



# WELCOME

*The  
RESIDENTIAL  
BASEMENT  
SAMPLING  
MEETING Will  
Begin at 6:30pm.*

## Technology Overview - Things to Know

- Attendee video cameras are disabled (we can't see you)
- Attendee screen share is disabled
- All attendees are muted (instructions to unmute will be covered)
- You can leave and rejoin the meeting at any time (unless the meeting is at capacity or you are removed for inappropriate behavior)
- Multiple opportunities for questions will be provided throughout the presentation
- Presentation and additional materials are available [www.a2gov.org/BasementSampling](http://www.a2gov.org/BasementSampling)

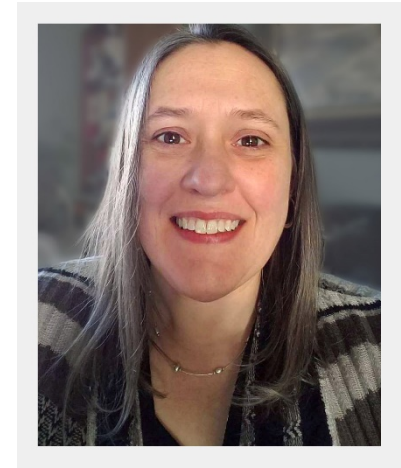
# PROJECT TEAM



**Brian Steglitz**  
Water Treatment  
Services Manager



**Kayla Coleman**  
Community Engagement  
Specialist



**Patti McCall, CPG, PWS**  
Associate Hydrogeologist  
Tetra Tech

# AGENDA



## Welcome, Introductions, & Meeting Purpose

(10 min)



## Project Overview

Background information  
Parameters for Determining Sampling Areas  
Programs Details and Sampling Process  
(20 min)





## Open Discussion, Q&A

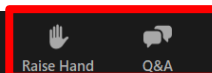
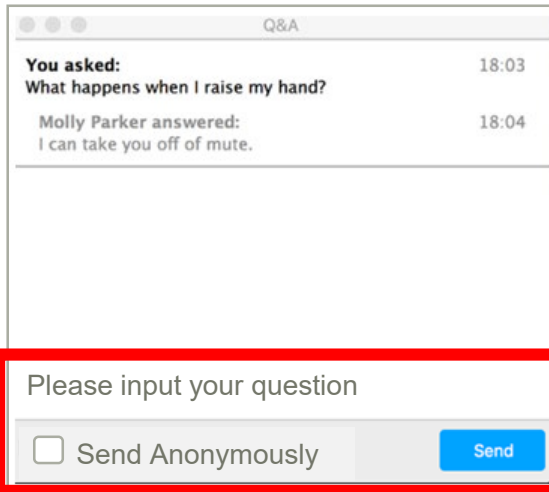
(60 min)

# Technology Overview – Ask a question/share a comment

**Note:** When you raise your hand, the host will enable your microphone. The host will disable your microphone after your question.

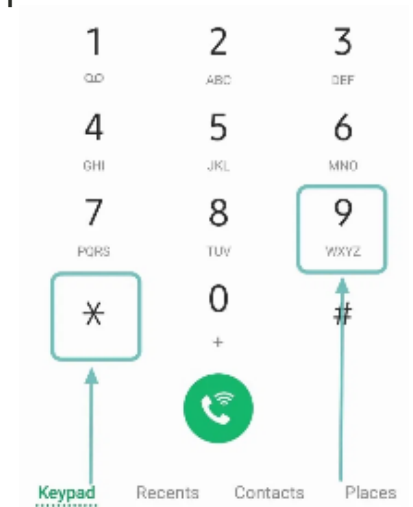
## Computer

- Select **Raise Hand** 
  - You will be identified by the name provided when you entered the meeting
  - Select **Lower Hand**  if needed
- **Q&A:**
  - Type your question
  - Check **Send Anonymously** if you do not want your name to be publicly visible with your Question



## Phone

- Select \*9 to raise your hand
- You will be identified by the last 3 digits of your phone number

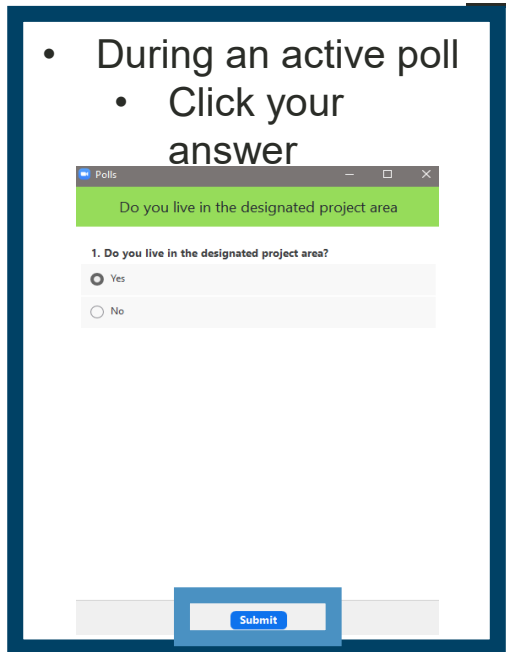


# Technology Overview – Polling

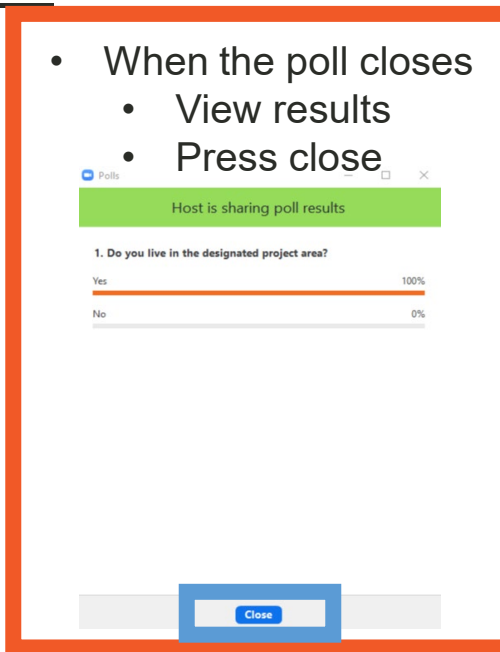
**Note:** When you raise your hand, the host will enable your microphone. The host will disable your microphone after your question.

