	**Status**	**Comments**
Increase rent supplement units in the community including the Canada Ontario Housing Benefit program	Increase number of privately owned rental units allow tenants in receipt of a rent supplement to sign a lease.	Provide rent supplements to individuals and families and women fleeing an abusive living environment who are on the social housing wait list and who can secure housing in the private rental market with subsidy to move with them.	100% of new rent supplement funding is offered to low income households.	• Increased the number of privately owned rental units and allowed tenants in receipt of a rent supplement to sign a lease. • Provided 75 additional rent supplements.	Complete and ongoing	

A CRISIS ACROSS THE HOUSING CONTINUUM IN OXFORD COUNTY

CORE HOUSING NEED
old is in "core housing need" if it
% or more of its total before-tax
pay the median rent.

Population

Total # households

Median household income (after tax)

Living wage household income (family of 4)

	≤ $20,000	≤ $38,000	MEDIAN ≤ $63,630
HOUSEHOLD INCOME			
HOUSEHOLDS	7%	23%	50%

	Emergency shelters	Transitional housing	Supportive housing	Rent-geared-to-income housing (30% of monthly income)	Affordable rental housing ($726/month (1 bed)*)	Market rental ($908 - $1,500/month (1 bed)**)	Home ownership (< $250,000)
MET DEMAND	CONSTANT	CONSTANT	150	2,000	1,000†	unknown	20% of all home sales††
SUPPLY	50	20	160	1,429	517	9,555	
VACANCY	NO VACANCY						

* 80% of average market rent
** Average
† Estimated
†† Source: Woodstock & Ingerso

26% of Oxford County residents are renters

$397,000 is the median sale price of a home in Oxford County

1,200 job vacancies in Oxford paying more than $20/hour but nowhere to live

Oxford Cou
Growing stronger

Summary Report

Solution Development Workshop

Housing: Let's get into it!

Oxford County — Growing stronger together

Elgin County — Progressive by Nature

St. Thomas — The Railway City

Southwestern Public Health — Oxford · Elgin · St. Thomas

Oxford Workforce Development Partnership

SHS Consulting

Contents

Acknowledgements

Workshop Participants

Thank you to our ~200 workshop participants from across Ontario for your time, energy, and inspiration! Our participants represented:

- Service Managers | *covering 13 areas; 61 participants*
- Local municipalities | *covering 19 municipalities; 39 participants*
- Provincial Government | *14 participants*
- Federal Government | *2 participants*
- Government agencies | *13 participants*
- Non-profit community-based organizations | *19 participants*
- Private sector companies | *26 participants*
- Health system organizations | *12 participants*
- Academia | *1 participant*

SHS Consulting Team

Adrienne Pacini, Senior Design Researcher | *Workshop Facilitator*
Ed Starr, Partner
Lanxi Dong, Design Researcher
Atif Siddiqui, Research and Communications Coordinator

Introduction

Let's get into it!

Purpose

As housing needs and issues remain at the forefront of community conversations across Ontario, stakeholders across the system are looking for new solutions to these complex and intertwined problems.

In partnership with the County of Elgin, City of St. Thomas, Southwestern Public Health, and the Oxford Workforce Development Partnership/Local Employment Partnership, Oxford County convened roughly 200 representatives from southwestern Ontario communities to tackle some of these issues.

The full-day **Housing: Let's get into it** event held in London in February 2019 aimed to stimulate thought, discussion, and solutions that may be initiated across the province. The day was planned with the intent of developing and documenting solutions and ideas applicable across small urban and rural municipalities in Ontario.

This Document

Part of the event included a half-day **solution development workshop** for all participants, facilitated by SHS Consulting.

This document provides a summary of the methodology, activities, and findings arising from the solution development workshop, with the goal of helping Ontarians continue the conversation and consider working on developing some of these approaches further.

For many of the exercises, this document does not include every note or idea shared by participants. Every effort was made to synthesize the responses into the most common key themes, reflecting the overall sentiment of the room. A selection of the workshop participants' personal reflections, as written in their workbooks, can be found scattered throughout this report. All 19 "solution approaches" are included to show the range of models and ideas created by the diverse stakeholders in the room.

The Workshop

Working towards new housing solutions in Ontario

Methodology

The workshop was developed as a co-design session with key stakeholders in the housing system and beyond from across Ontario.

The purpose of the workshop was to guide 19 tables of 10 participants through small group activities contributing to the design process, including:

- Understanding a specific problem space within the housing system;
- Mapping the barriers and opportunities to solving the challenge;
- Crafting design principles for a desirable solution; and
- Generating ideas for new approaches that can be taken forward and further refined into potentially feasible and viable solutions for Ontarians.

More detailed descriptions of each activity are included in this report on the following page.

THE CHALLENGE

How might we increase access to housing options in Ontario communities for those seeking social housing, affordable rental housing, market rental housing, and homeownership options?

Design Constraints

Each table was provided with a set of design constraints to help them focus their thinking and limit their solution generation to a set of possible ideas within prescribed boundaries. Design constraints can help push your thinking beyond usual solutions and answers.

The constraints formed the **group challenge** that participants would focus on and fell into three categories:

1. **Target housing type**: the component of the housing continuum that the solution should target
2. **Type of intervention**: the format in which the solution will manifest in the world
3. **Timing of the intervention**: the area or point in the housing development process that will be the most affected by the solution

A detailed list and description of each of the possible design constraints within each category can be found in the appendix of this report.

Activity 1: Getting into context

During Activity 1, participants spent 5 minutes reflecting on their personal and professional perspective on their group's challenge. They answered two questions:

1. What matters to you and the people you serve in relation to your group's challenge?
2. How are you and the people you serve affected by the current situation:

The groups, then, spent 10 minutes introducing themselves to their team members by reading out their personal reflections.

Activity 2: Mapping the problem space

Activity 2 involved thinking about what dynamics of the group's challenge might present barriers and opportunities for new solutions (15 minutes).

Next, based on their understanding of the problem space, groups crafted up to six **principles** that must inform the design of their potential solution. These principles were formulated using sentences beginning with "*Our solution must…*" (10 minutes).

Activity 3: Solution development

Finally, participants were given roughly 60 minutes to generate solutions to their challenge which addressed the barriers and opportunities identified, and inspired by their design principles.

Groups were given 15 minutes to brainstorm as many possible ideas as they could. Next, participants converged their thinking by discussing the group's favourite ideas and deciding on one solution to take forward.

Building on the group's solution, participants articulated their approach using a fill-in-the-blanks card and provided additional implementation details such as which stakeholders would play a role in the solution and who would benefit from the solution.

At the end of the workshop, groups shared their proposed approaches with the whole room and reflected on the **desirability**, **feasibility**, and **viability** of the proposed solutions.

What matters to us...

