

Air Force Installation & Mission Support Center



Restoration Advisory Board Meeting Former Wurtsmith Air Force Base

May 20, 2026

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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 ask a question or provide a comment
- 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 wendi.michael@wsp.com



Overall Agenda



- **Welcome**
- **Rules of Engagement**
- **RAB business**
- **RAB member updates**
- **RAB member questions**
- **Public comment period**
- **Closing remarks**
- **Adjournment**

(Note: acronym list provided in backup slides)



RAB Business

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RAB Member Updates

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RAB Member Updates



- **Community**
- **Charter Township of AuSable**
- **Charter Township of Oscoda**
- **Oscoda-Wurtsmith Airport Authority (OWA)**
- **US Forestry Service (USFS)**
- **Michigan Environment, Great Lakes, and Energy (EGLE)**
- **Michigan Dept Health & Human Services (MDHHS)**
- **Michigan District Health Department #2 (DHD2)**
- **Air Force (DAF)**



DAF Update

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DAF Update

Former Wurtsmith AFB

**David Iacovone
AFCEC/CZRC
May 20, 2026**

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Agenda



- **Technical Working Group (TWG)**
- **PFAS Early Actions**
- **PFAS Remedial Investigation (RI) Data Gap Investigation (DGI)**
- **Military Munitions Response Program (MMRP)**
- **Legacy Contaminants**
- **Questions**



Technical Working Group

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Technical Working Group (TWG)



- **Purpose: Provide scientific and engineering input to DAF throughout the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.**

■ TWG Members

- Chair – Kate Need (AFCEC)
- Community – Mark Henry, Kyle Jones
- EGLE – Kyle Jump, Matt Baltusis
- AFCEC – Sameer Chandra, David Iacovone
- Township – Rick Freeman

■ Meeting schedule

- Mar 31 – Groundwater flow/pathways southeast of Van Etten Lake
- Apr 22 – TWG Business Rules, Existing groundwater wells to sample
- Apr 30 – Existing groundwater wells to sample (cont.)
- May 21 – DRMO and LF030/LF031 interim response action pre-design investigation (PDI) data evaluation

AFCEC -Air Force Civil Engineer Center, DRMO –Defense Reutilization and Marketing Office, LF -Landfill

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PFAS Early Actions

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PFAS Early Actions



Early Action	Date Complete or System Operational	Volume Treated / PFAS Mass Removed (through Dec 2025)
Alternative Water Supply action	2016 (fully complete)	--
FT002 Soil removal TCRA	2021 (fully complete)	24,780 ton / 72.50 lb
FT002 at Clark's Marsh Pump & Treatment System IRA	2015 (extended in 2022) – present	1.5B gal / 59.21 lb
VEL at Ken Ratliff Park IRA (CTS2)	2022 – present	832M gal / 14.23 lb
Central Treatment System 1 (CTS1) TCRA	2018 – present	816M gal / 6.71 lb
Mission (MPTS) NTCRA	2019 – present	561M gal / 4.07 lb
Alert Aircraft Apron (AAA) IRA	2024 – present	128M gal / 0.52 lb
DRMO IRA	Nov 2025 – pre-design sampling completed. Topic for May TWG review & input for next steps	TBD
LF030/031 IRA		
Three Pipes Source Area (TPSA) IRA	Sep 2025 – Awarded	TBD
Wastewater Treatment Plant (WWTP) IRA	Sep 2025 – Awarded	TBD
Three Pipes Stormwater NTCRA	2026 ESA: EE/CA public comment closed May 15; pending action memo	TBD

\$88.9M invested; 3.8 billion gallons treated; 157 lbs PFAS removed



FT002 at Clark's Marsh IRA and VEL at Ken Ratliff Memorial Park IRA



- **FT002 and VEL at Ken Ratliff Memorial Park Treatment Systems**
 - Operating as designed; average uptime over 99%
 - Effluent sampling results are below discharge limits

- **Interim Response Action (IRA) Performance Monitoring**
 - Draft 2025 Fall Performance Monitoring Technical Memorandum received Apr 27, 2026; under review
 - 2026 Spring Performance Monitoring event completed Mar 9-20, 2026
 - DAF receipt of the Spring Performance Monitoring Technical Memorandum est. Aug 2026
 - 2026 Fall performance monitoring event scheduled Sep 2026

- **Hydraulic Assessment**
 - Purpose: Confirm hydraulic property assumptions in model and optimize the groundwater capture effectiveness
 - Draft Hydraulic Assessment Report due to DAF in May 2026 (shift from Feb 2026 estimate due optimizing the data modeling)

DAF undertaking efforts to optimize performance



Central Treatment System 1 TCRA and Mission Pump & Treat System NTCRA



- No significant update/changes from Feb 2026 RAB
- Continue to operate as designed; average uptime over 99%
- Effluent sampling results continue to be below discharge limits
- Granular activated carbon and ion-exchange resin continue to be replaced as needed based on operational data



Mission Pump and Treatment System



Central Treatment System 1

Treatment systems continue to be effective for removal of PFAS



Alert Aircraft Area IRA



- **Continued operation/maintenance of the groundwater pump and treat system**
 - Monthly samples collected for PFAS analysis
 - 100% of effluent samples met discharge criteria
- **Quarterly sampling**
 - Year 1, quarter 4 - Feb 2026
 - Year 2, quarter 1 - May 2026
- **IRA Construction Completion Report**
 - Will include 4 quarters of sampling and analysis of hydraulic data collected through Feb 2026
 - Anticipated DAF receipt of draft report is May 2026



Groundwater monitoring wells in winter



DRMO and LF030/031 IRAs



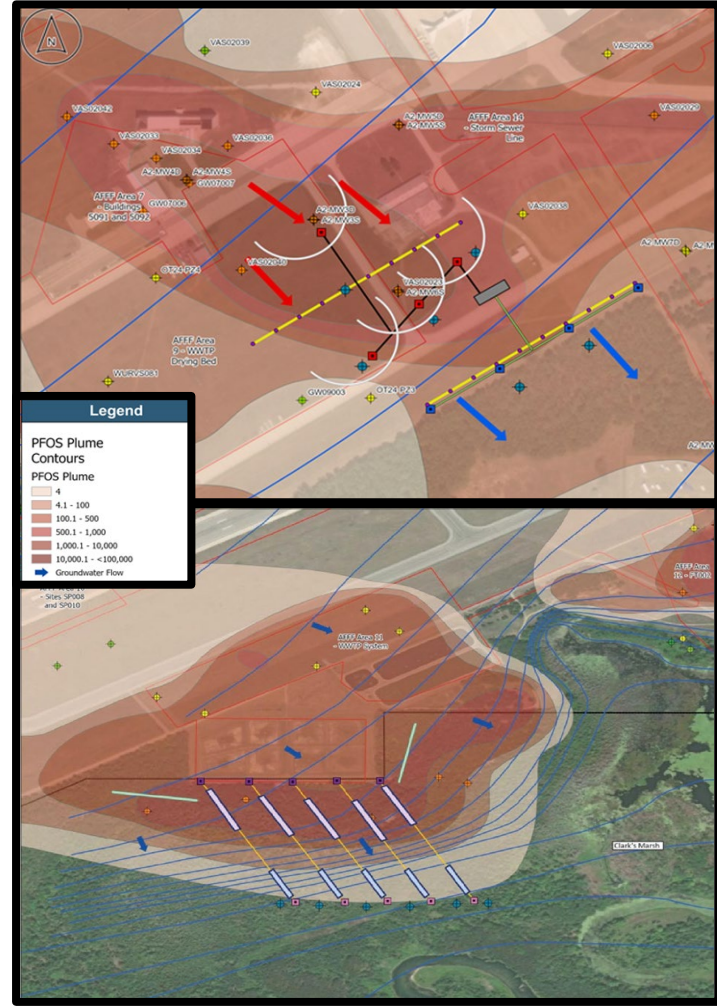
- **Pre-design data collection to optimize potential IRA(s) location and design**
 - **Evaluated data collected from vertical aquifer samples and hydraulic profiling**
 - **Pre-design data to be discussed with TWG May 21, 2026**
 - Includes both on- and off-site
 - Groundwater samples analyzed for PFAS, iron, and manganese
 - **Greensand Pilot Study Technical Memorandum**
 - Study: Analyze influent groundwater to determine removal efficiency of inorganics and potential chlorine load rates to prevent biofouling
 - Based on results, determine if greensand is appropriate as pre-treatment for iron and manganese
 - Comment adjudication and revisions underway



Three Pipes Ditch Source Area and Wastewater Treatment Plant Area IRAs



- No significant update/changes from Feb 2026 RAB
- Purpose: Remove highest concentrations of PFAS from groundwater in source areas and mitigate off-site migration into the Au Sable River
 - