

Air Force Installation & Mission Support Center



Wurtsmith Restoration Advisory Board Meeting

Steven Willis
AFCEC/CIBC
21 Feb 2024

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Classification



The classification of the brief is unclassified



Agenda



- Welcome, introductions, and ground rules
- Restoration Advisory Board (RAB) member updates
- RAB business update
- Per-and polyfluoroalkyl substances (PFAS) Remedial investigation (RI) and interim remedial action (IRA) update
- Vapor Intrusion RI update
- RAB member questions
- Public comment
- Conclusion – RAB Co-Chairs' closing remarks



Checklist for Virtual Participation



- ✓ If you prefer to join audio by phone, please dial the call-in number and enter the access code to enter the meeting
- ✓ Phone unmute instructions - *5 to raise your hand, *6 to unmute/mute
- ✓ RAB Members – mute when not speaking
- ✓ Use “raise hand” to raise your hand
- ✓ RAB Coordinator will unmute your mic when it’s your turn to speak
- ✓ To enable closed captions for language support, click “more” – “language and speech” – “turn on live captions”
- ✓ Use Chat for questions
- ✓ Contact the RAB Coordinator with access questions amy.rauser@wsp.com

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Site Map



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RAB Updates

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Air Force Update



- **Air Force briefed the RAB and community on the critical process analysis recommendations on 18 Jan 2024 for Defense Reutilization and Marketing Office (DRMO), LF030/031, 3 Pipes Ditch, and Wastewater Treatment Plant (WWTP) sites**
 - **Air Force is moving forward to award contract for IRA at DRMO and LF030/031 in FY24. Funding is available.**
 - **Request for IRA funding is included in the FY25 budget while IRAs for 3 Pipes Ditch and WWTP continue to be evaluated**
- **Air Force conducted tech session on 20 Feb 2024**
 - **WSP presented FT002 system performance data**
 - **EGLE Water Resources Division (WRD) presented a general overview of the Substantive Requirements Document (SRD) process**

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Air Force Update



- **PFAS data gaps being identified in conjunction with EGLE for follow-on investigation as part of the feasibility study**
- **PFAS RI maps updated to include aerial background with results for all data except privately owned residential drinking water wells**
- **Future RAB meetings**
 - **15 May 2024**
 - **21 Aug 2024**
 - **20 Nov 2024**
 - **19 Feb 2025**

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Release of PFAS Sampling Information



- **DOD policy protects certain types of information from disclosure:**
 - **Locations of samples from privately owned residential drinking water wells, unless the property owners provide written consent to share the location data**
 - **Names, addresses, or other identifying information called “Personally Identifiable Information” or PII**
- **Air Force can share privately owned drinking water well results excluding location data without owner consent**
- **Location information and sample results from groundwater, soil, sediment, and other media can be shared and shown on maps**

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Release of PFAS Sampling Information



- **Air Force recently sent a questionnaire inquiring about locations and uses of private residential wells**
- **Questionnaire included a request to sample any wells used for private residential drinking water**
- **At present, the locations of past or future private residential drinking water samples will not be released to EGLE or included on maps**
- **New access agreements allow owners to agree or not agree to release location information associated with privately owned residential drinking water wells**
- **Residents' names and addresses will not be released or shown on maps**

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MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

EGLE Updates

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Recent EGGLE Activities

- **November BRAC* Cleanup Team (BCT) meeting**
- **Meetings with Air Force to discuss field work progress and monitoring wells**
- **Critical Process Analysis out-brief meeting**
- **Reviewed first quarter vapor pin data, ongoing discussion with MDHHS and the Air Force**
- **Reviewed 2021 BRAC Environmental Construction and Optimization Services (BECOS) Long Term Monitoring (LTM) Report, provided backcheck comments to the Air Force**
- **Reviewed 2021 Pump and Treat System (PTS) Remedial Action Objective (RAO), provided backcheck comments to the Air Force**
- **Reviewed Vapor Intrusion Quality Assurance Project Plan (QAPP), provided backcheck comments to the Air Force**
- **Reviewed SS072 Revised Risk Assessment, provided comments to the Air Force**

**BRAC – Base Realignment and Closure*

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Upcoming EGLE Activities



- **Data review for completed RI work**
- **March BCT**
- **Continued discussion on vapor intrusion between MDHHS and the Air Force**
- **Continued discussion on the approach for East Van Etten Lake (VEL)**
- **Additional documents for review**
 - **5-year review, Alert Aircraft Area (AAA) documents, Military Munitions Response Program (MMRP) QAPP, BECOS QAPP**

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RAB Member Updates



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RAB Business

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■ Action Items

- List distributed to RAB prior to meeting
- Virtual meeting conducted 6 Dec 2023 at 6:00 pm eastern time to review action items
- Next virtual meeting planned for 27 Mar 2024 at 6:00 pm eastern time to review action items
- Status since last RAB meeting
 - Opened: 132-140 (9 total)
 - Closed: 114, 132
 - Ongoing: 87, 88, 92, 96, 99, 100, 101, 102, 104A-D, 105 - 111, 113, 115 – 140 (44 total)



Presentation:

Remedial Investigation and Interim Remedial Action Update



Paula Bond
Aerostar SES LLC
Project Manager

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PFAS RI Update



■ **PFAS RI UFP-QAPP Addendum**

- **The Air Force and EGLE held discussions on 6 October and 20 November 2023 to discuss EGLE comments**
- **Comment responses were updated and provided back to EGLE for final review.**
- **The nature and extent investigation work is 99% complete. The remaining tasks are:**
 - **Two well clusters on Au Sable River on Forest Service property**
 - **Existing and new monitoring well sampling**
 - **Expected to be 100% complete by the end of February**



RI Investigation



- **Groundwater**
- **Soil**
- **Surface water and sediment**
- **Seeps**
- **Biota**
- **Storm and sanitary sewers**
- **Private water well sampling**

Media	# of Samples Collected
Groundwater	1,271
Soil	2,310
Surface Water/Seeps	95
Sediment	182
Biota	128
Waste Water	7
Stormwater	31
Drinking Water	5
Total	4,029