Social Housing

- Creating inclusive housing options (that are accessible) to fill affordable housing gaps
- Seniors are wanting to stay in their home communities but cannot find an affordable place
- Community safety, quality, and sustainability over time
- A need for more funding and assistance from upper-level governments
- Access to transportation, services, and dignity for all
- Long wait times for rent-geared-to-income (RGI) housing
- A significant portion of the population in core housing need
- Social housing should be integrated with other forms of housing and not in a separate neighbourhood, lacking integration with the community
- Access to supports near the home
- Considering a social determinants of health approach

Affordable Rental

- Rental housing options need to be available and affordable to individuals living on social assistance
- Housing should be suitable and adequate (in good condition); close to transportation and amenities
- The housing system should be easy to navigate
- Employers should be able to hire and retain staff so the economy can grow
- Quality construction built to stand the test of time, including natural light, large windows, and high-efficiency to offset ongoing operating costs
- Complete community design
- Available support services to keep people in their homes when they want to age in place
- We must understand the broad spectrum of needs to be able to build, support, and plan for those who truly need it most.
- Our solutions must be fiscally-responsible
- We need more political will to act
- Improve the zoning and permitting processes to reduce delays and length of approvals time

Market Rental

- Ensuring good population health
- Maintaining access to green space
- Ensuring walkability to promote physical activity and active transportation
- Access to healthy food options nearby
- Locating rental dwellings in a variety of areas, within mixed-use developments
- Creating vibrant communities with sustainable agriculture that attract labour, transportation, and healthy food
- Encouraging intensification
- Keeping operating costs of buildings low
- Providing market rental housing to support the needs of the workforce, the aging population, and other groups
- Allow seniors to remain in their community
- Encourage different building forms (apartments, row houses, etc.) and bedroom sizes
- Consultation with indigenous peoples
- Removing the stigma around rental housing units

Affordable Ownership

- Having housing options available for a wide range of family sizes and types
- Locate housing close to employment and services
- Ensure we create sustainable, healthy communities
- Promote inclusivity
- Attract a new workforce, while also retaining younger families
- Educating the existing community about the need for intensification to increase affordability
- Promote equity: many enjoy advantages that are out of reach for some

Barriers and Opportunities

Social Housing

Barriers

- NIMBY-ism and stigma around social housing; a negative public meeting can change political will
- Very limited pre-zoned or "shovel-ready" sites available
- Difficult to adjust or modify RGI units within a building, to reflect demand
- Lack of interest from builders, primarily due to a lack of incentives
- Lack of flexibility in Housing Services Act rules (i.e. allowing for more market-rent units in a development)
- Official Plans that do not promote this development
- High development fees
- Finding land within complete communities

Opportunities

- Collaborative models, integrating health and other system partners
- Understand community needs early (through research and consultation), before detailed plans are created
- Housing design options that are beautiful and inviting
- Co-design with the local community and future tenants
- Introduce financial and non-financial incentives
- Consider more mixed-use developments (different rent levels and uses)
- Advocate for a Federal/Provincial framework and vision for social housing
- Look to energy efficiency

Affordable Rental

Barriers

- Finding qualified trades workers
- Timing issues related to permits, funding payment from programs, inspections, and time to create new partnership arrangements
- Access to funding (especially from government) and financing
- Difficult to entice developers to participate
- Construction costs are high
- Red tape and regulations
- Very limited pre-zoned or "shovel-ready" sites available
- NIMBY-ism and stigma around social housing
- Outdated planning policies
- Transportation

Opportunities

- Construction loans for non-profit organizations
- Strengthening partnerships with community agencies, developers, and local businesses
- Communicating proactively with neighbours
- Leveraging public lands
- Pre-zoning and designating lands
- Better data analysis for a more targeted approach
- Pool funding across partners during the pre-development stage
- Support inter-generational living arrangements (e.g. with students)
- Inclusionary zoning
- Property tax incentives

Market Rental

Barriers

- Reasonable rent levels compared to the taxes on properties and cost to build; not a profitable model for developers
- Lack of political will
- Length of time needed to get approval for multi-residential buildings, especially due to NIMBY-ism
- Lack of planning tools that support this type of development
- Lack of available site data and mapping in every community
- Competing priorities, especially with preserving farmland and natural heritage
- Fear of the risk of change
- "Same old thought process"
- Uncertainty in the planning application process
- Property management and risks associated with operating rental buildings

Opportunities

- Use development charges to pay for municipal services required to allow for intensification of existing sites
- A smoother and more timely application process
- Revitalizing upper floors of main streets using a Community Improvement Plan (CIP)
- Rent-to-own models
- Mid-density developments such as townhouses
- Tiny homes
- Offer surplus lands through an RFP process under a CIP
- Brownfield strategy
- Integrate environmental preservation and food security elements
- Marketing and education strategy; YIMBY campaign
- Reduce parking ratios
- Reuse existing concrete

Affordable Ownership

Barriers

- Difficult to get all of the players on board and working towards the same objective
- Mortgage rules, including the required 20% down-payment
- Transportation gaps
- Families moving out of the GTA with the ability to afford higher prices, pushing market prices up
- Uncertainty around interest rates
- Public acceptance for higher-density and infill developments
- Demand continuing to grow
- Psychological barriers
- Preconceived notion of a "housing continuum"
- Expectation of larger-footprint single-family homes

Opportunities

- Industrial land servicing for residential sites to speed up the process
- Pre-zoning lands
- Introducing a single development agency or approvals body
- Provincial funding for skilled trade education
- Scaled development charges
- Land transfer tax amendments
- Education to change mindsets around apartment buildings (condominiums)
- Bring more new ideas to Council
- Rent-to-own models and life leases
- Co-ownership models

Design Principles

Social Housing

"Our solution must…"

- Our solution must **de-stigmatize social housing**.
- Our solution must **promote community integration.**
- Our solution must **include high quality design**.
- Our solution must **be future-focused and sustainable in the long-run**.
- Our solution must **reframe social housing as a social enterprise in the community**.
- Our solution must **lead to healthy communities**.
- Our solution must **reduce the waitlist.**
- Our solution must **enhance partnership opportunities between non-profits and municipalities.**
- Our solution must **ensure safety and accessibility for residents**.

> *We need to remove stigma around rental housing.*

Affordable Rental

"Our solution must…"

- Our solution must **maintain public safety**.
- Our solution **must meet the needs of tenants while maintaining dignity**.
- Our solution must **be inclusive**.
- Our solution must **facilitate cooperative relationships across sectors**.
- Our solution must **increase equitable access to affordable housing for low-income households**.
- Our solution must **be streamlined**.
- Our solution must **be located near support services in the community.**
- Our solution must **be adaptable to changing demographics over time**.
- Our solution must **incorporate community-based solutions**.
- Our solution must **address the regeneration of the current social housing stock**.

Market Rental

"Our solution must..."

- Our solution must **promote community improvement.**
- Our solution must **be coordinated with transportation options and systems.**
- Our solution must **not "ghettoize" communities.**
- Our solution must **have a long-term vision for future tenant needs.**
- Our solution must **be environmentally-friendly.**
- Our solution must **respect vulnerable populations and marginalized groups.**
- Our solution must **include partnership development and collaboration.**
- Our solution must **challenge the status quo.**
- Our solution must **be inclusive of a range of income levels, age groups, and life stages.**

Affordable Ownership

"Our solution must..."

