Technical Remediation Advisory Committee (TRAC)
Update to Council

August 27, 2024

Township of Woolwich

24 Church Street West, Elmira

Outline

- Update on revised committee structure and TOR
- Provincial regulatory framework and controls
- Areas of investigation and remediation
- Status update
- Next steps

TRAC Terms of Reference

Approval and Meetings

- TOR approved by Council in April 2024, replacing the RAC/TAG process (active since 2015).
- Two TRAC meetings held since approval (April 25 and June 13).

Roles and Responsibilities

- Serve the Township in a technical and advisory capacity:
  - Provide summaries of legacy environmental issues from the LANXESS chemical manufacturing site.
  - Ensure appropriate review of environmental reports and remediation efforts.
  - Monitor legacy environmental impacts at LANXESS, focusing on the contaminated Elmira aquifers and other off-site or potential future impacts.
  - Summarize and recommend actions to the Township.

Public and Regulatory Engagement

- Inform the public bi-annually on LANXESS remediation progress, including public awareness and education initiatives.
- Provide a forum for public concerns about LANXESS site operations and historical impact remediation.
- Facilitate presentations and updates from MECP, GRCA, RMOW, and other regulatory bodies on remediation activities.
- Enable LANXESS to present regular updates on current environmental issues to the community.

Future Planning and Tools

- Advise and recommend on community priorities for the aquifer cleanup's post-August 2028 period, developing these priorities by end of 2026.
- Evaluate and provide feedback on subsequent orders or directives for this period.
- Create an electronic dashboard on the EngageWR platform to outline and show remediation efforts and progress.

Current TRAC Committee Composition

- **Voting Members**
- 7 members of the community
- Mayor Shantz, Councillors Cadeau and Schwindt (Councillor Cadeau designated as Chair)
- 1 Region of Waterloo representative

- **Non-Voting Members**
- 1 independent third-party technical expert (appointed by Council)
- 1 Woolwich Township staff support person, to support the committee
- Stakeholders (MECP, LANXESS, GRCA)

Provincial Regulatory Framework

Amended Environmental Compliance Approval (ECA) No. 0831-BX6JGD (issued Oct. 15, 2021) This ECA is for LANXESS' operation, monitoring and reporting requirements for the majority of their groundwater collection & treatment systems. Most of the information in LANXESS' Annual Monitoring Reports (AMRs) and monthly progress reports address monitoring and reporting requirements under this ECA.

June 21, 2000 Amending Order – This Order amends the 1991 Amended Control Order. The purpose of this amended order is to optimize the groundwater extraction between off-site collection wells near the site (W5A and W5B) and the on-site collection wells. This Order identifies the off-site groundwater clean-up goal, including a clean-up time of 30 years from start-up of Uniroyal's off-site groundwater pump and treat system.