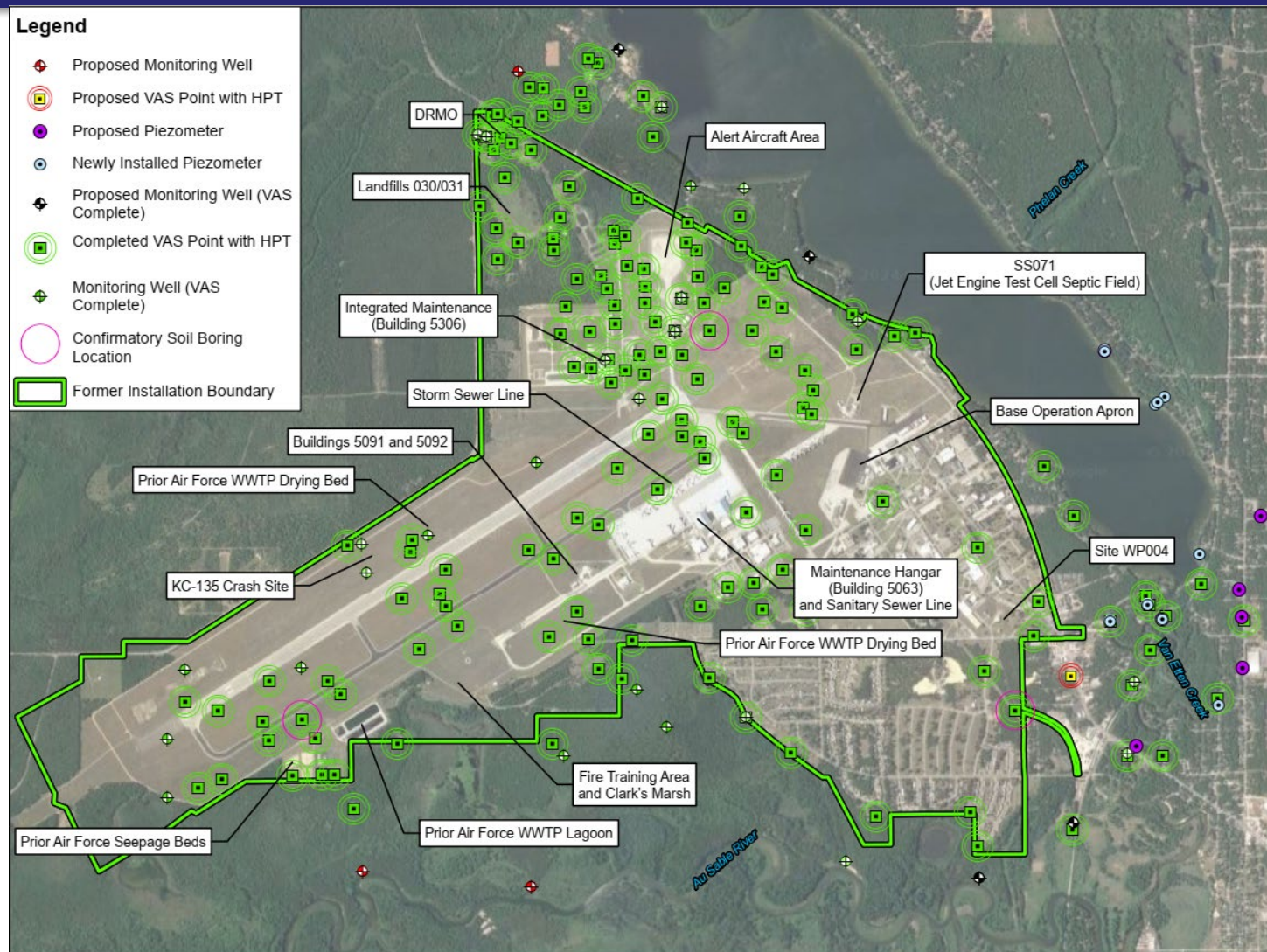


Groundwater Investigation VAS Locations



■ Groundwater investigated to the lower of RSL or EGLE screening

- PFOS = 4 ng/l
- PFOA = 6 ng/l
- PFBA = 1,800 ng/l
- PFBS = 420 ng/l
- PFNA = 5.9 ng/l
- PFHxA = 990 ng/l
- PFHxS = 39 ng/l



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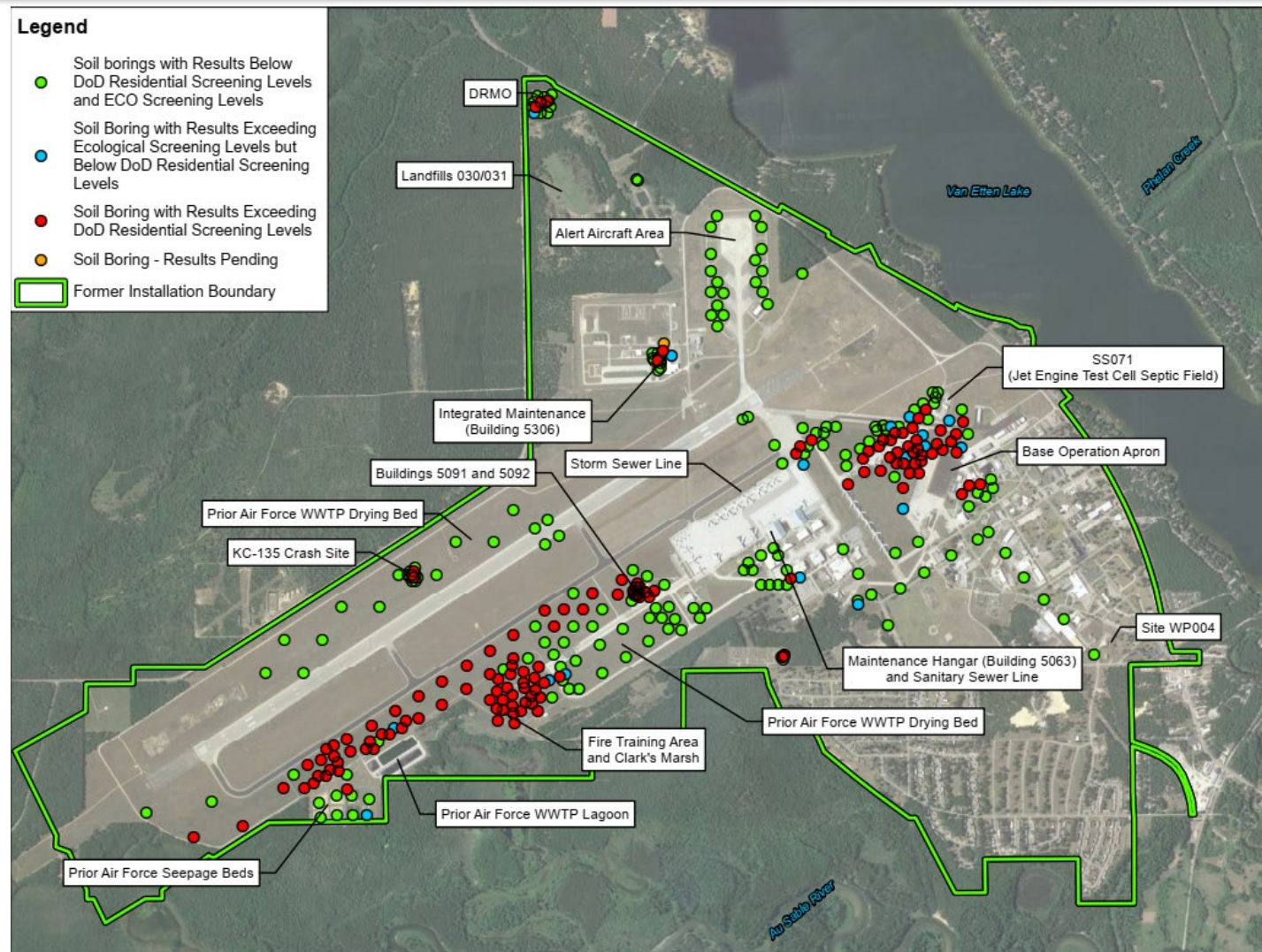


Soil Investigation



■ Soil delineated to RSLs

- PFOS = 13 ug/kg
- PFOA = 19 ug/kg
- PFBA = 7,800 ug/kg
- PFBS = 1,900 ug/kg
- PFNA = 19 ug/kg
- PFHxA = 3,200 ug/kg
- PFHxS = 130 ug/kg



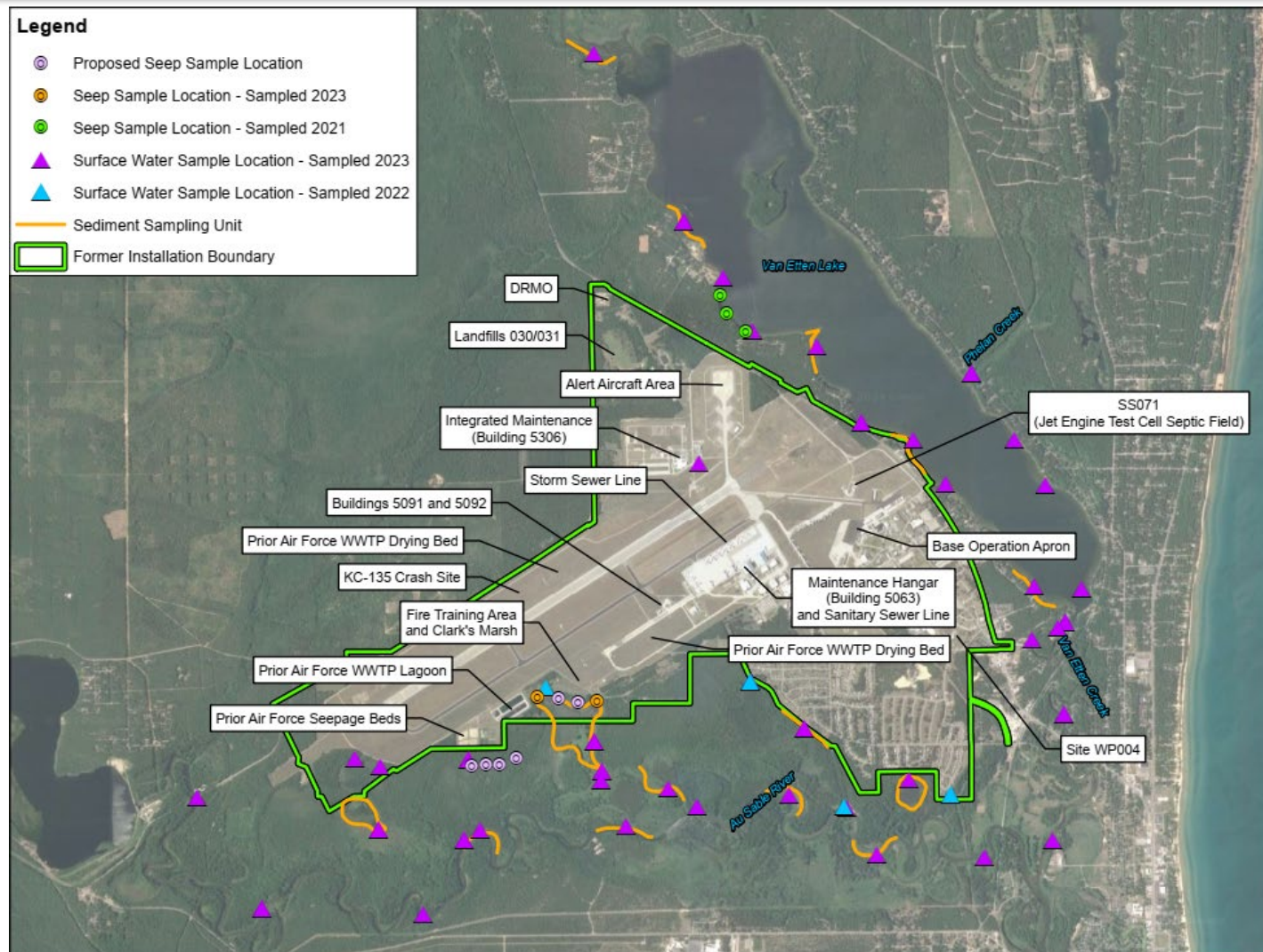
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Surface Water, Sediment, and Seep Samples