- Our solution must r**educe red tape.**
- Our solution must **incorporate a "yes, and" attitude instead of "yeah, but...".**
- Our solution must **not negatively impact current homeowners.**
- Our solution must **incorporate complete community planning (including transportation and other public amenities).**
- Our solution must **be collaborative.**
- Our solution must **be flexible to respond to the unique needs of a community.**
- Our solution must **foster a sense of community and belonging.**

> *We need the political will to take action to create complete communities.*

Proposed Preliminary Solutions: Our "Tool Box"

Social Housing

Approach 1

Our system intervention, impacting the pre-development phase of the development process, increases access to social housing in our community by **making access to appropriate social housing a priority in our community** through **municipal leadership, community, stakeholder engagement education, and mitigating developer risk through the development process (planning approval), providing incentives and alternative sources of funding (capital and operating).**

This solution may include:

- The municipality making access to social housing a priority
- Community and stakeholder engagement
- Removal of risk, improving the planning process
- Appropriate supports for tenants (including long-term mental health supports)
- Municipal pre-approvals on designated spaces for housing development

Roles	Beneficiaries
• Council, senior leadership, and a community agency champion (lead) • Developers (supporting)	• Residents, community, surrounding neighbourhood (primary) • Other taxpayers, EMS, hospital, social services agencies (secondary)

Approach 2

Our policy or program intervention, impacting the pre-development phase of the development process, **increases access to social housing in our community** by **providing financial and non-financial incentives such as inclusionary zoning, waiver of property taxes, fast tracking of planning applications/building permit applications, reduction of parking, elimination of development charges in exchange for a percentage of units being "social housing".**

Roles	Beneficiaries
• Municipal government (lead) • Provincial government (supporting)	• Developers (primary) • Tenants, community (secondary)

Approach 3

Our business model intervention, impacting the operational phase of the development process, increases access to social housing in our community by **utilizing the expertise, along with municipal incentives and other sources of income (grants, donations, provincial and federal) to build through partnerships, a complete community to a variety of housing types.**

This solution may include:

- Bringing forward the concept of building complete communities
- Looking for financial partners and donors
- Studying all options to reduce fees, taxes, and provide incentives
- Considering selling surplus lands in strategic locations

Roles	Beneficiaries
• Municipal governments (lower- and upper-tier) (lead) • Public-private partnerships; faith-based communities, non-profit organizations, public health, philanthropists (supporting)	• People in need of affordable housing (primary) • Community as a whole (secondary)

> *We need education for the existing community about the need for intensification to be able to increase affordability.*

> *Let's create vibrant communities with sustainable agriculture, that attracts labour and provides good healthy food.*

Affordable Rental

Approach 4

Our program intervention, impacting the construction phase of the development process, increases access to affordable housing in our community by **implementing an affordable housing liaison officer (navigator).**

This solution may include:

- The creation of an affordable housing system navigator
- Assisting with funding gaps and potential loans before construction
- Liaising with community partners for appropriate services
- Assisting with tenant selection

Roles	Beneficiaries
• Upper-tier municipal government (lead) • Lower-tier municipal government (supporting)	• Developers, non-profits, and small landlords (primary) • Tenants, community agencies, employers, municipal staff (secondary)

Approach 5

Our system/service intervention, impacting the site identification phase of the development process, increases access to affordable rentals in our community by **government working with landowners, builders and housing providers to develop a targeted pre-screened database of surplus and underutilized land and enact zoning changes that supports low income rental housing opportunities.**

This solution may include:

- Creating municipal land banks or inventories on a database
- Marking sites that would be appropriate for affordable rental; municipalities could match land owners with developers to facilitate the initiation of a development proposal
- Having consistent bonus zoning guidelines embedded into zoning bylaws

Roles	Beneficiaries
• Municipal government, planning department (lead) • Federal and Provincial governments, home builders' associations, community agencies, local employers (supporting)	• Non-profits providing housing, land developers (primary) • Social services, judicial system, hospitals, health system (secondary)

Approach 6

Our business model intervention, impacting the visioning phase of the development process, increases access to affordable rental in our community by **creating government/business partnerships focused on building sustainable integrating communities inclusive of affordable rental housing options.**

This solution may include:

- Collaboration at an early phase
- Flexibility from all parties
- Investigating a public vehicle that develops public land into affordable housing

Roles

- Municipal government, developers (lead)
- Other levels of government, business, private partners, community organizations, public health, faith groups (supporting)

Beneficiaries

- Those in need of affordable rental housing (primary)
- Community-at-large (secondary)

Approach 7

Our policy/program intervention, impacting the site identification phase of the development process, increases access to affordable rental (low-income) housing in our community by **employing a municipally-driven strategy to identify key sites and related incentives tools to support a culture of inclusiveness.**

This solution may include:

- Developing an affordable rental housing plan for small rural communities
- Creating an incentive program for developers, employers, and clients
- Developing and strengthening partnerships between the service manager, politicians, clients, service groups, and social services

Roles

- Municipal government (lead)
- Provincial government, social services agencies, business community (supporting)

Beneficiaries

- Low-income residents (primary)
- Employers, community (secondary)

Approach 8

Our housing integrated business model intervention, impacting the capital-raising phase of the development process, increases access to affordable rental housing in our community by **engaging different sectors and understandings of community needs and available assets, and by utilizing all available funding sources (municipal, provincial, community partners, developers, etc.).**

This solution may include:

- Integrating a proof-of-concept approach
- Capital-raising with local businesses, foundations, health system, and CMHC

Roles	Beneficiaries
• Municipal government (lead) • Developers, community agencies (supporting)	• Low-income households (primary) • The entire community (secondary)

Approach 9

Our policy intervention, impacting the pre-development phase of the development process, increased access to affordable rental housing in our community by **implementing more flexible zoning regulations that allow for single family homes and other buildings types to be converted to include second dwellings to change to duplex, triplex, fourplex, or to rooming houses or even apartments–all as of right.**

This solution may include:

- Flexible zoning for missing middle housing and high-density residential; as-of-right zoning
- Allowing for secondary suites
- Converting existing housing to higher-density housing (rowhouses, low-rise apartments, etc.)

Roles	Beneficiaries
• Local municipal planners (lead) • Local politicians, Provincial government (supporting)	• Local homeowners (primary) • People in need of affordable housing (secondary)

Market Rental

Approach 10

Our system/service intervention, impacting the capital raising phase of the development process, increases access to market rental housing in our community by **providing enhanced municipal financial and in-kind incentive programs: pre-funding tax incentives, municipal financial contributions, waiving development charges, and introducing partnership projects (e.g. library, fire/police station, etc.) using municipalities' surplus lands.**

This solution may include:

- Enhancing municipal incentives programs

Roles	Beneficiaries
• Municipal government (lead) • Real estate agencies, economic development, group of champions (supporting)	• Renters, developers, builders, community, municipal government (primary) • Employers (secondary)

Approach 11

Our business model intervention, impacting the site selection phase of the development process, increases access to market rental housing in our community by **deploying an economic development corporation (with expropriation power) and private sector stakeholders to create (and profit) from market/mixed rental projects, leveraging community facility re-investments/incentives.**

This solution may include:

- Incentivizing high-density before low-density
- Creating a housing development corporation

Roles	Beneficiaries
• Municipal government (housing, finance, planning) (lead) • Private investors, community investors, housing providers and developers, education system, health system, employers (supporting)	• Community, residents, everybody (primary) • Employers, and the wider community (secondary)

Approach 12

Our business model intervention, impacting the construction phase of the development process, increases access to market rental housing in our community by **providing approvals and incentives, and maximizing land use.**

This solution may include:

- Introducing municipal taxes for property capital gains to go towards housing

Roles	Beneficiaries
• Developers (lead) • Municipal government (supporting)	• Middle-income households (primary)

Approach 13

Our policy intervention, impacting the visioning phase of the development process, increases access to market rental housing in our community by **streamlining the process, both administratively and financially to assist developers in planning, approvals, and construction of market rental housing.**

This solution may include:

- Quantifying the costs of maintaining the status quo
- Finding willing developers who will build and ensure long-term outcomes
- Showing willingness to problem-solve and facilitate