## Computer

- During an active poll
  - Click your answer



- When the poll closes
  - View results
  - Press close



**Note:** Computer polling is anonymous. Your name will not be viewable with your response

## Phone

- Raise your hand (\*9)
- The host will unmute you
- Say your answer to the poll

**Note:** Phone polling is not anonymous. Everyone in the meeting will be able to hear your response.



# Zoom Meeting Norms

- Start on time . . . end on time.
- Raise your hand to be recognized to talk; there will be one speaker at a time
- Move to a quiet area and silence any background sounds when speaking
- Speak loud and clear so everyone can hear
- Everyone will be provided a chance to speak before a repeat speaker
- Be respectful of other ideas and perspectives – no finger pointing!
- Try to differentiate between I know (facts) and I think (opinions).
- Inappropriate written and/or verbal comment or language, including personal attacks and accusations, will result in the attendee being removed from the meeting.

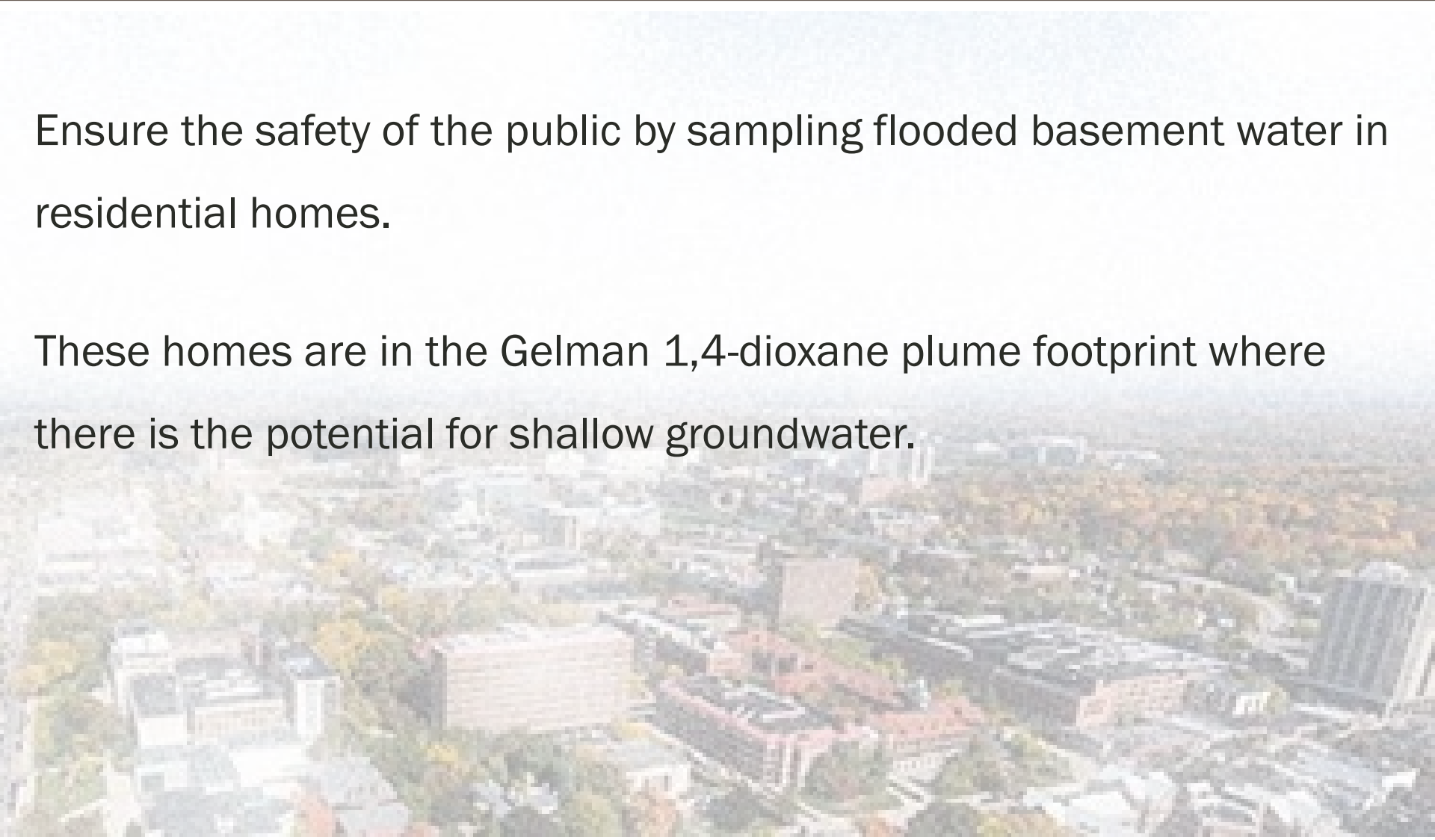
Have we missed anything?



## WHY ARE WE HERE?

Ensure the safety of the public by sampling flooded basement water in residential homes.

These homes are in the Gelman 1,4-dioxane plume footprint where there is the potential for shallow groundwater.





# DEFINITIONS

## 1,4-Dioxane –

- Industrial solvent
- Groundwater contaminant

## Gelman Plume –

- Manufacturer of medical and environmental filters
- 850,000 pounds of 1,4-dioxane were used between 1966 and 1986





## WHAT'S NOT ON TONIGHT'S AGENDA:

- Consent Judgment
- Superfund Discussion
- Impacts to Scio and Ann Arbor Townships



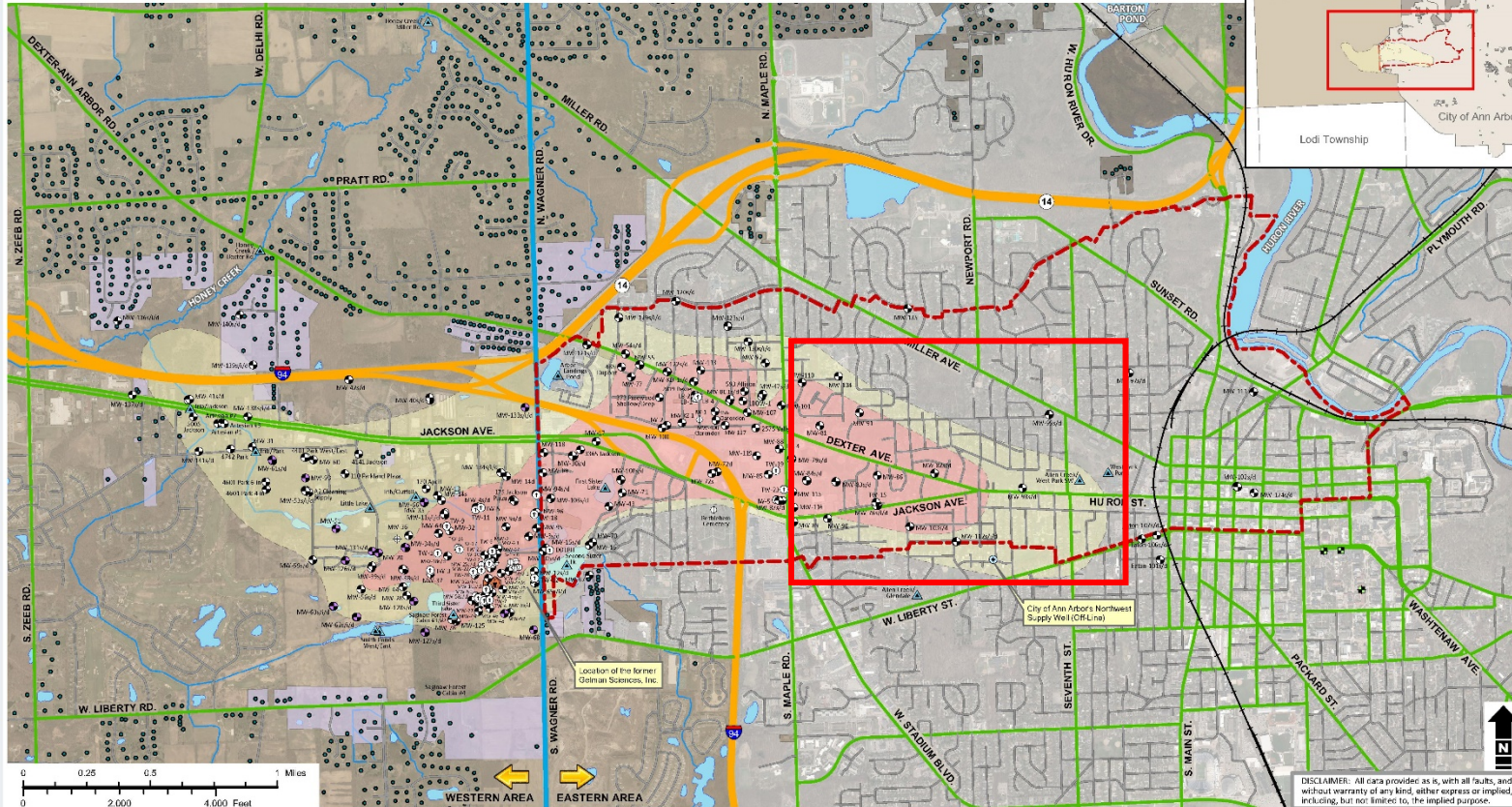
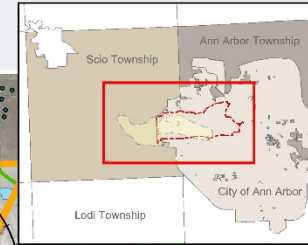
# Polling

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# BACKGROUND INFORMATION



## GELMAN SCIENCES, INC. 1,4-DIOXANE GROUNDWATER PLUME Plume, Well Locations, and Groundwater Use Prohibition Zone (PZ) Washtenaw County, Michigan



**KEY**

Monitoring Well	Surface Water Sampling Location	Estimated Plume* (>85 ppb)	Drinking Water Well
Compliance Monitoring Well	U of M Research Water Supply Well	Estimated Plume* (>1 ppb)	Treatment System
Extraction Well	Drinking Water Well Sampling, 2014 Present	Groundwater Use Prohibition Zone	
Miscellaneous Well			

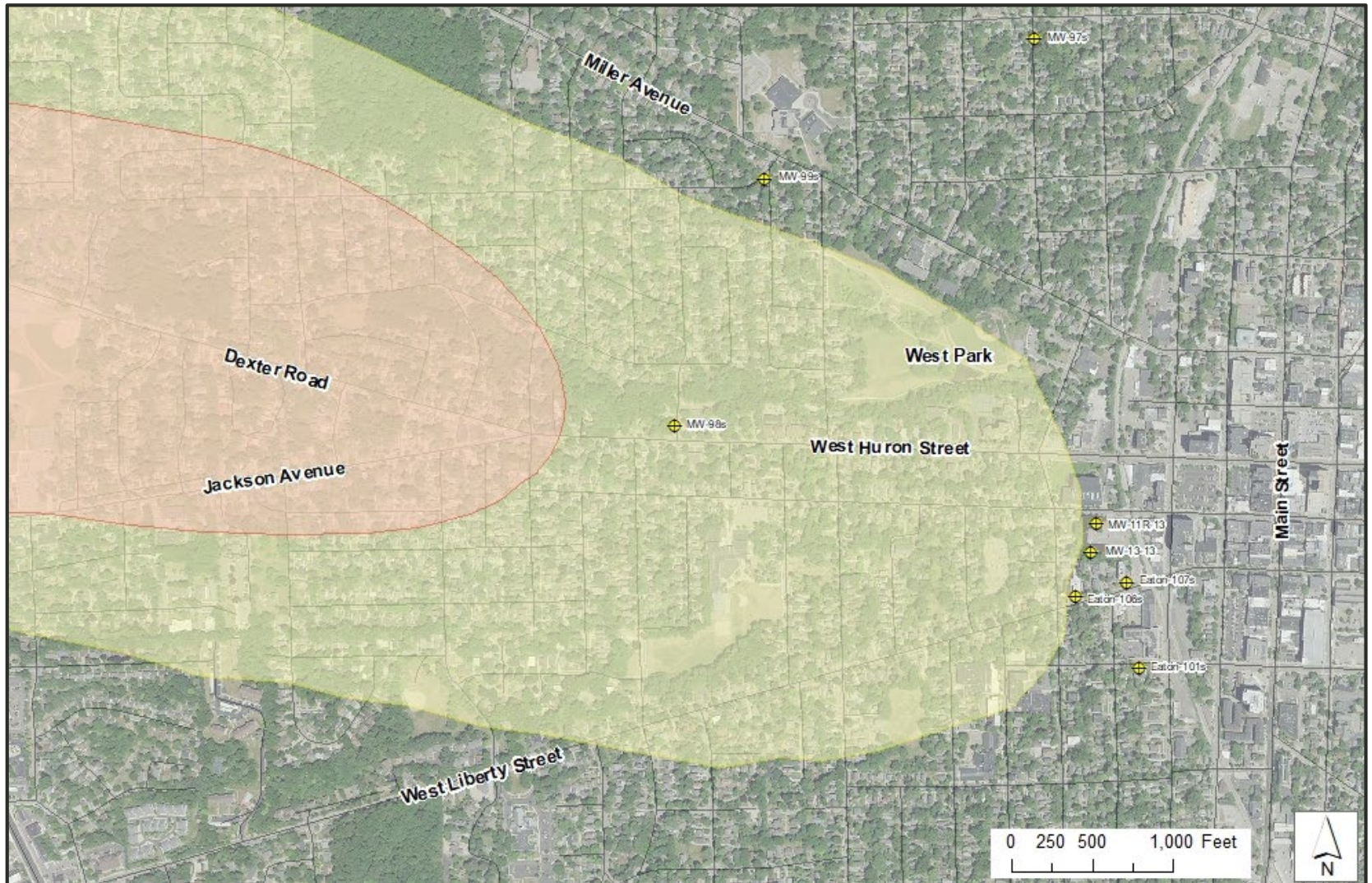
\* A plume is a 3 dimensional distribution of contaminants in groundwater. Plume shape is affected by source spreading, geology, hydrology, and biological activities. The estimated plume boundaries on this 2 dimensional map are unable to show the depth to contamination or thickness of the contaminated zone.

DISCLAIMER: All data provided as is, with all faults, and without warranty of any kind, either express or implied, including, but not limited to, the implied purpose.

MAP PRODUCED BY:  
Washtenaw County Health Department  
Environmental Health Division  
Washtenaw County, Michigan  
Revised 10/19

SOURCES:  
MIGDL Michigan Dept. Env. Quality (MDEQ)  
Database, Washtenaw County GIS

# BACKGROUND INFORMATION





# Residential Basement Sampling Plan

- Purpose:
  - Determine if target area homes have flooded basements
  - Determine if the floodwater contains 1,4-dioxane
- Approach:
  - Gathered and evaluated existing data in the outlined area
  - Applied parameters to determine potential sampling areas



# Analysis for Determining Sampling Areas

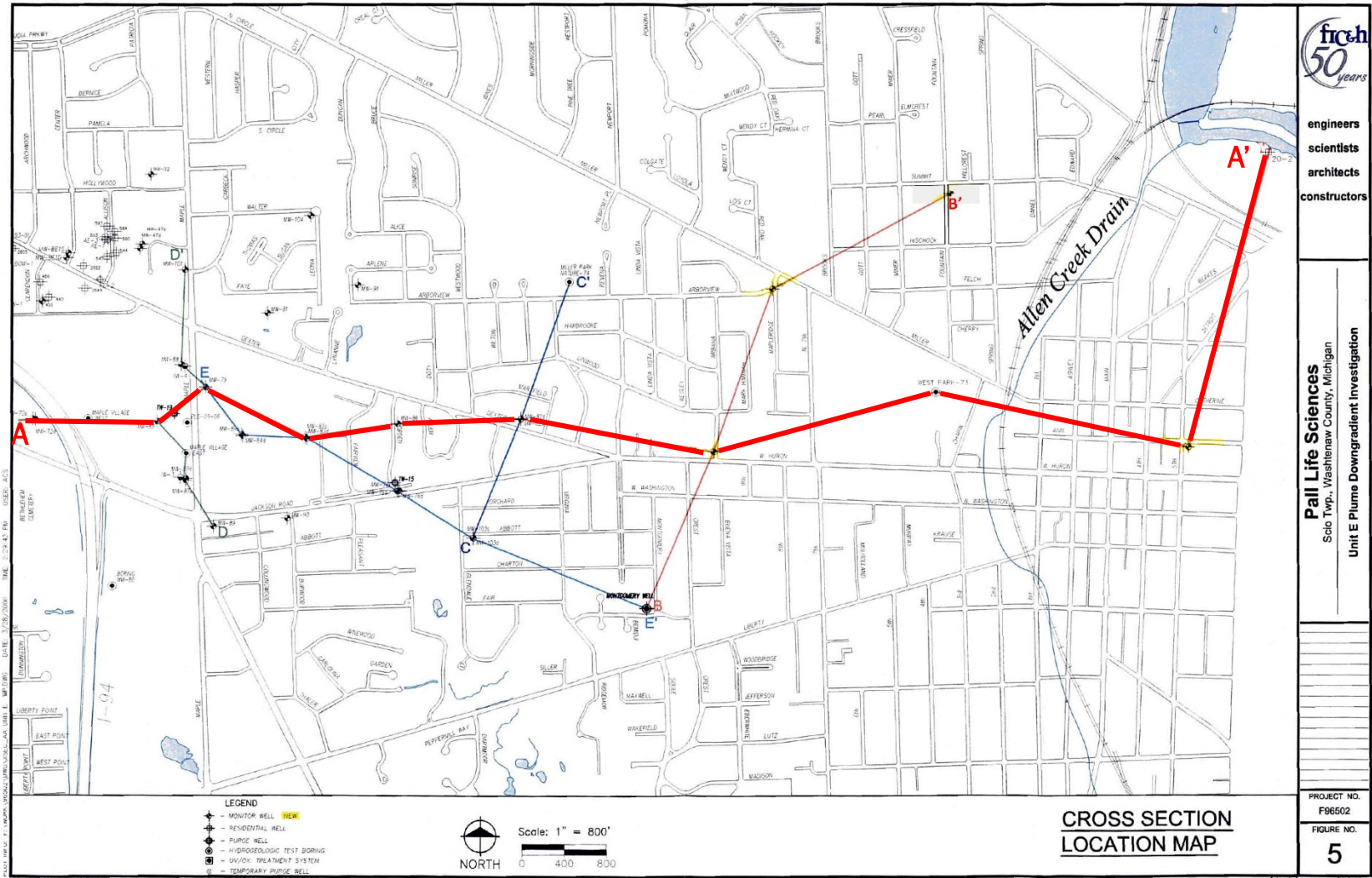
## Data Gathered and Evaluated

- Scio Residents for Safe Water (SRSW) plume boundary
- Monitoring well logs
- Groundwater surface maps
- Location of surface water features and drains

## Parameters:

- Within plume boundary
- 850-foot topographic contour line boundary
- Groundwater with potential to be within 25 feet of ground surface elevation

# Analysis for Determining Sampling Areas



engineers  
scientists  
architects  
constructors

**Pall Life Sciences**  
Socio Twp., Washtenaw County, Michigan  
Unit E Plume Downgradient Investigation

PROJECT NO.  
F96502  
FIGURE NO.  
**5**

DATE: 11/19/2008 11:10:00 AM USER: JLM/ML/SL/CA/LM/EL/ML/MS DATE: 3/28/2008 TIME: 2:29:43 PM USER: ACES

Copyright 2008. All Rights Reserved.

McGraw-Hill, Thompson, S&P & Huber, Inc.

# Analysis for Determining Sampling Areas

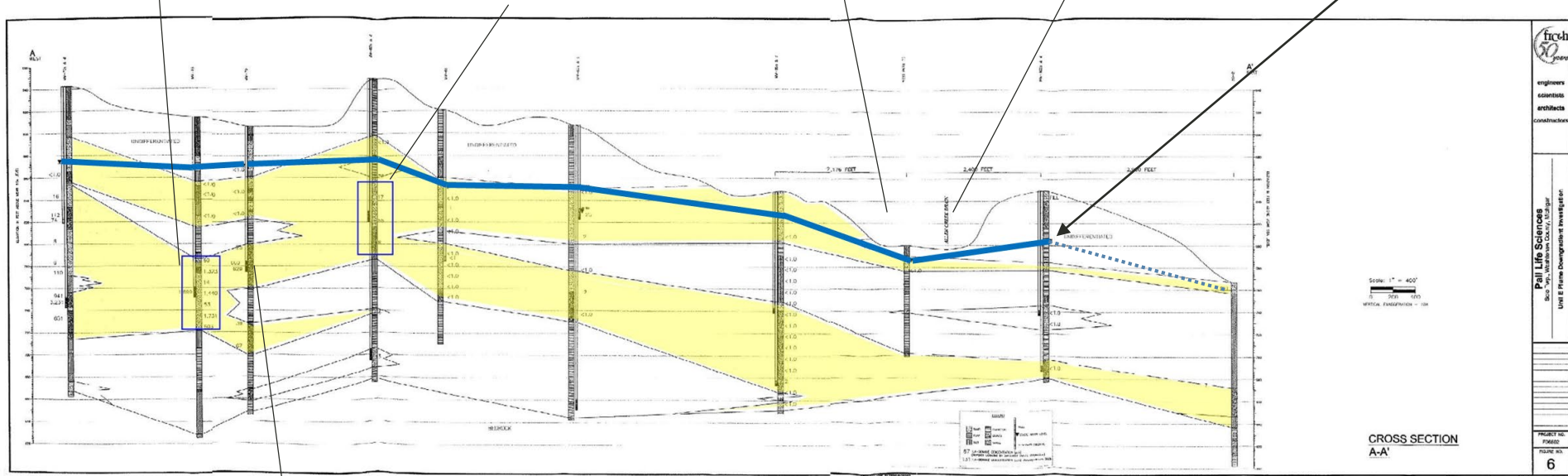
1,731 ppb  
Maple Rd

78 ppb  
Vets Park

West Park

Allen Creek  
Drain

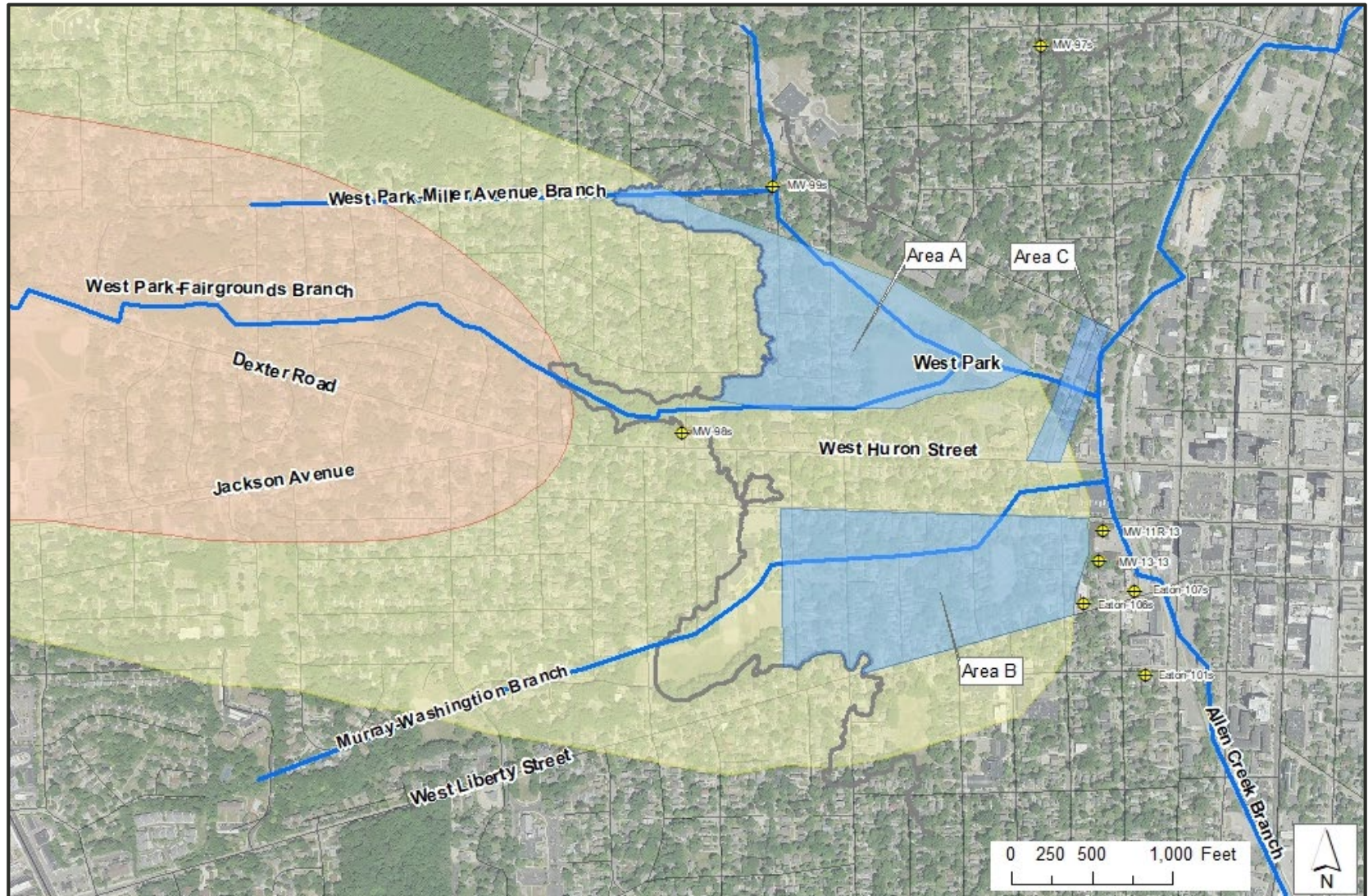
Water  
Level



680 ppb  
Vets Park

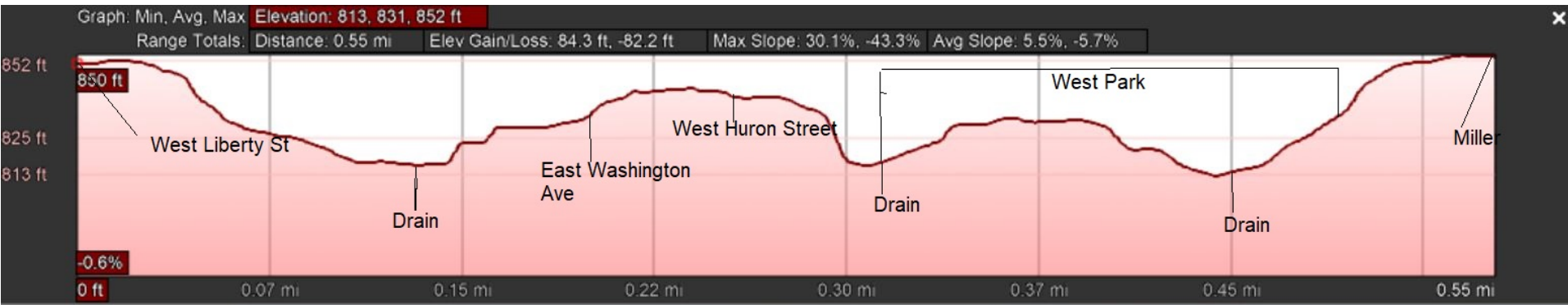


# Analysis for Determining Sampling Areas



# Analysis for Determining Sampling Areas

- Elevation profile looking West
- South to North (West Liberty to Miller Road)



Adapted from Google Earth Imagery

# Program Details for Homeowners

» Homeowner receives letter and survey

**Has your basement flooded in the past during a heavy rain event?**

If no, please indicate below by marking the relevant choice

My place of residence does not have a basement

My basement area has not flooded in the past.

If yes, please mark the month and year that flooding last occurred and provide contact information below.

January <input type="checkbox"/>	April <input type="checkbox"/>	July <input type="checkbox"/>	October <input type="checkbox"/>
February <input type="checkbox"/>	May <input type="checkbox"/>	August <input type="checkbox"/>	November <input type="checkbox"/>
March <input type="checkbox"/>	June <input type="checkbox"/>	September <input type="checkbox"/>	December <input type="checkbox"/>
2010 <input type="checkbox"/>	2013 <input type="checkbox"/>	2016 <input type="checkbox"/>	2019 <input type="checkbox"/>
2011 <input type="checkbox"/>	2014 <input type="checkbox"/>	2017 <input type="checkbox"/>	2020 <input type="checkbox"/>
2012 <input type="checkbox"/>	2015 <input type="checkbox"/>	2018 <input type="checkbox"/>	

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Please provide any additional comments using the space provided below:

» Completed survey returned to Tetra Tech (Tt)

» Contact Tetra Tech if basement floods

» Tetra Tech completes sampling

» Letter report to homeowner within one month



# Access Agreement and Acknowledgement of Disclosure

**ACCESS AGREEMENT  
&  
ACKNOWLEDGEMENT OF DISCLOSURE  
FOR CITY OF ANN ARBOR WET BASEMENT SAMPLING  
& 1,4-DIOXANE TESTING PROGRAM**

Whereas, \_\_\_\_\_ (the "Owner") own(s) the property at \_\_\_\_\_, City of Ann Arbor, Michigan 48103 (the "Property").

Whereas, City of Ann Arbor, a Michigan municipal corporation with offices at 301 E Huron Street, Ann Arbor, Michigan 48104 (the "City"), has identified an area in the City near West Park which is located within the footprint of the Gelman 1,4-dioxane plume and where groundwater is at an elevation such that it could enter residential basements under some conditions:

Whereas, the City has established a voluntary program for the properties within this area for the sampling and testing of wet basements for 1,4-dioxane at no cost to the property owner (the "Program").

Whereas, participation in the Program requires that the Owner grant the City access to the basement of the Property (the "Access") to collect samples which will be tested for 1,4-dioxane and to conduct a visual survey of the basement (the "Work"), and that the Owner provide a survey of products used at the Property;

Whereas, the analytical testing results will be public and will be used by the City and provided to the Owner and agencies of the State and County; and

Whereas, Owner desires to participate in the Program, and is willing to grant the Access to the City in accordance with the terms and conditions in this Access Agreement ("Agreement") and acknowledges that participation in the Program and testing results will be public;

NOW, THEREFORE, in exchange for the consideration in this Agreement, the Owner and the City agree as follows:

- Owner has received, read and understood the notification letter from the City explaining the Program.
- Owner represents and warrants that it owns the Property in fee simple and that it, and it alone, has the right to enter into this Agreement, and, if applicable, Owner agrees to complete Attachment A regarding any tenants or occupants of the Property.
- Owner grants the City, its employees, contractors, and authorized agents and representatives, Access to the Property to complete the Work, including permission to:
  - Enter and depart over and across the Property as needed, including entry into the dwelling and its basement;
  - Use and bring onto the Property all appropriate materials and equipment to collect wet basement water samples and complete a survey of the basement;
  - Conduct wet basement water sampling and analytical testing for 1,4-dioxane;
  - Complete a visual survey of the basement and products and report.
- The City, its employees, contractors, and authorized agents will perform the Work in compliance with the latest health and safety recommendations related to COVID-19 and the Governor's Emergency Orders, as applicable.
- Owner acknowledges and agrees that the City will complete analytical testing on water sample(s) collected from the basement of the Property and a copy of the testing results will be used by the City and provided to the Owner, the State of Michigan Department of Environment, Great Lakes and Energy, and the Washtenaw County Public Health Department.
- Owner further acknowledges and agrees that the samples, testing results, data and reports obtained or generated pursuant to this Agreement and the Program will be public and will be subject to disclosure in response to a request submitted under the Michigan Freedom of Information Act, PA 442 of 1976, MCL 15.231 et seq.
- The City agrees that Owner's participation in the Program shall be at no cost to the Owner.
- Owner further acknowledges that on sale of the Property and/or listing of the Property for sale, it may be required to disclose its participation in the Program, that water was collected from the basement of the Property, the results and/or reports of the analytical testing of samples collected from the Property, and other relevant information.
- Owner represents and warrants that there are no unreasonably dangerous conditions on the Property, and Owner agrees it shall be liable for any bodily injuries or property damage that result from any such conditions and shall indemnify, defend and hold City harmless from and against any damages, costs, expenses, and/or losses that arise from any such conditions.
- Owner agrees that this Agreement is not a waiver of and does not alter the City's governmental immunity or other immunity under law.

[Signatures on next page]

**ATTACHMENT A  
&  
OWNER AND TENANT/OCCUPANT INFORMATION**

Property Address (Property): \_\_\_\_\_

Owner Name (Printed) (Owner): \_\_\_\_\_

Contact Number(s): \_\_\_\_\_

Email: \_\_\_\_\_

If you are the Owner of the Property, but live elsewhere, provide the following information regarding any tenants/occupants at the Property:

Tenant Name: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Tenant Name: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Tenant Name: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Tenant Name: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2020

OWNER: CITY OF ANN ARBOR

By \_\_\_\_\_  
By \_\_\_\_\_  
By \_\_\_\_\_

By \_\_\_\_\_  
Tom Crawford  
Interim City Administrator

Approved as to substance:  
\_\_\_\_\_  
Craig A. Hupy, P.E.  
Public Services Area Administrator

Approved as to form:  
\_\_\_\_\_  
Stephen K. Postema  
City Attorney

- Document must be signed before sampling
- Allows sampling, visual survey
- Results will be shared with Owner, City, County Health Department, and State agencies

[www.a2gov.org/basementsampling](http://www.a2gov.org/basementsampling)



# Basement Sampling Process

- COVID-19 Protections
  - Tetra Tech has a strict self-monitoring protocol
  - Staff will have face coverings, gloves and shoe protectors
  - Equipment will be cleaned and not shared between staff
  - Physical distancing will be practiced
  - Limited interaction inside the house will occur; completing paperwork ahead of time or outside when possible

# Basement Sampling Process

➤ Homeowner contacts Tt if wet basement occurs after rain event

- Tt staff will mobilize to residence and complete checklist that documents:
  - ✓ Presence of common household products
  - ✓ Location of basement sump if present
  - ✓ Type of flooring
  - ✓ Visible staining
  - ✓ Other pertinent information as identified

RESIDENTIAL BASEMENT SAMPLING CHECKLIST			
ADDRESS:		SAMPLE ID NUMBER:	
<b>Laundry Detergents</b>	Y N	<b>Shampoos</b>	Y N
Tide Original	<input type="checkbox"/>	Pantene Pro-V Nature Fusion	<input type="checkbox"/>
2X Ultra Ivory Snow (Gentle Care)	<input type="checkbox"/>	Herbal Essences Platinum	<input type="checkbox"/>
Gain Original	<input type="checkbox"/>	V05 Passion Fruit Smoothie	<input type="checkbox"/>
Tide Simply Plus Oxi (Refreshing Breeze)	<input type="checkbox"/>	Love Beauty and Planet Argan Oil and Lavender	<input type="checkbox"/>
Persil Original (Family Dollar)	<input type="checkbox"/>	John Frieda Brilliant Brunette	<input type="checkbox"/>
Homeline Original (Family Dollar)	<input type="checkbox"/>	OGX Lavender Platinum	<input type="checkbox"/>
All brand with stain lifters (Fresh Rain)	<input type="checkbox"/>	Dove Nutrive Solutions (Coconut and Hydrato	<input type="checkbox"/>
Up & Up Fresh Linen (Target Brand)	<input type="checkbox"/>	Head and Shoulders Classic Clean	<input type="checkbox"/>
Arm and Hammer (Clean Burst, 2x concentrated)	<input type="checkbox"/>	Tresemme Moisture Rich with vitamin E	<input type="checkbox"/>
LA's Totally Awesome (Dollar Tree)	<input type="checkbox"/>	L'Oréal Elvive Total Repair	<input type="checkbox"/>
Purex Plus Oxy Stain Removers (Fresh Morning Burst)	<input type="checkbox"/>	Suave Professionals Moroccan Infusions (Color Care)	<input type="checkbox"/>
Xtra (Tropical Passion)	<input type="checkbox"/>	White Rain Ocean Mist (Dollar Tree)	<input type="checkbox"/>
Method (Ginger Mango)	<input type="checkbox"/>	Silkience Vitamin B5 and Avocado Oil (Dollar Tree)	<input type="checkbox"/>
Other Brand:		Garnier Fructis with Active Fruit Protein	<input type="checkbox"/>
Other Brand:		Other Brand:	
Other Brand:		Other Brand:	
<b>Dish Soaps</b>	Y N	<b>Body Washes &amp; Gels</b>	Y N
The Home Store Lemon Scented (Dollar Tree)	<input type="checkbox"/>	Victoria Secret (Bombshell Fragrance Wash)	<input type="checkbox"/>
Up & Up Free and Clear (Target Brand)	<input type="checkbox"/>	Victoria Secret (Love Fragrance Wash)	<input type="checkbox"/>
Dawn	<input type="checkbox"/>	Clay Moisture Ribbons Plus Body Wash	<input type="checkbox"/>
Palmolive Raspberry Coconut	<input type="checkbox"/>	Dr. Teal's Pink Himalayan Foaming Bath	<input type="checkbox"/>
Ajax	<input type="checkbox"/>	Inspire Fresh Water Moisturing Body Wash (Dollar Tree)	<input type="checkbox"/>
Other Brand:		Neutrogena Rainbath Shower and Bath Gel	<input type="checkbox"/>
Other Brand:		Soft Whisper by Power Stick (Pomegranate Lemon Verbena)	<input type="checkbox"/>
Other Brand:		Suave Essentials Body Wash (Wild Cherry Blossom)	<input type="checkbox"/>
<b>Hand Soaps</b>	Y N	St Ives Oatmeal and Shea Butter	<input type="checkbox"/>
Soft Soap Fresh Breeze	<input type="checkbox"/>	Caress Daily Silk Body Wash	<input type="checkbox"/>
Dial Coconut Water and Mango	<input type="checkbox"/>	Old Spice Swagger Shower Gel/Shampoo	<input type="checkbox"/>
RJ Walkins (Aloe and Green Tea)	<input type="checkbox"/>	Axe Phoenix Shower Gel/Shampoo	<input type="checkbox"/>
Other Brand:		Irish Springs Shower Gel	<input type="checkbox"/>
Other Brand:		Other Brand:	
Other Brand:		Other Brand:	

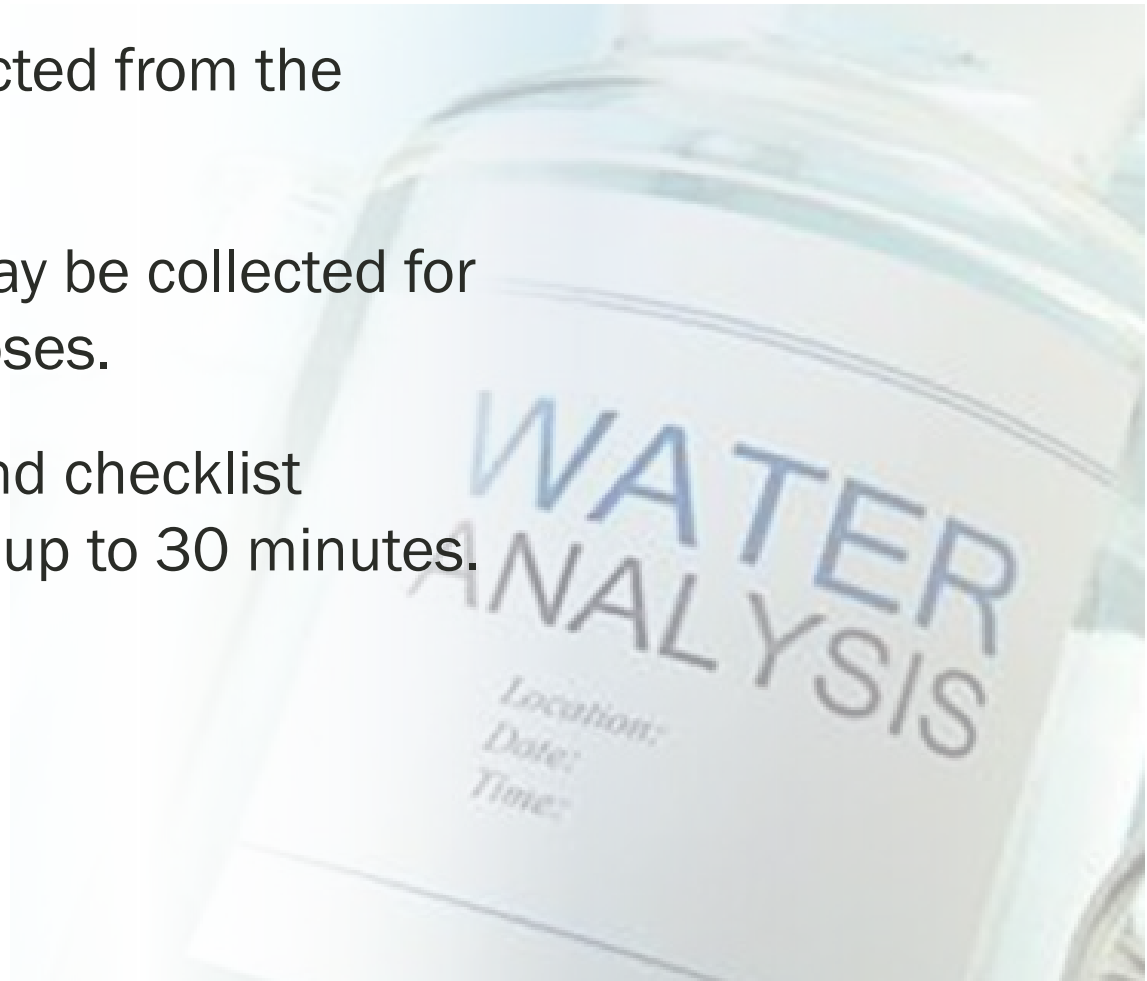
T-4-dioxane is often found in products that lather (shampoos, shower gels, dish and laundry soaps). Common chemicals are sodium lauryl sulfate, PEG compounds, and ethoxylation chemicals (those chemicals ending in "-eth") such as celestareth and oleth.

© 2019 Tetra Tech, Inc. All Rights Reserved. City of Ann Arbor, Michigan. Sampling Form

➤ Conditions will be documented with photographs if permitted by homeowner

# Basement Sampling Process

- Sample will be collected from the sump
- Duplicate sample may be collected for quality control purposes.
- Sample collection and checklist completion will take up to 30 minutes.



# Data Analysis and Reporting

- Water samples analyzed using USEPA Method 522
  - Low detection level
  - Resolution in data
- Resident reports
  - Distributed to homeowner and City of Ann Arbor Personnel
  - Four weeks after sampling
- Final report
  - Distributed to City of Ann Arbor, Washtenaw County Health Department and State of Michigan
  - Spatial distribution
  - All locations sampled





## Post Sampling

- Is there a health risk if 1,4-dioxane is detected in my basement water?
  - Result below 29 ppb\* is not a health risk
  - Result above 29 ppb will require an evaluation by Washtenaw County Health Department in conjunction with:
    - Michigan Department of Environment, Great Lakes and Energy
    - Michigan Department Health and Human Services

\*The 29 ppb was calculated by EGLE toxicologists



# Follow-up Expectations

- City
  - Meeting summaries provided to participants no more than two weeks after meeting.
  - Be responsive to schedule for homeowners
  - Access Agreement to program participants
  - Tetra Tech will follow strict COVID-19 protocols; wear masks and remain physical distant; no COVID symptoms and no fever
- Program Participants
  - Homeowner will participate and contact project team
  - Homeowner will sign access agreement prior to sampling
  - Homeowners will follow COVID-19 protocols; wear masks and remain physically distant; not allow sampling personnel in if they are feeling ill.





# Polling

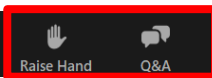
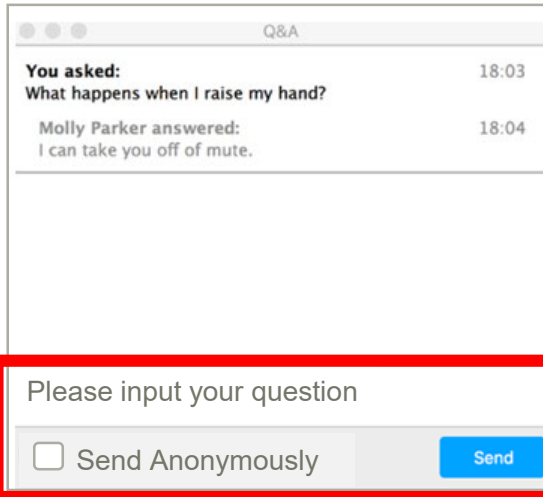
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# Questions

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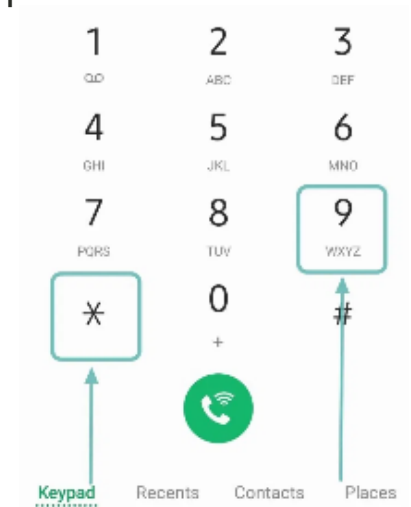
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## Phone

- Select \*9 to raise your hand
- You will be identified by the last 3 digits of your phone number





# Questions

For more information:

- [A2gov.org/BasementSampling](https://a2gov.org/BasementSampling)
- [basementsampling@tetrattech.com](mailto:basementsampling@tetrattech.com)