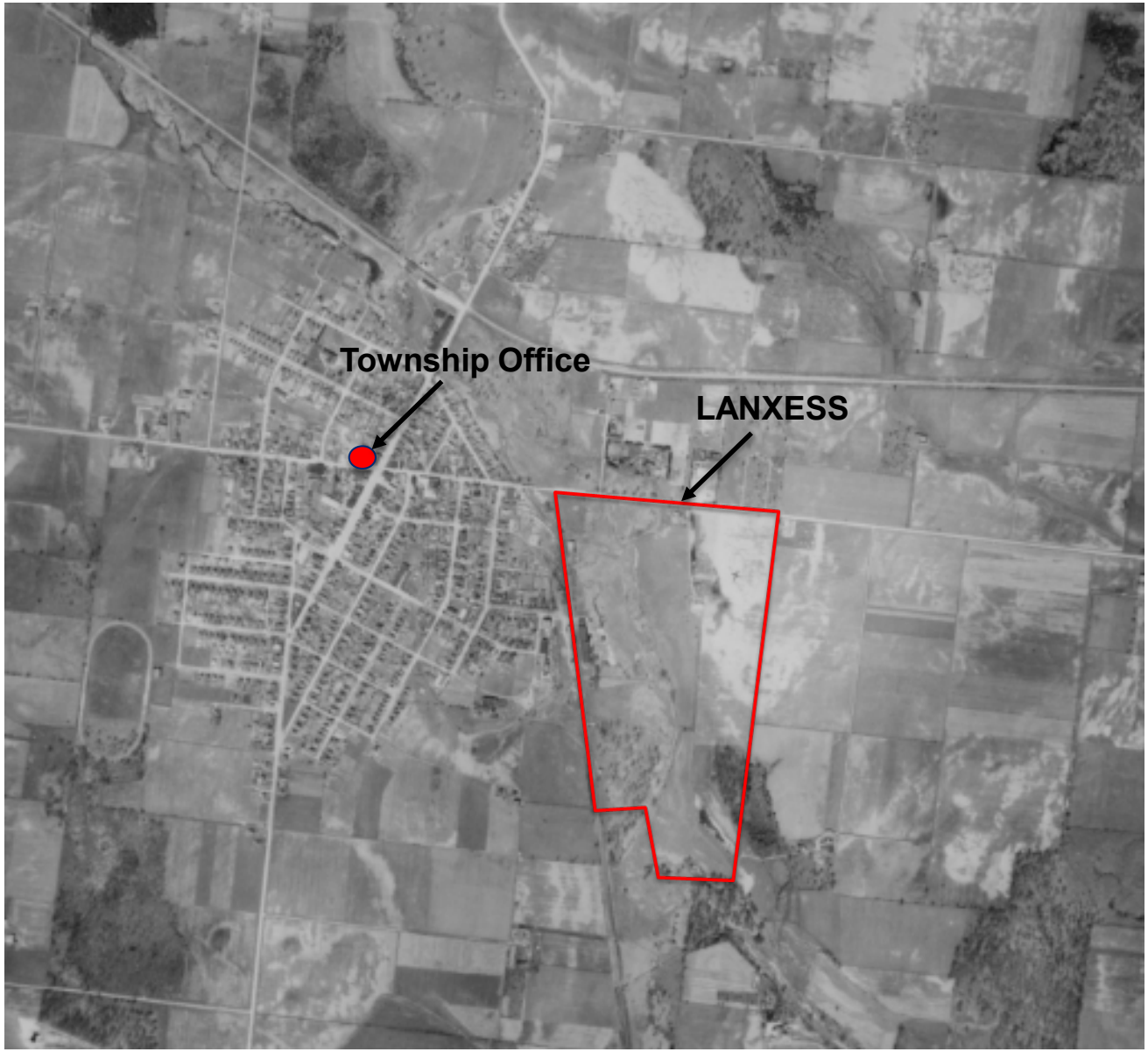
Certificate of Approval (C of A) No. 4-0025-94-976 (issued March 18, 1997) – This C of A requires annual performance monitoring and reporting for groundwater extraction wells E7/E9 and its UV/Oxidation Treatment System and is addressed through LANXESS' AMRs.

November 4, 1991 Amended Control Order – This Order requires on-site containment of impacted groundwater, off-site collection & treatment of impacted groundwater (municipal aquifers), remediation of on-site waste storage, and annual environmental audit (changes at the LANXESS site and whether there's an effect on air emissions, effluents and wastes disposed of or discharged to the environment). Progress updates are provided in LANXESS' monthly progress reports and AMRs.

April 13, 1984 Control Order – This Order requires an annual hydrogeological report summarizing groundwater quality data and evaluation of this data in relation to historical data, and to demonstrate changes in contaminant migration in groundwater. LANXESS' AMRs present this reporting requirement.

What is being…
Investigated - Remediated – Monitored?

- Groundwater
- Surface water
- Soil
- Sediment
- Air (not considered a legacy issue)