Roles	Beneficiaries
• Municipal government (lead) • Provincial and Federal governments, developers (supporting)	• Prospective tenants (primary) • Employers, municipality, businesses (secondary)

Approach 14

Our policy or program intervention, impacting the pre-development phase of the development process, increases access to market rental housing (affordable to mid-income) in our community by **providing education and advocacy, collaboration, and incentives.**

This solution may include:

- Ensuring public and political buy-in

Roles	Beneficiaries
• N/A	• N/A

Approach 15

Our system/service intervention, impacting the visioning and feasibility phase of the development process, increases access to middle income market rental housing in our community by **introducing a collaborative proactive approach involving all stakeholders to focus, making low-barrier sites available, identifying partners willing to fund, involving CMHC and other stakeholders (municipal government, developer, employers, potential tenants, non-profit).**

This solution may include:

- Providing shovel-ready sites for developments
- Requiring a percentage of rental housing that is run by non-profit organizations
- Introducing a project team focused on collaborations between municipalities and developers

Roles	Beneficiaries
• Municipal government, developers (lead) • Community agencies, Provincial government, CMHC (supporting)	• Renters, landlords (primary) • Economy as a whole, employers, municipality (secondary)

Affordable Ownership

Approach 16

Our system/service intervention, impacting the construction phase of the development process, increases access to median income home in our community by **creating a streamline development process that considers a variety of needs and types of affordability and rewards intensification, durability and innovation, specifically; single development approval body and provincial liaison officer (who can approve) for coordinating development.**

This solution may include:

- Introduce a single development approval body
- Create a provincial liaison officer for coordinating development
- Introduce a streamlined development process that considers a variety of needs and types of affordability and rewards intensification

Roles	Beneficiaries
• Provincial government (lead) • Municipal governments (lower- and upper-tiers) (supporting)	• People seeking affordable ownership housing (primary) • The rest of the community (secondary)

Approach 17

Our policy and program intervention, impacting the operation phase of the development process, increases access to affordable home ownership in our community by **providing incentives to homeownership, such as the Ontario Home Ownership Savings Plan, to current market values.**

This solution may include:

- Introduce provincial incentives for homeowners (e.g. related to land transfer taxes and supporting first-time homebuyers)
- Similar to RESP, perhaps government could contribute to a percentage (to maximum amount per year).

Roles	Beneficiaries
• Provincial government (lead) • Federal government (supporting)	• First-time homeowners (primary) • Parents who have adult children at home; all home owners (secondary)

Approach 18

Our business model intervention, impacting the pre-development phase of the development process increases access to home ownership in our community by **action-oriented collaboration to identify gaps, prioritize, select and implement solutions.**

This solution may include:

- Ensuring planning documents are up to date
- Streamlining development approvals
- Permit secondary suites

Roles	Beneficiaries
• Municipal governments (lower- and upper-tiers) (lead) • Partners, Provincial government, developers, employers, service agencies (supporting)	• People seeking affordable ownership housing (primary) • Renters, municipalities, developers, employers (secondary)

Approach 19

Our policy intervention, impacting the capital-raising phase of the development process, increases access to homeownership in our community **by incentivizing and nurturing partnerships through a 3P funding process that leverages capital and reduces risk for the development.**

This solution may include:

- Introduce public-private partnerships to create a diverse, inclusive, complete community
- Introducing measurements for success

Roles	Beneficiaries
• Municipal innovation lab collaboration (lead) • Municipal government (supporting)	• People seeking affordable ownership housing, wider community (primary) • Employers (secondary)

Appendix

Workshop Materials

Design Constraints

Workshop participants were assigned a **target housing type** to focus on during the solution development process: social housing, affordable rental housing, market rental housing, or affordable homeownership (affordable to the median-income level). Participants referenced the Oxford County housing continuum for high-level supply and demand data for their housing type.

The second design constraint was the **type of intervention** that participants would create. They were given one of the following three options:

1. **Policy or program intervention**: such as financial and non-financial tools and incentives, zoning and other bylaws, and regulatory changes
2. **New business model**: such as new entities, organizations, or collaborative arrangements, or new partnerships
3. **System or service intervention**: such as changes in roles within a system, new ways of working together, new experiences, or empowering unconventional partners

The third design constraint was the **phase of the development process** that participants would focus on as an intervention point. They were given one of the following six options:

1. **Visioning and feasibility**: establishing project goals and objectives, creating a business plan, conducting market analysis
2. **Site identification**: identifying opportunities for land acquisition, redevelopment of existing properties, etc.
3. **Capital-raising**: writing funding proposals, securing construction financing, identifying other funding partners
4. **Pre-development**: municipal planning and building approvals, architecture and design, procurement options, community consultation
5. **Construction**: development of the project, administration and monitoring of the process, communication strategy, tenant selection
6. **Operation:** residents occupy the building, ongoing property management, rental agreements, and coordination with any partner organizations

A CRISIS ACROSS THE HOUSING CONTINUUM IN OXFORD COUNTY

10% IN CORE HOUSING NEED

A household is in "core housing need" if it spends 30% or more of its total before-tax income to pay the median rent.

Population	113,940
Total # households	44,265
Median household income (after tax)	$63,630
Living wage household income (family of 4)	$67,176

	Emergency shelters	Transitional housing	Supportive housing	Rent-geared-to-income housing 30% of monthly income	Affordable rental housing $726/month (1 bed)*	Market rental $908 - $1,500/month (1 bed)**	Home ownership <$250,000	Home ownership >$250,000
UNMET DEMAND	CONSTANT	CONSTANT	150	2,000	1,000†	unknown	20% of all home sales††	80% of all home sales††
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VACANCY	NO VACANCY							

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** Average

† Estimated
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26% of Oxford County residents are renters