- Surface water and sediment samples were collected from VEL, VEC, the Au Sable River, and ponds and streams within Clark's Marsh
- Seep samples were collected from VEL and Clark's Marsh



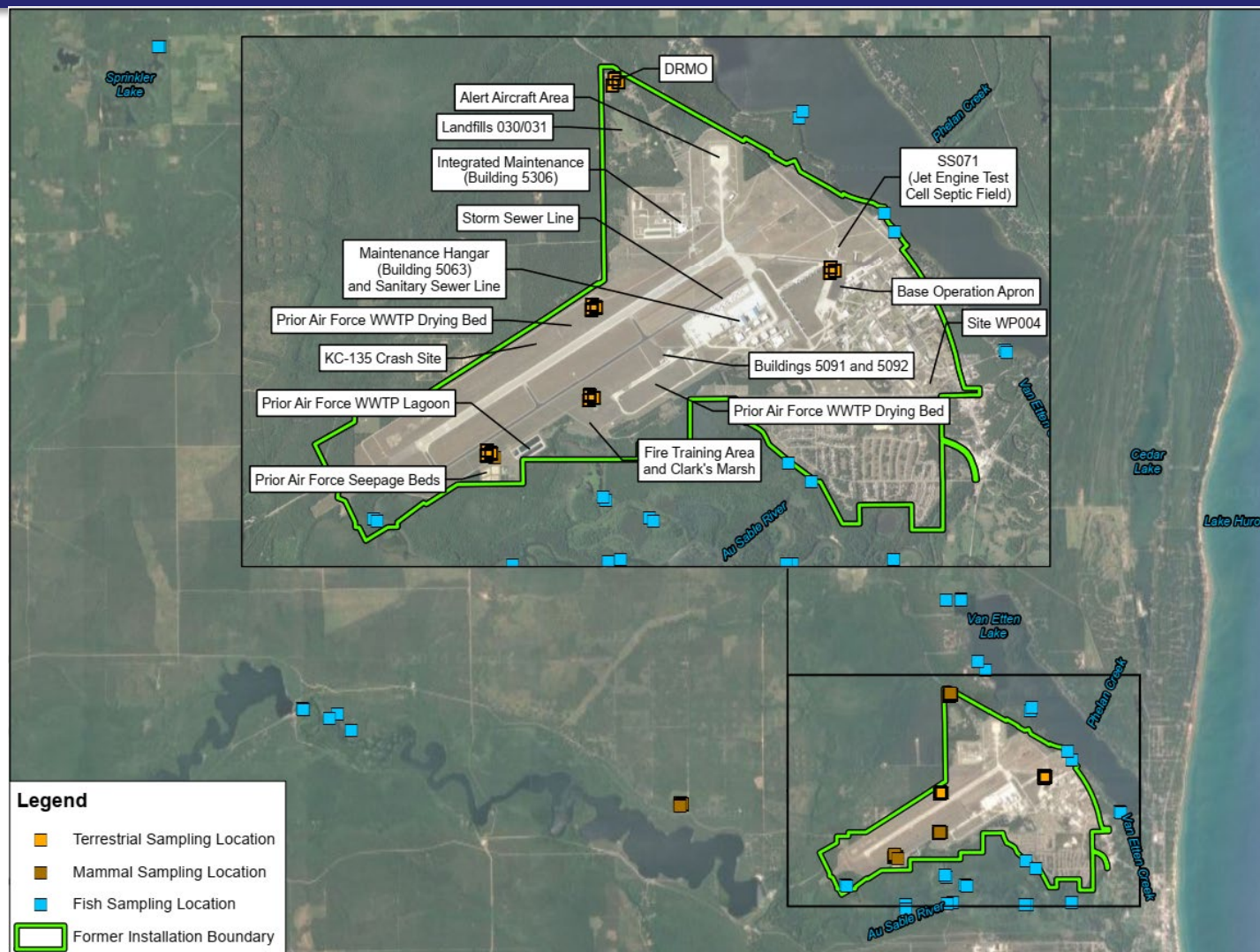
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Biota Sampling



- **Terrestrial**
 - Vegetation
 - Small mammals
 - Soil
- **Aquatic**
 - Vegetation
 - Fish
 - Sediment

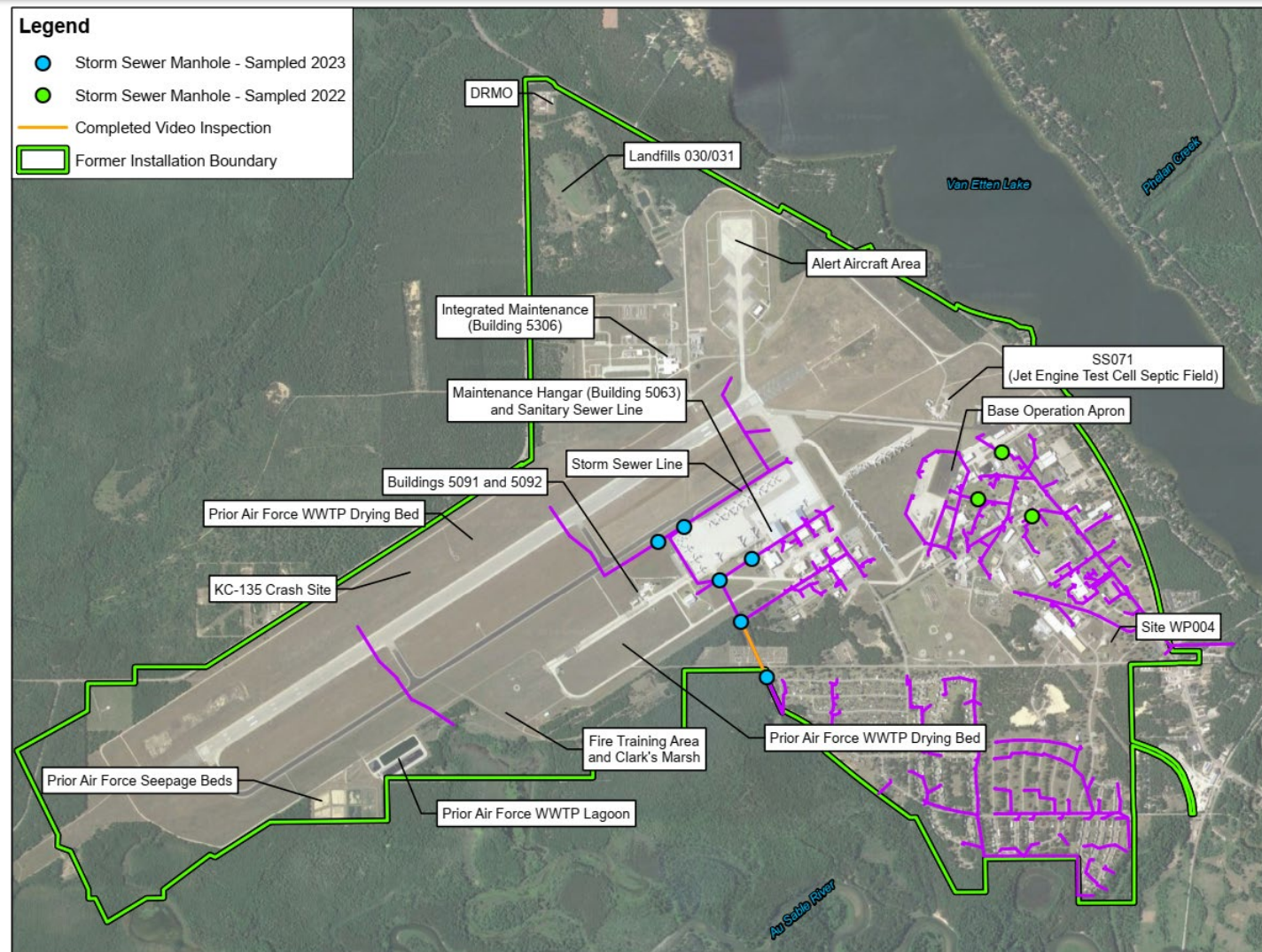


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Storm Sewer Sampling

- Eight manholes were sampled for PFAS
 - One event with no rain for 72 hours
 - One event within 24 hours of a significant ($>1/2$ inch) rain event
- Camera survey of storm drain