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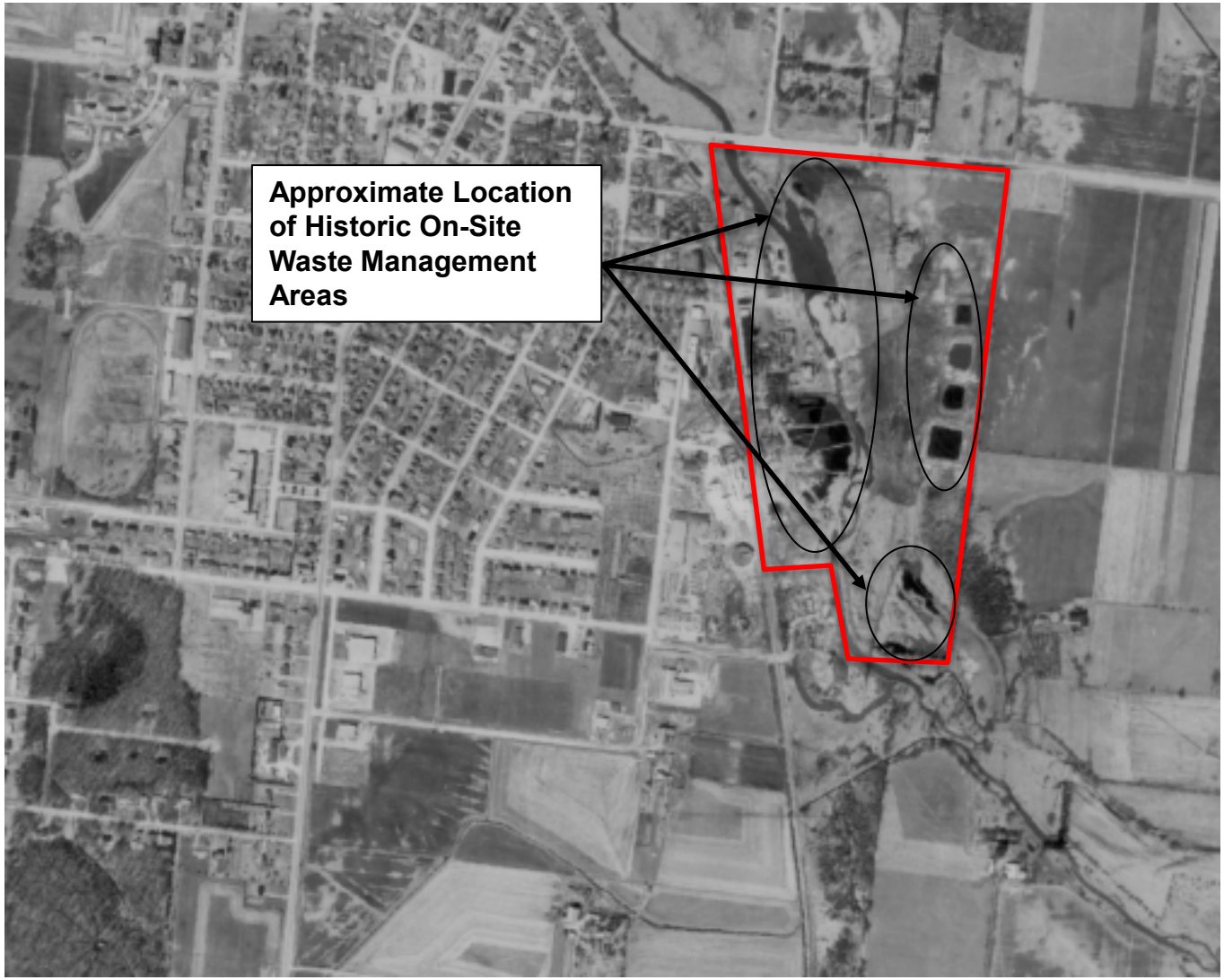

Approximate Location of Historic On-Site Waste Management Areas

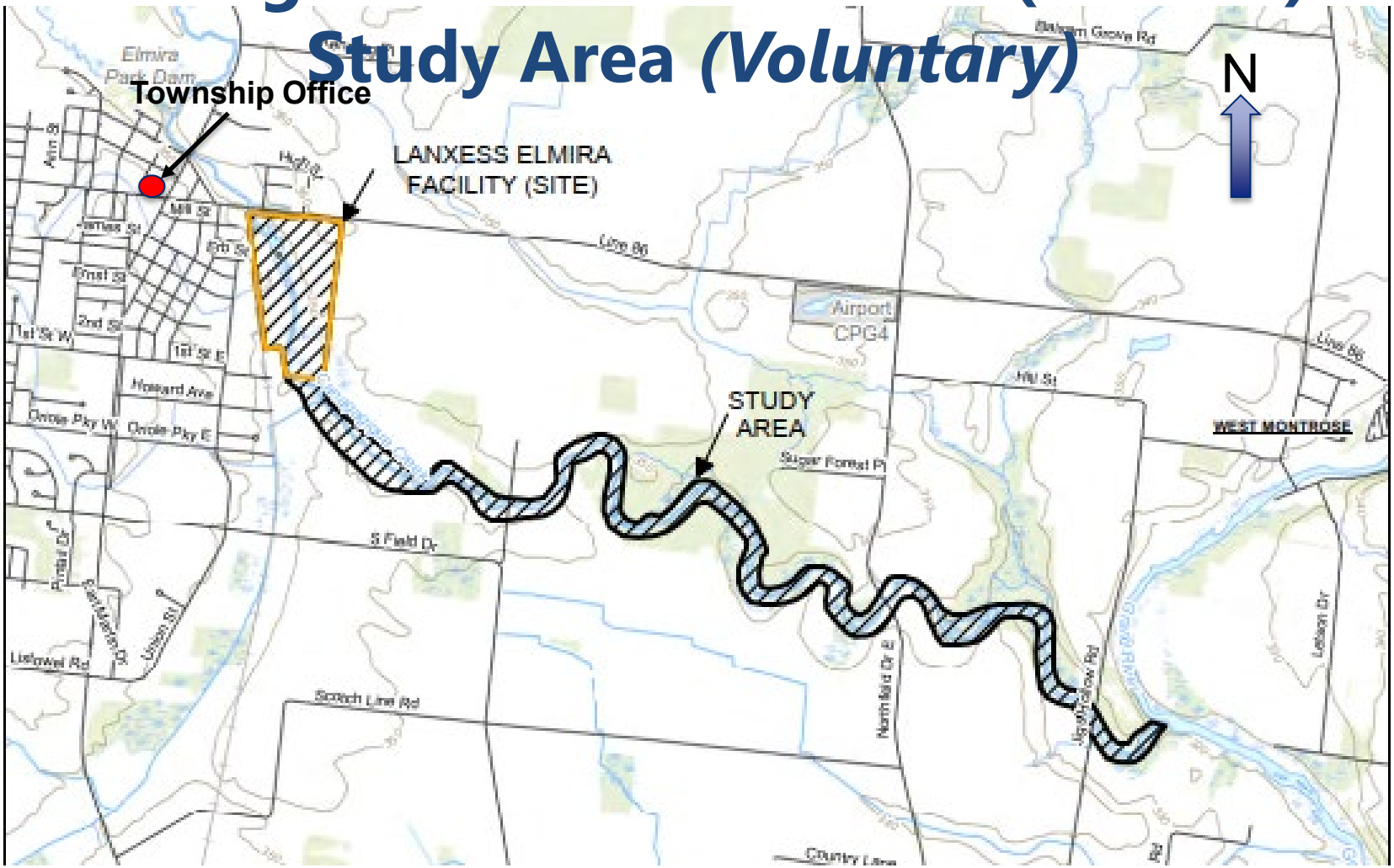
1940 to 1970

Current – Post Remediation of Historical On-Site Waste Management Units

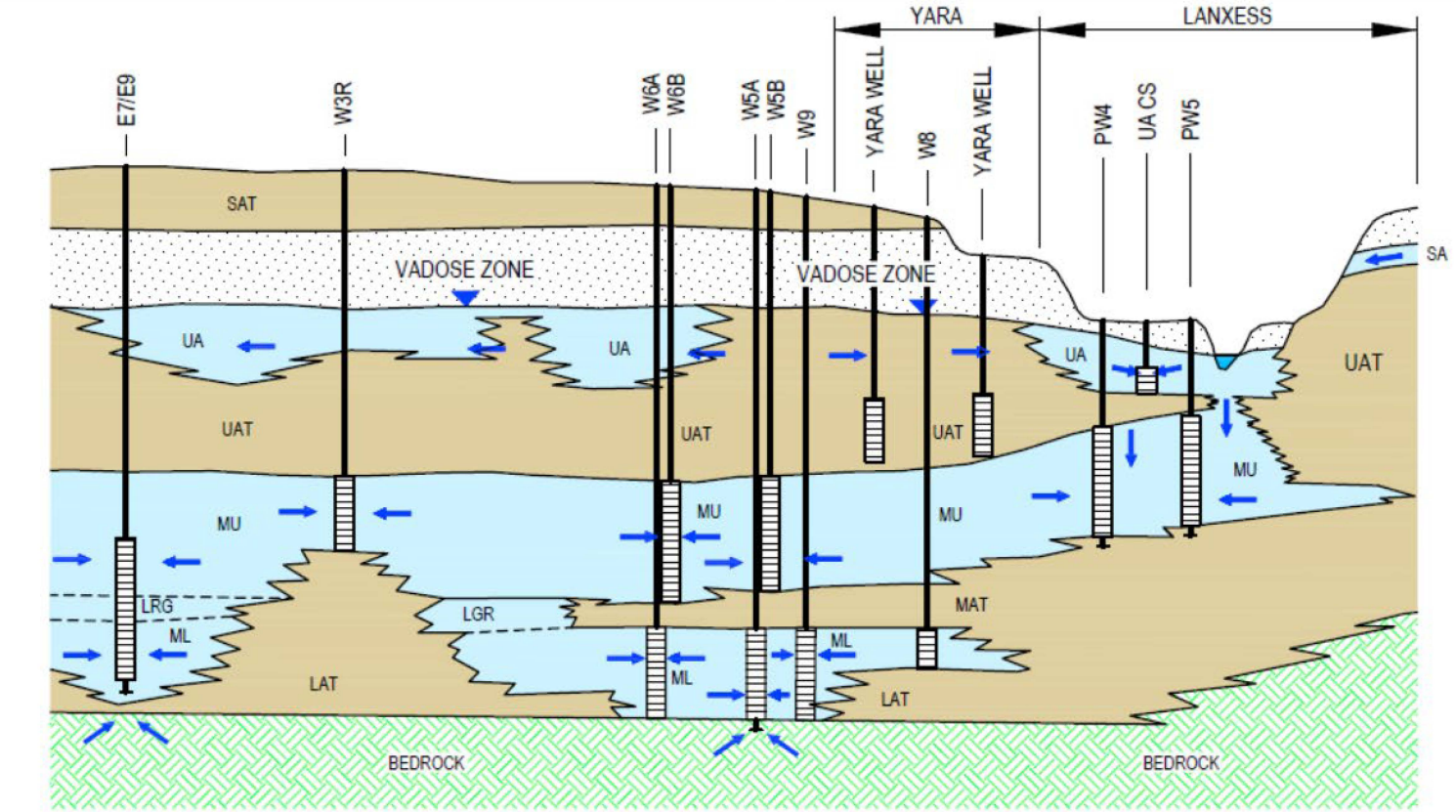
Areas of Investigation, Remediation and Monitoring

- **On-site containment of contamination and monitoring**
  - *soil and groundwater*
- **Off-site management zone containment and monitoring**
  - *groundwater (Surficial Aquifer (SA), Upper Aquifer (UA), Upper Municipal Aquifer (MU), Lower Municipal Aquifer (ML), Bedrock Aquifer)*
- **Off-site contaminant removal and monitoring**
  - *soil (Eastside) and groundwater (Eastside, Surficial Aquifer (SA), Upper Aquifer (UA), Upper Municipal Aquifer (MU), Lower Municipal Aquifer (ML), Bedrock Aquifer)*
- **Flood-plain management (including creek monitoring)**
  - *soil, sediment, surface water, groundwater, ecosystem*

Canagagigue Creek Human Health and Ecological Risk Assessment (HHERA) Study Area *(Voluntary)*



Schematic of Hydrogeological Units…



Groundwater Remediation Approach

- One On-site Upper Aquifer Collection System (UA CS)
  - Prevent on-site contaminated groundwater from entering Canagagigue Creek.
- One On-site Containment and Treatment System (CTS)
  - Prevent off-site migration of contaminated groundwater.
- Two Off-site Containment and Treatment Systems (CTS)
  - Off-site CTS
    - two (2) stand-by extraction wells (W3 and W4) and seven (7) extraction wells (W3R, W5A, W5B, W6A, W6B, W8, and W9)
  - Containment well E7
    - operated to contain the southern limit of the Municipal Aquifer (MA) NDMA plumes, both in the MU and ML
  - Objectives of the Off-site CTS are containment of the Off-site plumes in the upper and lower municipal aquifer (MU and ML) and maximizing off-site contaminant mass removal without compromising the on-site groundwater containment.

Status Update

- **Remediation of the off-site municipal aquifers**
  - Remedial objectives established through the 1991 and 2000 amended orders are not achievable (ODWQS by 2028)
  - Contaminant mass removal in municipal aquifers reaching asymptotic stage of remediation (law of diminishing returns, common for sites at this stage)
  - MECP has requested LANXESS to identify next steps and evaluate enhanced treatment technologies for the areas of the off-site municipal aquifer that still do not meet the remedial objectives (ODWQS)
  - Currently there are existing constraints on using the municipal aquifer for any purpose. This is common for large and dilute contaminant plumes.

- **Creek risk assessment**
  - Waiting for a second revision of the Draft HHERA, responding to MECP and TRAC (TAG/RAC) comments

- **Public communications**
  - Working on electronic dashboard, accessible through EngageWR

Next Steps

- **Public Communication**
  - Launch EngageWR dashboard (Q4 2024)
- **Build Consensus within TRAC**
  - Community priorities with respect to the municipal aquifer clean up post 2028 (Ongoing)
- **Public Consultation Process**
  - Develop process (Q2 2025)
- **Technical Experts Meeting**
  - Update and review LANXESS' draft enhanced treatment technologies assessment and a revised RAP (Q4 2024 to Q1 2025)

Additional Resources

Municipal Aquifer Remediation Monitoring

- 2023 Annual Monitoring Report (WSP, March 2024)

Canagagigue Creek Risk Assessment

- Revised Draft Risk Assessment – Canagagigue Creek (Stantec, May 9, 2023)

Thank You