$397,000 is the median sale price of a home in Oxford County

1,200 job vacancies in Oxford paying more than $20/hour but nowhere to live

Oxford County
Growing stronger together

PENDING ITEMS **Copied for Council Meeting of February 24, 2021**

Council Meeting Date	Issue	Pending Action	Lead Dept.	Time Frame
26-Sep-18	Resolution No. 9: "Resolved that the recommendation contained in Report No. CP 2018-269, titled "Application for Official Plan Amendment OP 18-05-3 – Michael and Violetta Bell (Evan Van Moerkerke)", be deferred to allow Norwich Township Council to consider new information that may impact the zoning application."		CP	Q1 2019
27-Nov-19	Request from by Councillor Mayberry for staff report on plans to further reduce GHG emissions	Report	PW	2020
8-Jan-20	Correspondence from Minister Steve Clark (MMAH) re Canada-Ontario Housing Benefit Program Allocations - referred to staff for inclusion in Housing Strategy Council report	Report	HS	Q1 2020
12-Feb-20	"Resolved that Council adopt in principle CAO 2020-01 and that the plan be circulated to all Oxford Area Municipalities for input before adoption.	CAO 2020-01 - Leading Oxford County to "100% Housed" Future	CAO	22-Apr
12-Aug-20	Correspondence from WDDS for grant funding	received and referred to Human Services for a report	HS	14-Oct
12-Nov-20	Oxford Joint Service Delivery Review - That Council direct staff to continue discussions with area municipal partners; And further, that the Warden convene a special meeting of Council for the purpose of conducting a public session forum where members of Oxford County Council and lower tier councils will participate in a professional formulated and facilitated workshop to draw consensus and conclusions on: 1. what about our municipalities is important to protect; 2. critical success factors and key desired outcomes; 3. the evaluation of the current two-tier or any modified two-tier option; 4. any concluding recommendations.	That County Council hereby receives a verbal report from the CAO regarding results of the Service Delivery Review – Area Municipal Council Consultation Process Request for Quotations; And further, that Council approves the Request for Quotation from Strategy Corp Inc. in the amount of $15,920 plus HST and related expenses, funded from the General Reserve.	CAO	2021
13-Jan-21	PW 2021-01: Resolved that the recommendations contained in Report No. PW 2021-01, titled "Implementation of Speed Management and Road Safety Review Recommendations", be adopted; And further, that County Public Works re-install the 80 km/h zone in Beachville on County Road 9 as it was prior to the recent change, and that the 50 km/h zone be extended to the 80 km/h zone on both the east and west end of the village; And further that the recently installed speed indicating signs remain as they currently are; And further that at the Township of South West Oxford's expense, that South West Oxford Public Works will do a minimum of three 7-day trials in each direction at different locations along Beachville Road over the next 6 months with all results provided to the OPP, the County of Oxford Public Works and Council, and the Township of South West Oxford Council by the first week of July 2021, to help determine if the Speed Indicating Signs have had any significant difference to the speeds of the traffic; And further that County Public Works prepare a report by August 30, 2021 if possible, (with potential support/cooperation of the OPP) subsequent to receiving the results of the speed monitoring done by South West Oxford to: 1. Provide their advice as to the effectiveness of the speed signs; 2. Other alternate speed influencing steps that could be taken to reduce the incidences of speeding (which may include but are not limited to bump outs, village entrance road width restrictions, three way stop at the corner of Zorra Line and Beachville Road and other environmental options) and; 3. The opportunities for utilization of Automatic Speed Enforcement system throughout the county which would include the potential for provincial acceptance, And further, that upon acceptance and implementation of effective speed reduction measures, that County Council would then consider potentially increasing the posted speed limit in Beachville;	Staff report by August 30, 2021	PW	Aug-21
13-Jan-21	Council Composition	Extension granted by the Minister of Municipal Affairs and Housing	Council	March 31, 2021
~~27-Jan~~	~~letter re SWOT Task Force~~	~~letter sent January 29, 2021~~	~~CAO~~	
~~27-Jan~~	~~letter re CN intermodal transporation hub~~	~~advised CN of our interest~~	~~CAO~~	

COUNTY OF OXFORD

BY-LAW NO. **6312-2021**

BEING a By-law to remove certain lands from Part Lot Control.

WHEREAS, 2079993 ONTARIO INC., has applied to the County of Oxford to delete, by by-law, certain lands for four (4) residential lots in a registered subdivision from Part Lot Control.

AND WHEREAS pursuant to Subsection 77(1) of the Planning Act, R.S.O. 1990, c. P.13, as amended, the County of Oxford may pass a by-law under subsection 50(7) of the Planning Act, R.S.O. 1990, Chapter P.13, as amended;

NOW THEREFORE, the Council of the County of Oxford enacts as follows:

1. Pursuant to subsection 50(7), subsection 50(5) of the Planning Act, R.S.O. 1990, c. P.13, as amended, does not apply to:

   Lot 41, Plan 41M-316, being PARTS 9 & 10, and Lot 42, Plan 41M-316, being PARTS 11 & 12, designated on a Plan of Survey deposited in the Land Registry Office for Oxford No. 41 as Reference Plan 41R-9600, City of Woodstock, County of Oxford, comprising a total of four (4) parcels, and each parcel to be marketed to individual grantees in accordance with the following descriptions:

   i. Part Lot 41, Plan 41M-316, being PART 9 alone;
   ii. Part Lot 41, Plan 41M-316, being PART 10 alone;
   iii. Part Lot 42, Plan 41M-316, being PART 11 alone; and
   iv. Part Lot 42, Plan 41M-316, being PART 12 alone.

2. Pursuant to subsection 50 (7.3) of the Planning Act, R.S.O. 1990, c. P.13, as amended, this By-law shall expire on **February 24, 2022,** unless it shall have prior to that date been repealed or extended by the Council of the County of Oxford.

3. That this By-law shall become effective on the date of third and final reading.

4. That after the lots or any portion thereof have been marketed to individual grantees this By-law may be repealed by the Council of the County of Oxford.

READ a first and second time this 24th day of February, 2021.

READ a third time and finally passed this 24th day of February, 2021.

LARRY G. MARTIN, WARDEN

CHLOÉ J. SENIOR, CLERK

COUNTY OF OXFORD

BY-LAW NO. **6313-2021**

BEING a By-law to amend By-law No. 6208-2020.

WHEREAS, Council passed By-law No. 6208-2020 on March 11, 2020, containing an expiration date of March 11, 2021.

AND WHEREAS, 2079993 ONTARIO INC., has applied to the County of Oxford to amend the expiration date of By-law No. 6208-2020, which deleted certain lands for forty-two (42) residential lots in a registered subdivision from Part Lot Control.

NOW THEREFORE, the Council of the County of Oxford enacts as follows:

1. That By-law No. 6208-2020 is hereby amended by changing the expiration date to **February 24, 2022**.

2. That this By-law shall become effective on the date of third and final reading.

READ a first and second time this 24th day of February, 2021.

READ a third time and finally passed this 24th day of February, 2021.

LARRY G. MARTIN, WARDEN

CHLOÉ J. SENIOR, CLERK

COUNTY OF OXFORD

BY-LAW NO. **6314-2021**

BEING a By-law to remove certain lands from Part Lot Control.

WHEREAS, 2593636 ONTARIO INC., has applied to the County of Oxford to delete, by by-law, certain lands for six (6) residential lots in a registered subdivision from Part Lot Control.

AND WHEREAS pursuant to Subsection 77(1) of the Planning Act, R.S.O. 1990, c. P.13, as amended, the County of Oxford may pass a by-law under subsection 50(7) of the Planning Act, R.S.O. 1990, Chapter P.13, as amended;

NOW THEREFORE, the Council of the County of Oxford enacts as follows:

1. Pursuant to subsection 50(7), subsection 50(5) of the Planning Act, R.S.O. 1990, c. P.13, as amended, does not apply to:

   Description as shown in Schedule "A" forming part of this By-law.

2. Pursuant to subsection 50 (7.3) of the Planning Act, R.S.O. 1990, c. P.13, as amended, this By-law shall expire on **February 24, 2022,** unless it shall have prior to that date been repealed or extended by the Council of the County of Oxford.

3. That this By-law shall become effective on the date of third and final reading.

4. That after the lots or any portion thereof have been conveyed to individual grantees this By-law may be repealed by the Council of the County of Oxford.

READ a first and second time this 24th day of February, 2021.

READ a third time and finally passed this 24th day of February, 2021.