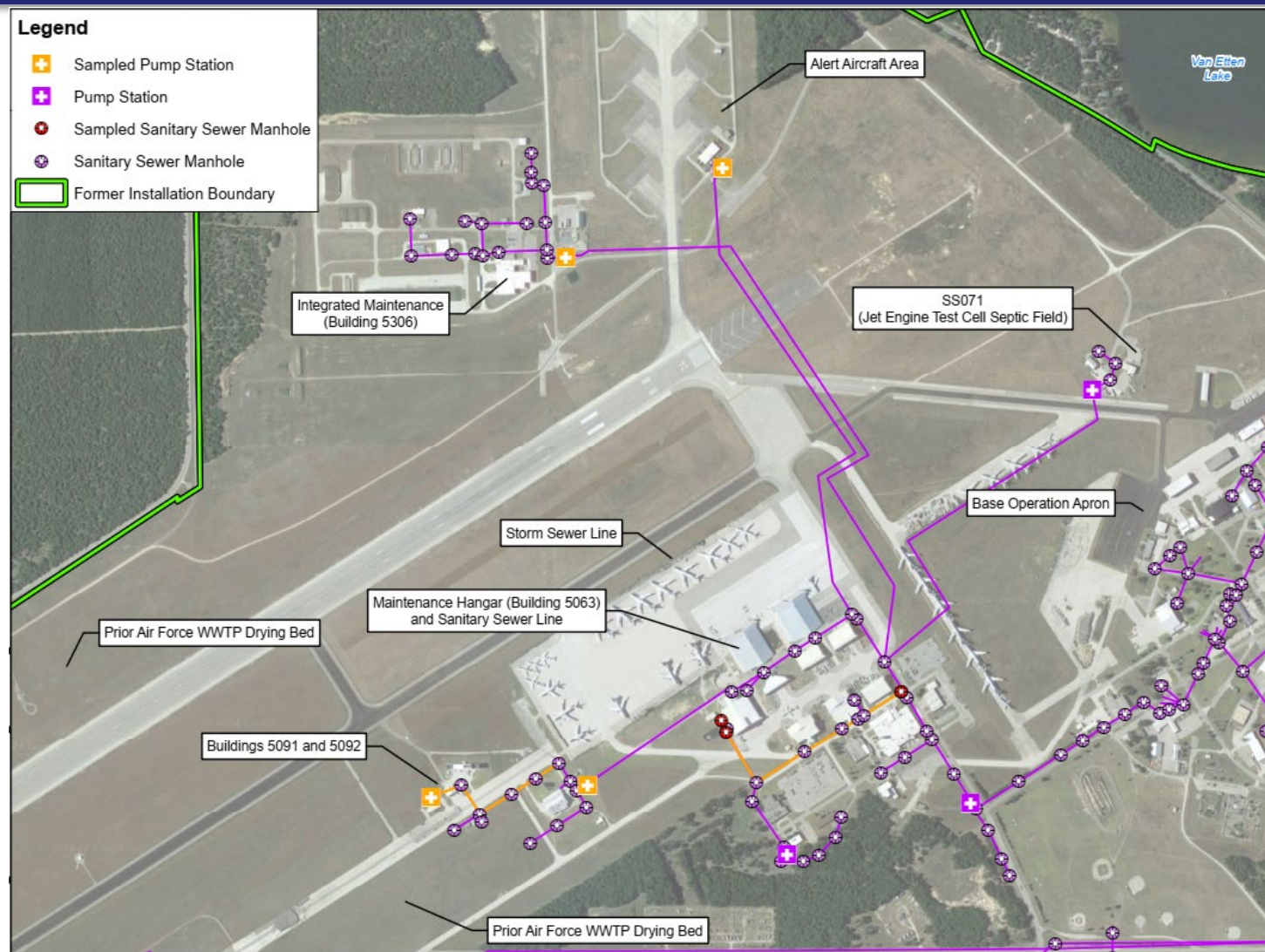


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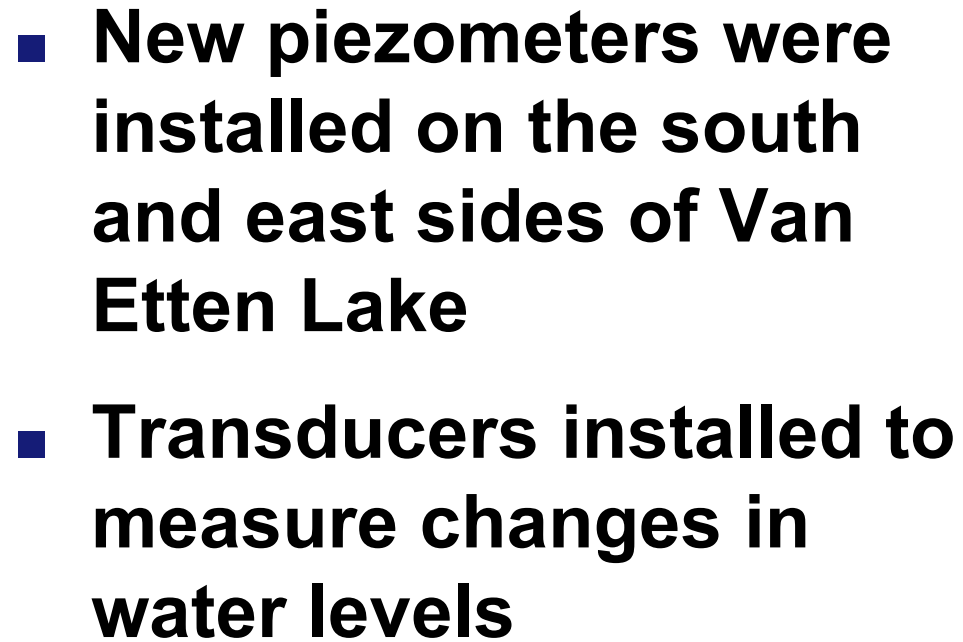


Sanitary Sewer Sampling

- Four pump stations and three manholes were sampled
- Camera survey of portions of the sewer



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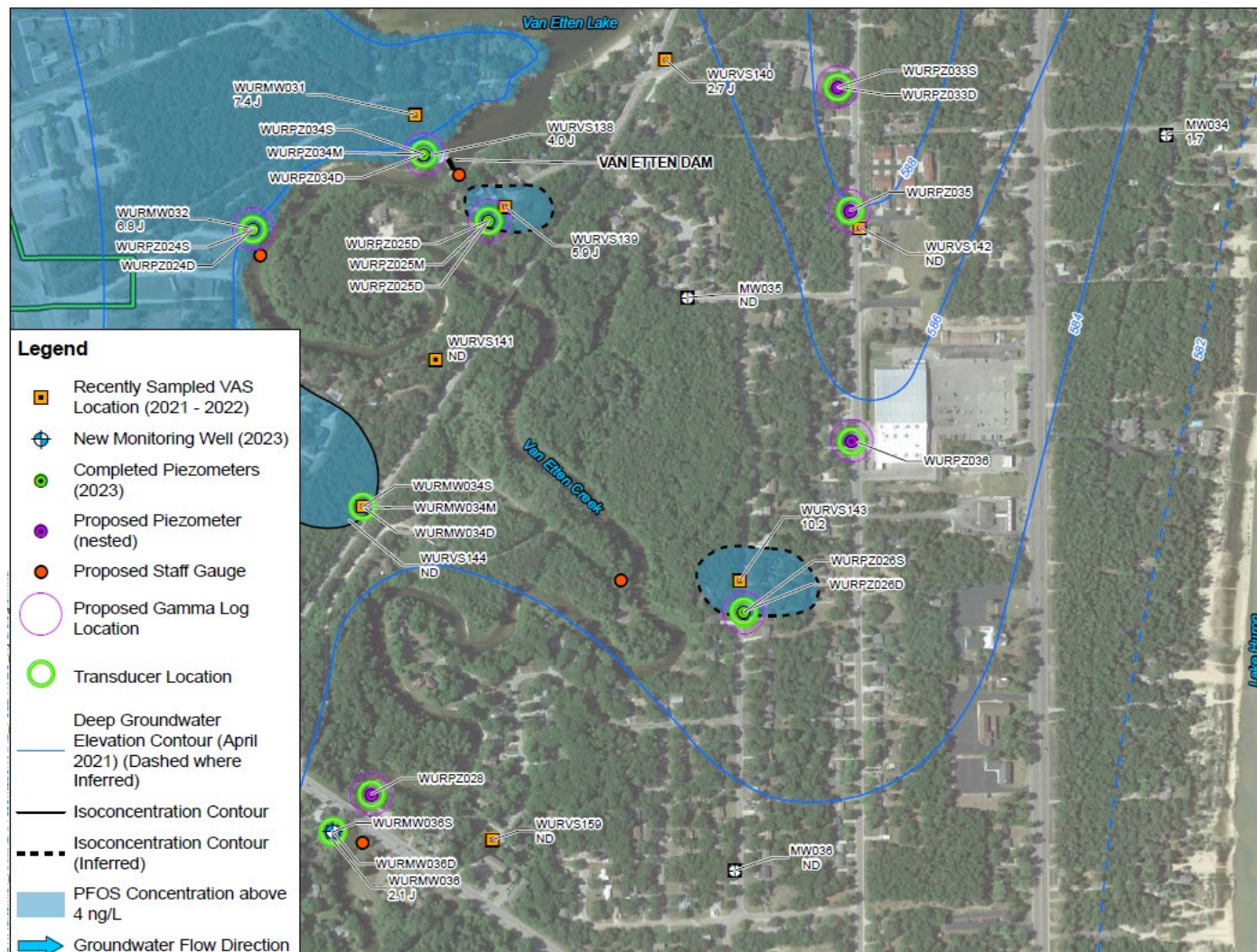




Van Etten Creek Hydrologic Study



- Piezometers and monitoring wells installed along the creek
- Water levels measured to determine head differences on both sides of the creek



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PFAS RI Update



■ Offsite Access

■ Letter campaign to verify the use of private drinking water wells

- 1,223 letters were mailed to downgradient property owners, including the east shore of Van Etten Lake
- We are evaluating responses to determine if anyone is still using their well for drinking water and if their well is located in an area that may be impacted by the PFAS plumes

■ Letter campaign for access to install and sample wells

- Access to two areas south of Van Etten Creek and Van Etten Lake are still pending



PFAS RI Update



■ **Ongoing Activities**

- **Transducer data will continue to be collected for the next 10 months**
- **The monitoring wells along the Au Sable River on Forest Service property have not yet been installed – weather-dependent**
- **Monitoring well sampling will be completed by the end of February 2024**
- **Analytical data are being evaluated and interpreted**
- **CSM is being updated with the latest data**
- **Human health and ecological risk assessments are underway**
- **Draft RI report will include the updated CSM and risk assessments – draft to the Air Force Summer 2024**

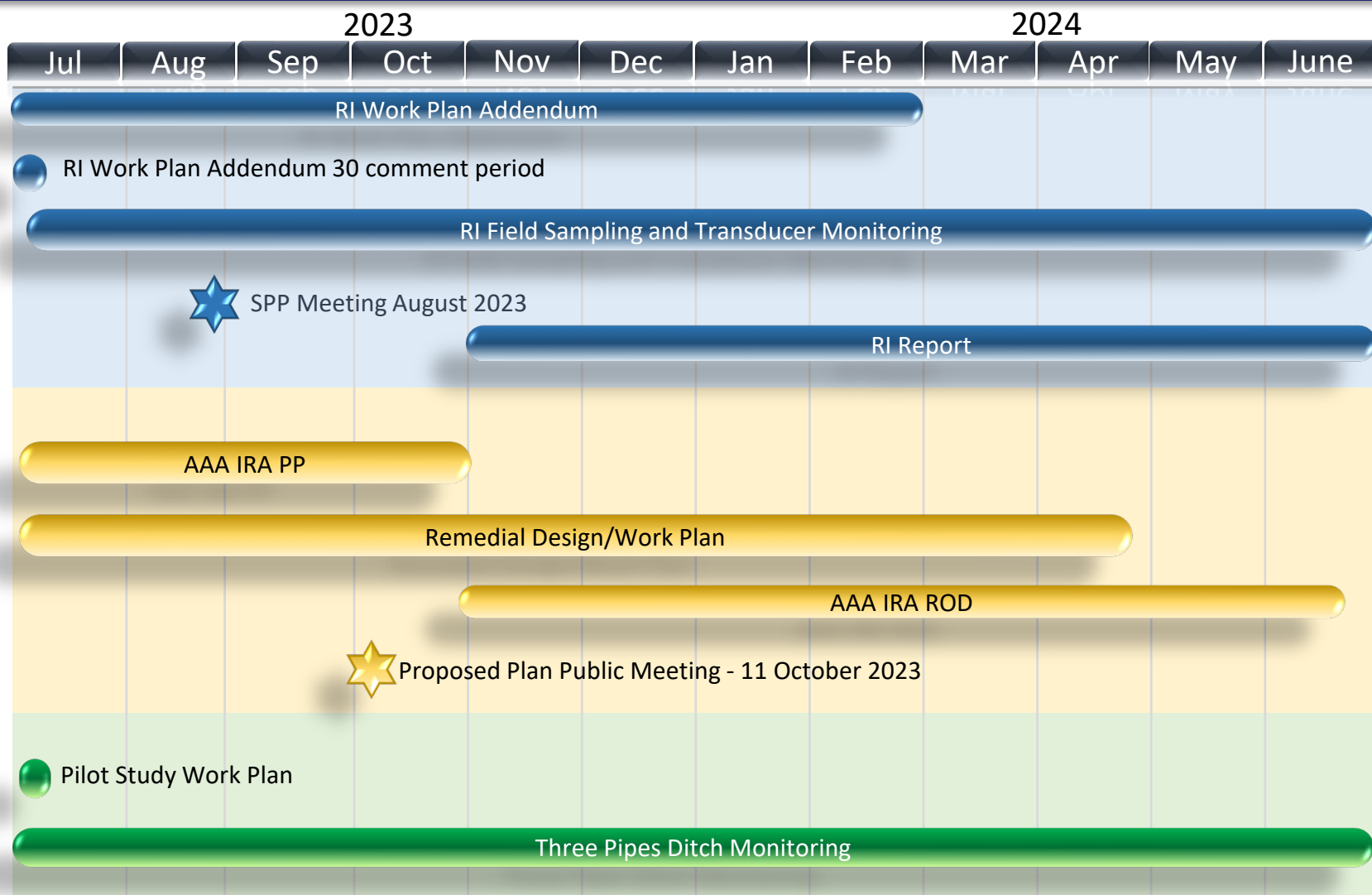


Alert Aircraft Area Update

- **Air Force reviewing draft interim record of decision (ROD) which includes a responsiveness summary**
- **New permanent monitoring well data is being evaluated**
- **Construction anticipated to start Summer 2024**



One Year Outlook

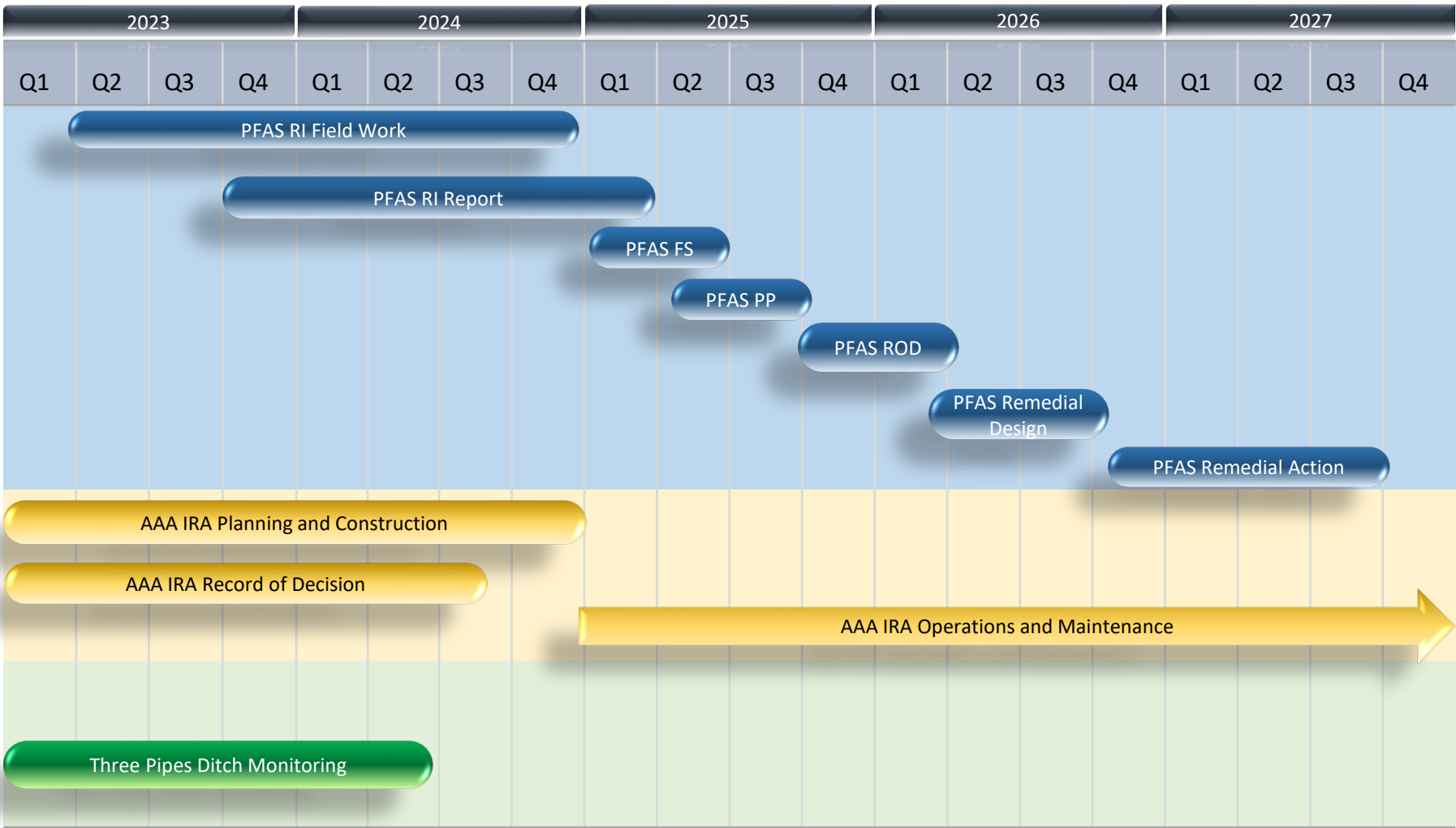


- = PFAS RI Activity
- = AAA IRA Activity
- = Pilot Study Activity

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Five Year Outlook



- = PFAS RI Activity
- = AAA IRA Activity
- = Pilot Study Activity

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Vapor Intrusion (VI) Remedial Investigation (RI) Addendum Update

**Former Wurtsmith Air Force Base
Oscoda, MI**

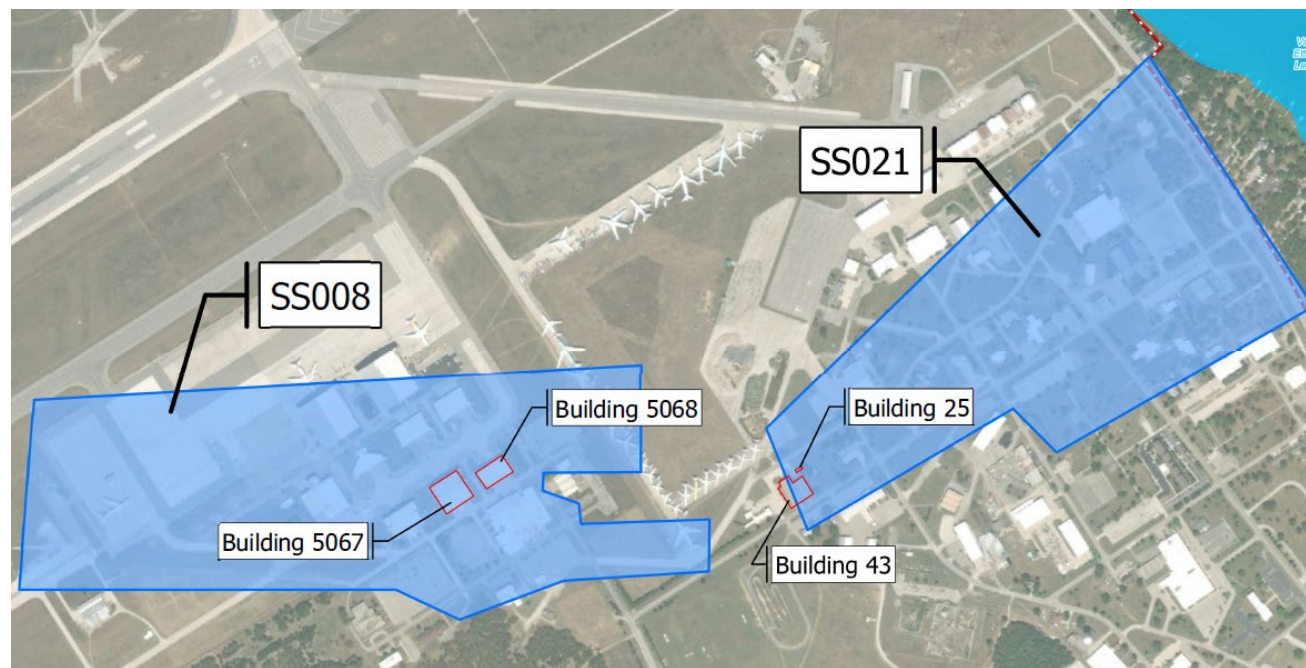
*Restoration Advisory Board (RAB) Meeting
21 February 2024*

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Update – Immediate Sampling Task, Q1 Event

- The Immediate Sampling Task is being performed prior to the overall VI RI activities
- During the Quarter 1 (Q1) August 2023 event, the following activities were completed at Site SS008 (Bldgs. 5067/5068) and Site SS021 (Bldgs. 25/43):
 - Interior Building Surveys (IBS)
 - Sub-Slab Vapor Pin (VP) installation as follows:
 - Building 25: 2 sub-slab VP locations
 - Building 43: 16 sub-slab VP locations
 - Building 5067: 23 sub-slab VP locations
 - Building 5068: 16 sub-slab VP locations



Legend

- Former Wurtsmith Air Force Base Installation Boundary
- Surface Water

- Requires Risk Assessment and additional soil vapor data collection
- Immediate Sampling Buildings

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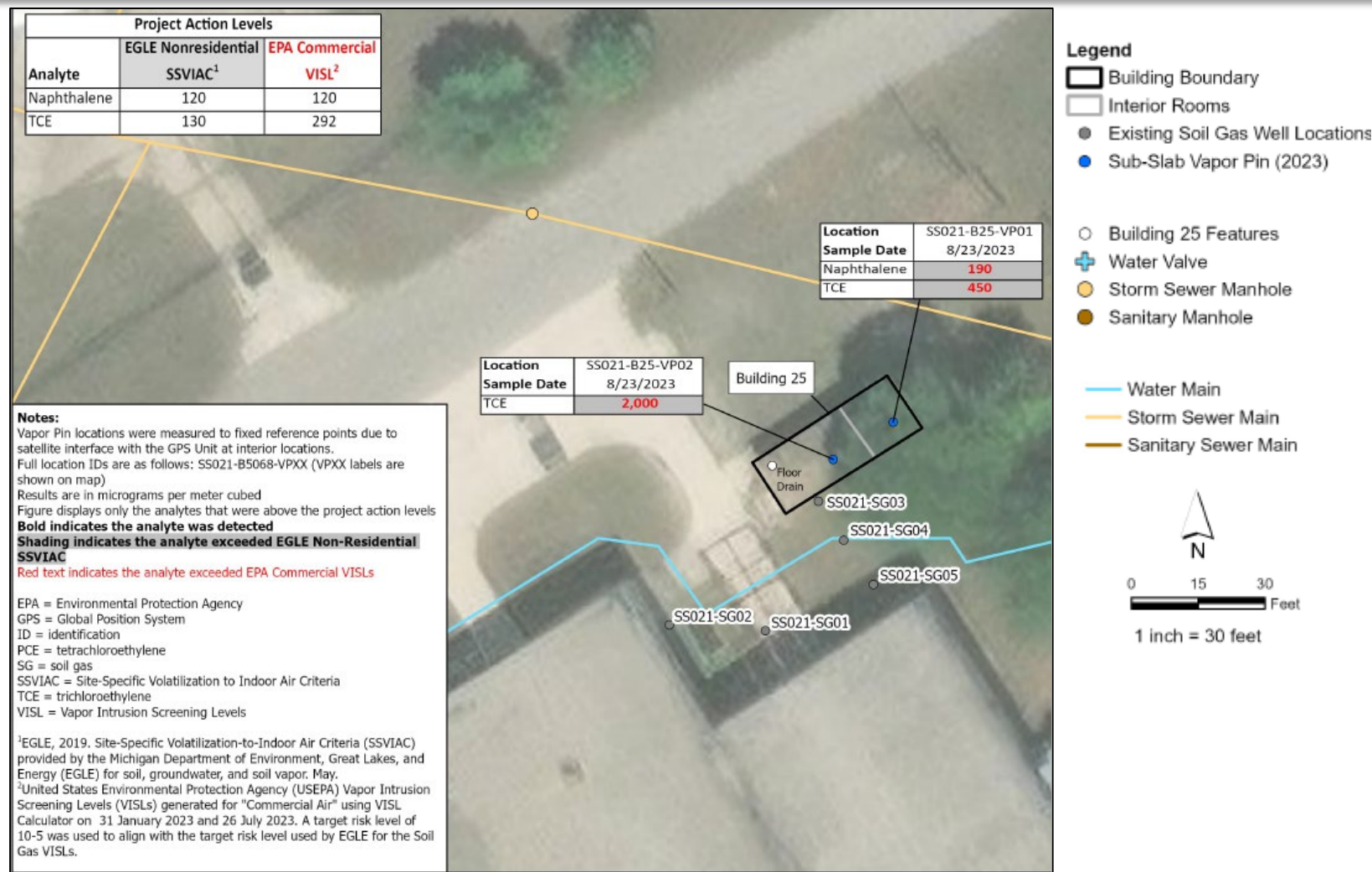
Update – Immediate Sampling Task, Q1 Event (Contd.)

- Samples were collected and analyzed for Volatile Organic Compounds (VOCs) utilizing United States Environmental Protection Agency (EPA) Method TO-15
- Sub-slab data was compared to the Project Action Levels (PALs):
 - Michigan Department of Environment, Great Lakes and Energy (EGLE) Site-Specific Volatilization to Indoor Air Criteria (SSVIAC):
 - Used primarily for delineation purposes as part of the RI
 - EPA Vapor Intrusion Screening Levels (VISLs):
 - Used primarily for long-term risk assessment purposes



SS021 - Bldg. 25 Sub-Slab Sampling and Results, Q1 Event

- Exceedances were identified in VP samples as follows:
 - Naphthalene was detected above the Project Action Limit (PAL; $120 \mu\text{g}/\text{m}^3$) at a concentration of $190 \mu\text{g}/\text{m}^3$ (SS021-B25-VP01)
 - Trichloroethylene (TCE) was detected above the PAL ($130 \mu\text{g}/\text{m}^3$) at concentrations of 450 and $2,000 \mu\text{g}/\text{m}^3$ (SS021-B25-VP01 and SS021-B25-VP02, respectively)



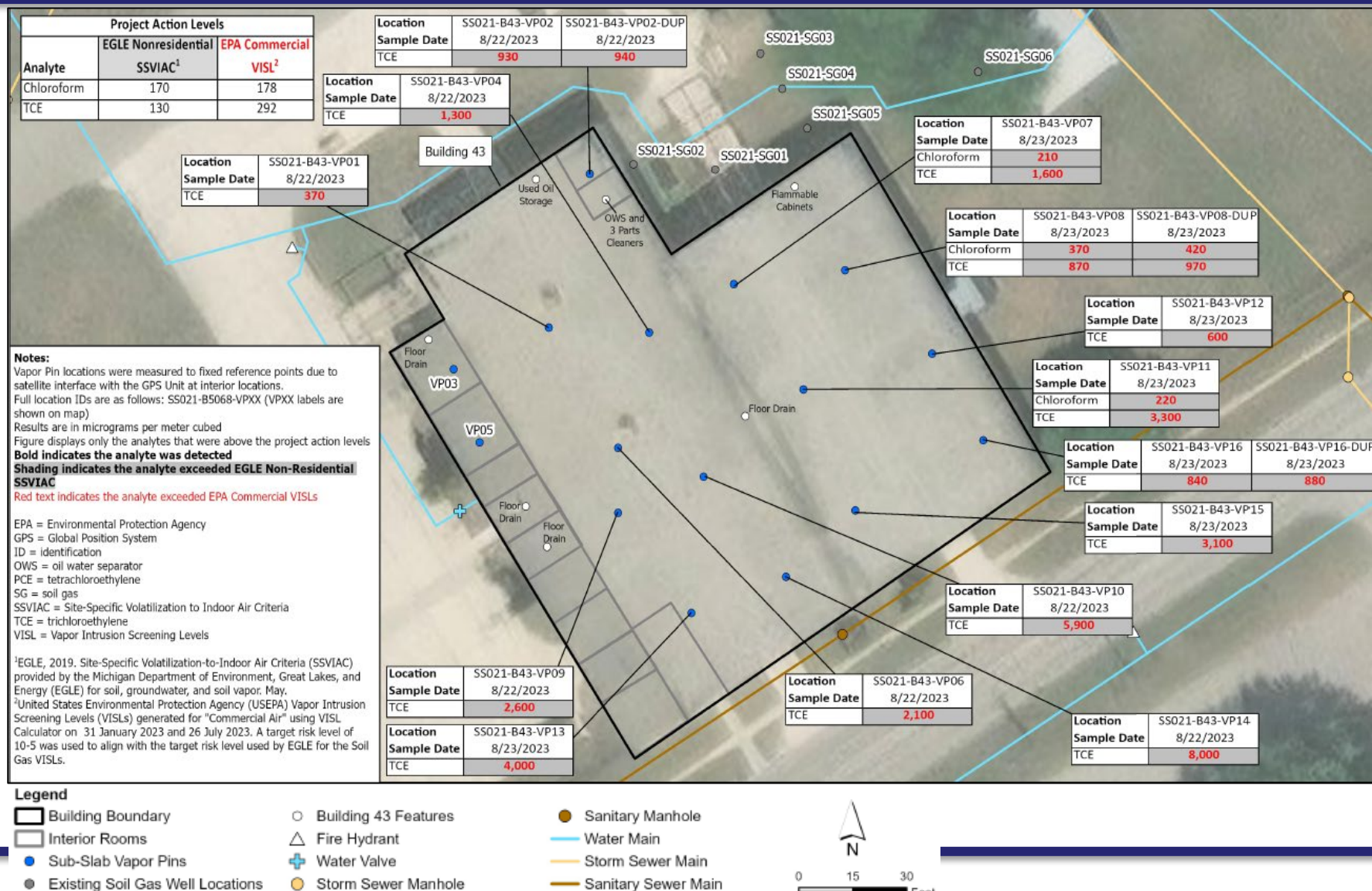
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SS021 - Bldg. 43 Sub-Slab Sampling and Results, Q1 Event

Exceedances were identified in VP samples as follows:

- Chloroform detected above PAL ($170 \mu\text{g}/\text{m}^3$) at three VPs (SS021-B43-VP07, -VP08, and -VP11) at concentrations ranging from 210 – $420 \mu\text{g}/\text{m}^3$
- TCE detected above PAL ($130 \mu\text{g}/\text{m}^3$) at all VP locations except two (SS021-B43-VP03 and -VP05) at concentrations ranging from 370 - $8,000 \mu\text{g}/\text{m}^3$





SS008 - Bldg. 5067 Sub-Slab Sampling and Results, Q1 Event

Exceedances were identified in VP samples as follows:

- Cis-1,2-Dichloroethylene (DCE) detected above PAL ($820 \mu\text{g}/\text{m}^3$) at two VPs (SS008-B5067-VP10 and -VP13) at a concentration of $1,300 \mu\text{g}/\text{m}^3$
- TCE detected above PAL ($130 \mu\text{g}/\text{m}^3$) at five VPs (SS008-B5067-VP08, -VP10, -VP11, -VP13, and -VP18) at concentrations ranging from $180 - 2,400 \mu\text{g}/\text{m}^3$

Project Action Levels		
Analyte	EGLE Nonresidential SSVIAC ¹	EPA Commercial VISL ²
cis-1,2-DCE	820	5,840
TCE	130	292

Notes:

Vapor Pin locations were measured to fixed reference points due to satellite interface with the GPS Unit at interior locations.
Full location IDs are as follows: SS008-B5068-VPXX (VPXX labels are shown on map)
Results are in micrograms per meter cubed
Figure displays only the analytes that were above the project action levels
Bold indicates the analyte was detected
Shading indicates the analyte exceeded EGLE Non-Residential SSVIAC
Red text indicates the analyte exceeded EPA Commercial VISLs

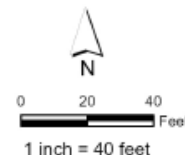
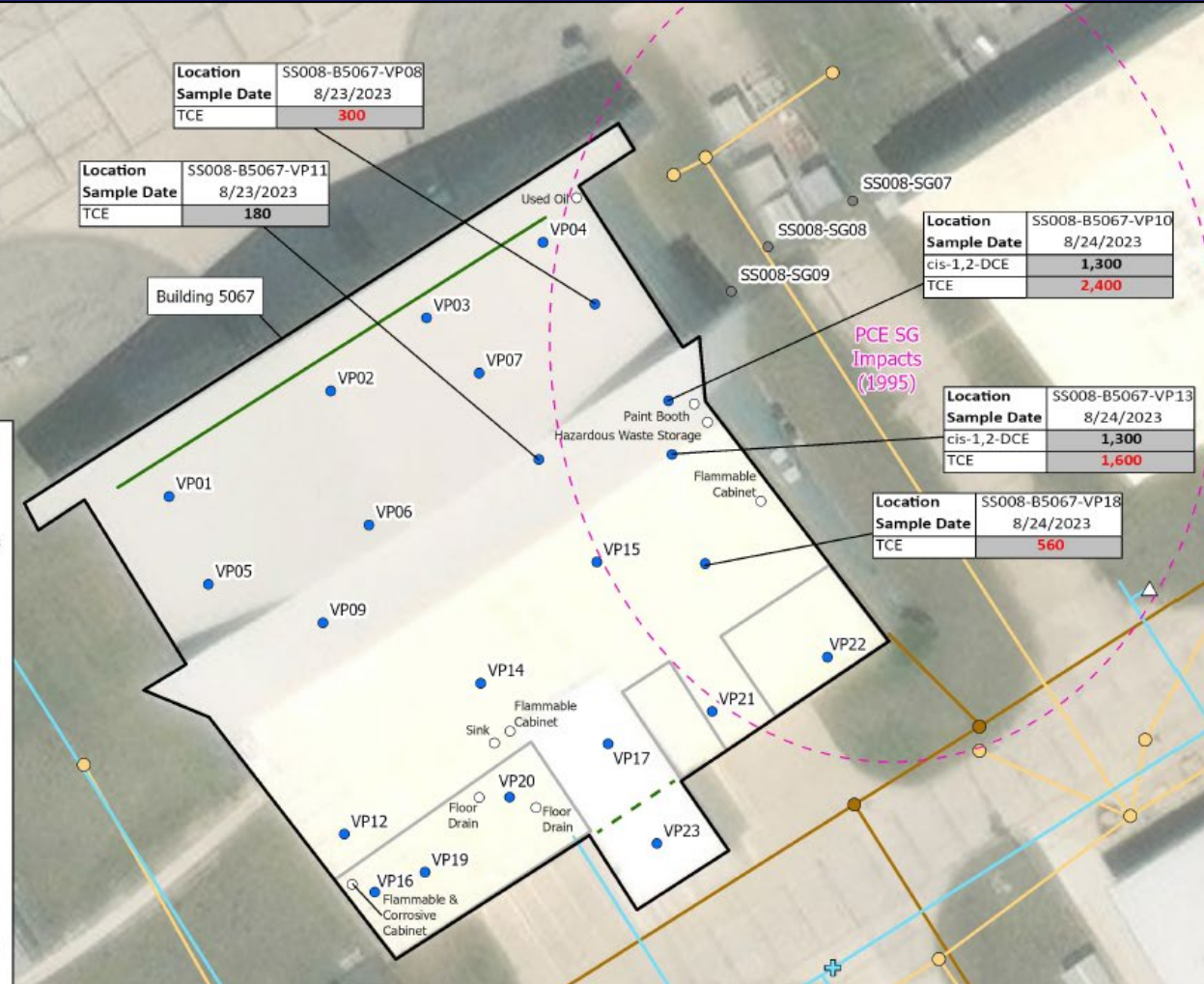
cis-1,2-DCE = cis-1,2-dichloroethene
EGLE = Michigan Department of Environment, Great Lakes, and Energy
EPA = Environmental Protection Agency
GPS = Global Position System
ID = identification
PCE = tetrachloroethylene
SSVIAC = Site-Specific Volatilization to Indoor Air Criteria
SG = soil gas
TCE = trichloroethylene
VISL = Vapor Intrusion Screening Levels

¹EGLE, 2019. Site-Specific Volatilization-to-Indoor Air Criteria (SSVIAC) provided by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for soil, groundwater, and soil vapor. May.

²United States Environmental Protection Agency (USEPA) Vapor Intrusion Screening Levels (VISLs) generated for "Commercial Air" using VISL Calculator on 31 January 2023 and 26 July 2023. A target risk level of 10-5 was used to align with the target risk level used by EGLE for the Soil Gas VISLs.

Legend

Building Boundary	Building 5067 Features	Trench Drain
Interior Rooms	Fire Hydrant	Utility Trench
PCE SG Impacts (1995)	Water Valve	Water Main
Existing Soil Gas Well Locations	Storm Sewer Manhole	Storm Sewer Main
Sub-Slab Vapor Pin (2023)	Sanitary Manhole	Sanitary Sewer Main





SS008 - Bldg. 5068 Sub-Slab Sampling and Results, Q1 Event

- No exceedances were identified in the VP samples at Building 5068



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Update – Immediate Sampling Task, Q2 Event

- During the Quarter 2 (Q2) January 2024 event, the following activities were completed at Site SS008 (Bldgs. 5067/5068) and Site SS021 (Bldgs. 25/43):
 - Updated IBS
 - Re-sampled all Sub-Slab VPs for VOC analysis:
 - Building 25: 2 sub-slab VP locations
 - Building 43: 16 sub-slab VP locations
 - Building 5067: 23 sub-slab VP locations
 - Building 5068: 16 sub-slab VP locations
 - Collected Indoor Air Quality (IAQ) samples for VOC analysis, as follows:
 - Building 25: 1 IAQ sample
 - Building 43: 4 IAQ samples
 - Building 5067: 5 IAQ samples
 - Collected four Outdoor Air Quality (OAQ) samples for VOC analysis (1 upwind and 1 downwind of Building 25/43, and 1 upwind and 1 downwind of Building 5067)

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Update – Immediate Sampling Task, Q2 Event (contd.)

- IAQ/OAQ samples were collected over an approximately 8-hour duration in accordance with the Approved Work Plan and EPA and EGLE Guidance
- A rush (two-day) turn around time (TAT) for the IAQ/OAQ samples was requested from the analytical laboratory
 - IAQ/OAQ data is draft/preliminary and has not been validated but has been evaluated to determine the need for immediate response actions
 - The draft/preliminary data has discussed with the Airport Authority and tenants, EGLE, and MDHHS
 - Building 25 used for records storage will be closed for use until additional data is collected
- Sub-slab VP samples were analyzed under a standard TAT; the data has not yet been received from the laboratory
- Once all of the data is received from the laboratory and validated, the data will be shared with Stakeholders

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Recommendations/Next Steps



- Prepare and submit Summary Report for Q2 Data (once received/validated)
- Complete Q3 sampling event in April 2024:
 - Resample all sub-slab VPs at the four buildings
 - Continue IAQ/OAQ sampling at Buildings 25, 43, and 5068
- Q4 event will be completed in July 2024

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Update – Overall VI RI Addendum



- In addition to the Immediate Sampling Task, the Overall VI RI is in progress
 - Uniform Federal Policy (UFP)-Quality Assurance Project Plan (QAPP) was finalized in early February
 - Upcoming VI RI Addendum Field Activities:
 - Phase 1 - Passive Soil Gas (PSG) Sampling planned for Spring 2024



Overview of VI RI Addendum Project Timeline



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RAB

Member

Questions

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Public Comment Period



Guidelines

- 01** | **Indicate you want to make a comment (follow guidance)**
- 02** | **Wait until the facilitator states you can start your comment**
- 03** | **Three minute time limit**
- 04** | **RAB members will confer after your comment to see if a follow-up action is needed**

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Public Comments

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Conclusion and Adjournment

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