LARRY G. MARTIN, WARDEN

CHLOÉ J. SENIOR, CLERK

SCHEDULE "A"

FORMING PART OF BY-LAW NO. 6314-2021

Pursuant to subsection 50(7), subsection 50(5) of the Planning Act, R.S.O. 1990, Chapter P.13, as amended, does not apply to:

Block 1, Plan 41M-365, being PARTS 1 to 20, designated on a Plan of Survey deposited in the Land Registry Office for Oxford No. 41 as Reference Plan 41R-10079, City of Woodstock, County of Oxford, comprising a total of six (6) parcels, and each parcel to be conveyed to individual transferees in accordance with the following descriptions

i. PARTS 1, 2, 19 & 20 together, subject to an easement for access purposes over PARTS 1 & 19 in favour of PARTS 3, 17 & 18 and PARTS 4, 15 & 16; subject to an easement over PARTS 19 & 20 in favour of the City of Woodstock as in Instrument No. 281685 (Partially released by CO183238); subject to an easement over PARTS 19 & 20 in favour of the City of Woodstock as in Instrument No. 280017 (Partially released by CO183238); subject to an Easement in Gross as in Instrument No. CO219619; together with an access easement over PARTS 3, 17 & 18, and PARTS 4, 15, & 16, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services, in favour of PARTS 1, 2, 19 & 20; subject to an access easement over PARTS 1, 2, 19 & 20, in favour of PARTS 3, 17 & 18, and PARTS 4, 15, & 16, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services;

ii. PARTS 3, 17 & 18 together, subject to an easement for access purposes over PART 17 in favour of PARTS 4, 15 & 16; together with an easement for access purposes over PARTS 1 & 19 in favour of PARTS 3, 17 & 18; subject to easement over PARTS 17 & 18 in favour of the City of Woodstock as in Instrument No. 280017 (Partially released by CO183238); subject to an Easement in Gross as in Instrument No. CO219619; together with an access easement over PARTS 1, 2, 19 & 20 and PARTS 4, 15, & 16, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services, in favour of PARTS 3, 17 & 18; subject to an access easement over PARTS 3, 17, & 18 in favour of PARTS 1, 2, 19 & 20, and PARTS 4, 15, & 16, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services;

iii. PARTS 4, 15 & 16 together, together with an easement for access purposes over PARTS 17, 19 & 1 in favour of PARTS 4, 15 & 16; subject to an easement over PARTS 15 & 16 in favour of the City of Woodstock as in Instrument No. 280017 (Partially released by CO183238); subject to an Easement in Gross as in Instrument No. CO219619; together with an access easement over PARTS 1, 2, 19 & 20 and PARTS 3, 17 & 18, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services, in favour of PARTS 4, 15 & 16; subject to an access easement over PARTS 4, 15 & 16 in favour of PARTS 1, 2, 19 & 20 and PARTS 3, 17 & 18, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services;

iv. PARTS 5, 13 & 14 together, together with an easement for access purposes over PARTS 8, 9 & 11 in favour of PARTS 5, 13 & 14; subject to an easement over PARTS 13 & 14 in favour of the City of Woodstock as in Instrument No. 280017 (Partially released by CO183238); subject to an Easement in Gross as in Instrument No. CO219619; together with an access easement over PARTS 6, 11 & 12 and PARTS 7, 8, 9 & 10, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services, in favour of PARTS 5, 13 & 14; subject to an access easement over PARTS 5, 13, & 14, in favour of PARTS 6, 11 & 12 and PARTS 7, 8, 9 & 10, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services;

v. PARTS 6, 11 & 12 together, together with an easement for access purposes over PARTS 8 & 9 in favour of PARTS 6, 11 & 12; subject to an easement for access purposes over PART 11 in favour of PARTS 5, 13 & 14; subject to an easement over PARTS 11 & 12 in favour of the City of Woodstock as in Instrument No. 280017 (Partially released by CO183238); subject to an Easement in Gross as in Instrument No. CO219619; together with an access easement over PARTS 5, 13 & 14 and PARTS 7, 8, 9 & 10, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services, in favour of PARTS 6, 11 & 12; subject to an access easement over PARTS 6, 11 & 12 in favour of PARTS 5, 13 & 14 and PARTS 7, 8, 9 & 10, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services; and

vi PARTS 7, 8, 9 & 10 together, subject to an easement for access purposes over PARTS 8 & 9 in favour of PARTS 5, 13 & 14 and PARTS 6, 11 & 12; subject to an easement over PARTS 9 & 10 in favour of the City of Woodstock as in Instrument No. 280017 (Partially released by CO183238); subject to an Easement in Gross as in Instrument No. CO219619; together with an access easement over PARTS 5, 13 & 14 and PARTS 6, 11 & 12, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services, in favour of PARTS 7, 8, 9 & 10; subject to an access easement over PARTS 7, 8, 9 & 10, in favour of PARTS 5, 13 & 14 and PARTS 6, 11 & 12, for the construction, maintenance, repair, reconstruction, and/or replacement of all gas and other utility services.

COUNTY OF OXFORD

BY-LAW NO. **6315-2021**

BEING a By-law to repeal By-law No. 5644-2014, an amendment to By-law No. 3741-98, and further amend By-law No. 3741-98 by establishing an eastbound stop condition on Oxford Road 27 at the Ontario Southland Railway Inc. grade level crossing.

WHEREAS, the Table to Section 11 and Section 52 (3) of the *Municipal Act, 2001, S.O. 2001, Chapter 25*, prescribes that specified highways are within the jurisdiction of the County of Oxford for all matters relating to those highways, including parking and traffic.

AND WHEREAS, Council may exercise any of its powers under Section 137 of the *Highway Traffic Act, R.S.O. 1990, c. H.8*, to erect stop signs at intersections of highways under its jurisdiction and control.

AND WHEREAS, Council has adopted Public Works Report No. PW 2021-03, dated February 10, 2021.

NOW THEREFORE, the Council of the County of Oxford enacts as follows:

1. That By-law No. 5644-2014, an amendment to By-law 3741-98, be repealed:

2. And further That By-law No. 3741-98 is hereby amended, by removing the wording respecting the through highway reference to County Road 27 only, and replacing the wording to read:

   “County Road 27 - from the west boundary of the County of Oxford to the west side of County Road 10 (eastbound and westbound).”

   ‘County Road 27 – from the east side of County Road 10 to the west side of the Ontario Southland Railway (eastbound and westbound).”

   “County Road 27 – from the east side of the Ontario Southland Railway to the west side of the King’s Highway #19 (eastbound and westbound).”

READ a first and second time this 24th day of February, 2021.

READ a third time and finally passed this 24th day of February, 2021.

LARRY G. MARTIN, WARDEN

CHLOÉ J. SENIOR, CLERK

COUNTY OF OXFORD

BY-LAW NO. **6316-2021**

BEING a By-law to remove certain lands from Part Lot Control.

WHEREAS, Performance Communities Inc. has applied to the County of Oxford to delete, by by-law, certain lands for fifty-two (52) residential lots in a registered subdivision from Part Lot Control.

AND WHEREAS pursuant to Subsection 77(1) of the Planning Act, R.S.O. 1990, c. P.13, as amended, the County of Oxford may pass a by-law under subsection 50(7) of the Planning Act, R.S.O. 1990, Chapter P.13, as amended;

NOW THEREFORE, the Council of the County of Oxford enacts as follows:

1. Pursuant to subsection 50(7), subsection 50(5) of the Planning Act, R.S.O. 1990, c. P.13, as amended, does not apply to:

   Description as shown in Schedule "A" forming part of this By-law.

2. Pursuant to subsection 50 (7.3) of the Planning Act, R.S.O. 1990, c. P.13, as amended, this By-law shall expire on **February 24, 2022**, unless it shall have prior to that date been repealed or extended by the Council of the County of Oxford.

3. That this By-law shall become effective on the date of third and final reading.

4. That after the lots or any portion thereof have been marketed to individual grantees this By-law may be repealed by the Council of the County of Oxford.

5. That By-law No. 6309-2021, being a by-law to remove certain lands from Part Lot Control in the County of Oxford, be hereby repealed.

READ a first and second time this 24th day of February, 2021.

READ a third time and finally passed this 24th day of February, 2021.

LARRY G. MARTIN WARDEN

CHLOÉ J. SENIOR, CLERK

SCHEDULE "A"

FORMING PART OF BY-LAW NO. 6316-2021

Pursuant to subsection 50(7), subsection 50(5) of the Planning Act, R.S.O. 1990, Chapter P.13, as amended, does not apply to:

Lots 8, 9, 10, 11, 14, 15, 19, 20 & 21, Plan 41M-364, being PARTS 1 to 68, designated on a Plan of Survey deposited in the Land Registry Office for Oxford No. 41 as Reference Plan 41R-10086, Town of Tillsonburg, County of Oxford comprising a total of thirty-six (36) parcels; and Lots 44, 45, 46 & 47, Plan 41M-364, being PARTS 1 to 27, designated on a Plan of Survey deposited in the Land Registry Office for Oxford No. 41 as Reference Plan 41R-10089, Town of Tillsonburg, County of Oxford comprising a total of sixteen (16) parcels, totalling fifty-two (52) parcels altogether, and each parcel to be marketed to individual grantees in accordance with the following descriptions:

i. Part Lot 9, Plan 41M-364, being PART 1, Plan 41R-10086 alone;

ii. Part Lot 9, Plan 41M-364, being PART 2, Plan 41R-10086 alone;

iii. Part Lot 9, Plan 41M-364, being PART 3, Plan 41R-10086 alone;

iv. Part Lot 9, Plan 41M-364, being PART 4, Plan 41R-10086 alone;

v. Part Lot 8, Plan 41M-364, being PART 5, Plan 41R-10086 alone;

vi. Part Lot 8, Plan 41M-364, being PART 6, Plan 41R-10086 alone;

vii. Part Lot 8, Plan 41M-364, being PART 7, Plan 41R-10086 alone;

viii. Part Lot 8, Plan 41M-364, being PART 8, Plan 41R-10086 alone;

ix. Part Lot 10, Plan 41M-364, being PARTS 9 & 10, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PART 10 in favour of Part Lot 10, Plan 41M-364 being PARTS 11 & 12, Plan 41R-10086; subject to an easement in gross over PART 10 as in Instrument No. CO229687;

x. Part Lot 10, Plan 41M-364, being PARTS 11 & 12 together, together with an Easement for pedestrian access purposes over Part Lot 10, Plan 41M-364 being PART 10 in favour of PARTS 11 & 12; subject to an easement in gross over PART 12 as in Instrument No. CO229687;

xi. Part Lot 10, Plan 41M-364, being PARTS 13 & 14, Plan 41R-10086 together, together with an Easement for pedestrian access purposes over Part Lot 10, Plan 41M-364, being PARTS 16 & 17, Plan 41R-10086 in favour of PARTS 13 & 14; subject to an easement in gross over PART 14 as in Instrument No. CO229687;

xii. Part Lot 10, Plan 41M-364, being PARTS 15, 16 & 17, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PARTS 16 & 17 in favour of Part Lot 10, Plan 41M-364, being PARTS 13 & 14, Plan 41R-10086; subject to an easement in gross over PART 17 as in Instrument No. CO229687;

xiii. Part Lot 11, Plan 41M-364, being PARTS 18, 19 & 20, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PARTS 18 & 20 in favour of Part Lot 11, Plan 41M-364, being PARTS 21 & 22, Plan 41R-10086; subject to an easement in gross over PART 20 as in Instrument No. CO229687;

xiv. Part Lot 11, Plan 41M-364, being PARTS 21 & 22, Plan 41R-10086 together, together with an Easement for pedestrian access purposes over Part Lot 11, Plan 41M-364, being PARTS 18 & 20, Plan 41R-10086 in favour of PARTS 21 & 22; subject to an easement in gross over PART 22 as in Instrument No. CO229687;

xv. Part Lot 11, Plan 41M-364, being PARTS 23 & 24, Plan 41R-10086 together, together with an Easement for pedestrian access purposes over Part Lot 11, Plan 41M-364, being PARTS 26 & 27, Plan 41R-10086 in favour of PARTS 23 & 24; subject to an easement in gross over PART 24 as in Instrument No. CO229687;

xvi. Part Lot 11, Plan 41M-364, being PARTS 25, 26 & 27, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PARTS 26 & 27 in favour of Part Lot 11, Plan 41M-364, being PARTS 23 & 24, Plan 41R-10086; subject to an easement in gross over PART 26 as in Instrument No. CO229687;

xvii. Part Lot 15, Plan 41M-364, being PARTS 28 & 29, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PART 28 in favour of Part Lot 15, Plan 41M-364, being PART 30, Plan 41R-10086;

xviii. Part Lot 15, Plan 41M-364, being PART 30, Plan 41R-10086 alone, together with an Easement for pedestrian access purposes over Part Lot 15, Plan 41M-364, being PART 28, Plan 41R-10086 in favour of PART 30;

xix. Part Lot 15, Plan 41M-364, being PART 31, Plan 41R-10086 alone, together with an Easement for pedestrian access purposes over Part Lot 15, Plan 41M-364, being PART 33, Plan 41R-10086 in PART 31;

xx. Part Lot 15, Plan 41M-364, being PARTS 32 & 33, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PART 33 in favour of Part Lot 15, Plan 41M-364, being PART 31, Plan 41R-10086;

xxi. Part Lot 14, Plan 41M-364, being PARTS 34 & 35, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PART 34 in favour of Part Lot 14, Plan 41M-364, being PART 36, Plan 41R-10086;

xxii. Part Lot 14, Plan 41M-364, being PART 36, Plan 41R-10086 alone, together with an Easement for pedestrian access purposes over Part Lot 14, Plan 41M-364, being PART 34, Plan 41R-10086 in favour of PART 36;

xxiii. Part Lot 14, Plan 41M-364, being PART 37, Plan 41R-10086 alone, together with an Easement for pedestrian access purposes over Part Lot 14, Plan 41M-364, being PART 39, Plan 41R-10086 in favour of PART 37;

xxiv. Part Lot 14, Plan 41M-364, being PARTS 38 & 39, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PART 39 in favour of Part Lot 14, Plan 41M-364, being PART 37, Plan 41R-10086;

xxv. Part Lot 21, Plan 41M-364, being PARTS 40 & 41, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PART 41 in favour of Part Lot 21, Plan 41M-364, being PARTS 42 & 43, Plan 41R-10086; subject to an easement in gross over PART 41 as in Instrument No. CO229687;

xxvi. Part Lot 21, Plan 41M-364, being PARTS 42 & 43, Plan 41R-10086 together, together with an Easement for pedestrian access purposes over Part Lot 21, Plan 41M-364, being PART 41, Plan 41R-10086 in favour of PARTS 42 & 43; subject to an easement in gross over PART 43 as in Instrument No. CO229687;

xxvii. Part Lot 21, Plan 41M-364, being PARTS 44 & 45, Plan 41R-10086 together, together with an Easement for pedestrian access purposes over Part Lot 21, Plan 41M-364, being PARTS 47 & 48, Plan 41R-10086 in favour of PARTS 44 & 45; subject to an easement in gross over PART 45 as in Instrument No. CO229687;

xxviii. Part Lot 21, Plan 41M-364, being PARTS 46, 47 & 48, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PARTS 47 & 48 in favour of Part Lot 21, Plan 41M-364, being PARTS 44 & 45, Plan 41R-10086; subject to an easement in gross over PART 48 as in Instrument No. CO229687;

xxix. Part Lot 20, Plan 41M-364, being PARTS 49, 50 & 51, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PARTS 49 & 51 in favour of Part Lot 20, Plan 41M-364, being PARTS 52 & 53, Plan 41R-10086; subject to an easement in gross over PART 51 as in Instrument No. CO229687;

xxx. Part Lot 20, Plan 41M-364, being PARTS 52 & 53, Plan 41R-10086 together, together with an Easement for pedestrian access purposes over Part Lot 20, Plan 41M-364, being PARTS 49 & 51, Plan 41R-10086 in favour of PARTS 52 & 53; subject to an easement in gross over PART 53 as in Instrument No. CO229687;

xxxi. Part Lot 20, Plan 41M-364, being PARTS 54 & 55, Plan 41R-10086 together, together with an Easement for pedestrian access purposes over Part Lot 20, Plan 41M-364, being PARTS 57 & 58, Plan 41R-10086 in favour of PARTS 54 & 55; subject to an easement in gross over PART 55 as in Instrument No. CO229687;

xxxii. Part Lot 20, Plan 41M-364, being PARTS 56, 57 & 58, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PARTS 57 & 58 in favour of Part Lot 20, Plan 41M-364, being PARTS 54 & 55, Plan 41R-10086; subject to an easement in gross over PART 57 as in Instrument No. CO229687;

xxxiii. Part Lot 19, Plan 41M-364, being PARTS 59, 60 & 61, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PARTS 59 & 61 in favour of Part Lot 19, Plan 41M-364, being PARTS 62 & 63, Plan 41R-10086; subject to an easement in gross over PART 61 as in Instrument No. CO229687;

xxxiv. Part Lot 19, Plan 41M-364, being PARTS 62 & 63, Plan 41R-10086 together, together with an Easement for pedestrian access purposes over Part Lot 19, Plan 41M-364, being PARTS 59 & 61, Plan 41R-10086 in favour of PARTS 62 & 63; subject to an easement in gross over PART 63 as in Instrument No. CO229687;

xxxv. Part Lot 19, Plan 41M-364, being PARTS 64 & 65, Plan 41R-10086 together, together with an Easement for pedestrian access purposes over Part Lot 19, Plan 41M-364, being PARTS 67 & 68, Plan 41R-10086 in favour of PARTS 64 & 65; subject to an easement in gross over PART 65 as in Instrument No. CO229687;

xxxvi. Part Lot 19, Plan 41M-364, being PARTS 66, 67 & 68, Plan 41R-10086 together, subject to an Easement for pedestrian access purposes over PARTS 67 & 68 in favour of Part Lot 19, Plan 41M-364, being PARTS 64 & 65, Plan 41R-10086; subject to an easement in gross over PART 67 as in Instrument No. CO229687;

xxxvii. Part Lot 44, Plan 41M-364, being PART 18, Plan 41R-10089 alone;

xxxviii. Part Lot 44, Plan 41M-364, being PART 19, Plan 41R-10089 alone;

xxxix. Part Lot 44, Plan 41M-364, being PART 20, Plan 41R-10089 alone;

xl. Part Lot 44, Plan 41M-364, being PART 21, Plan 41R-10089 alone;

xli. Part Lot 45, Plan 41M-364, being PARTS 22 & 23, Plan 41R-10089 together, subject to an Easement for pedestrian access purposes over PART 22 in favour of Part Lot 45, Plan 41M-364, being PART 24, Plan 41R-10089;

xlii. Part Lot 45, Plan 41M-364, being PART 24, Plan 41R-10089 alone, together with an Easement for pedestrian access purposes over Part Lot 45, Plan 41M-364, being PART 22, Plan 41R-10089 in favour of PART 24;

xliii. Part Lot 45, Plan 41M-364, being PART 25, Plan 41R-10089 alone, together with an Easement for pedestrian access purposes over Part Lot 45, Plan 41M-364, being PART 27, Plan 41R-10089 in favour of PART 25;

xliv. Part Lot 45, Plan 41M-364, being PARTS 26 & 27, Plan 41R-10089 together, subject to an Easement for pedestrian access purposes over PART 27 in favour of Part Lot 45, Plan 41M-364, being PART 25, Plan 41R-10089;

xlv. Part Lot 46, Plan 41M-364, being PARTS 9, 10 & 11, Plan 41R-10089 together, subject to an Easement for pedestrian access purposes over PARTS 9 & 11 in favour of Part Lot 46, Plan 41M-364, being PARTS 12 & 13, Plan 41R-10089; subject to an easement in gross over PART 11 as in Instrument No. CO229687;

xlvi. Part Lot 46, Plan 41M-364, being PARTS 12 & 13, Plan 41R-10089 together, together with an Easement for pedestrian access purposes over Part Lot 46, Plan 41M-364, being PARTS 9 & 11, Plan 41R-10089 in favour of PARTS 12 & 13; subject to an easement in gross over PART 13 as in Instrument No. CO229687;

xlvii. Part Lot 46, Plan 41M-364, being PARTS 14 & 15, Plan 41R-10089 together, together with an Easement for pedestrian access purposes over Part Lot 46, Plan 41M-364, being PART17 in favour of PARTS 14 &15; subject to an easement in gross over PART 15 as in Instrument No. CO229687;

xlviii. Part Lot 46, Plan 41M-364, being PARTS 16 & 17, Plan 41R-10089 together, subject to an Easement for pedestrian access purposes over PART17 in favour of Part Lot 46, Plan 41M-364, being PARTS 14 & 15, Plan 41R-10089; subject to an easement in gross over PART 17 as in Instrument No. CO229687;

xlix. Part Lot 47, Plan 41M-364, being PARTS 1 & 2, Plan 41R-10089 together, subject to an easement in gross over PART 2 as in Instrument CO229687;

l. Part Lot 47, Plan 41M-364, being PARTS 3 & 4, Plan 41R-10089 together, subject to an easement in gross over PART 4 as in Instrument No. CO229687;

li. Part Lot 47, Plan 41M-364, being PARTS 5 & 6, Plan 41R-10089 together, subject to an easement in gross over PART 6 as in Instrument No. CO229687; and

lii. Part Lot 47, Plan 41M-364, being PARTS 7 & 8, Plan 41R-10089 together, subject to an easement in gross over PART 8 as in Instrument No. CO229687.

COUNTY OF OXFORD

BY-LAW NO. 6317-2021

BEING a By-law to confirm all actions and proceedings of the Council of the County of Oxford at the meeting at which this By-law is passed.

The Council of the County of Oxford enacts as follows:

1. That all decisions made by Council at the meeting at which this By-law is passed, in respect of each report, resolution or other action passed and taken by the Council at this meeting, are hereby adopted, ratified and confirmed.

2. That the Warden and/or the proper officers of the County are hereby authorized and directed to do all things necessary to give effect to the said decisions referred to in Section 1 of this By-law, to obtain approvals where required, and except where otherwise provided, to execute all necessary documents and the Clerk is hereby authorized and directed to affix the corporate seal where necessary.

3. That nothing in this By-law has the effect of giving to any decision the status of a By-law where any legal prerequisite to the enactment of a specific By-law has not been satisfied.

4. That all decisions, as referred to in Section 1 of this By-law, supersede any prior decisions of Council to the contrary.

READ a first and second time this 24th day of February, 2021.

READ a third time and finally passed this 24th day of February, 2021.

LARRY G. MARTIN, WARDEN

CHLOÉ J. SENIOR, CLERK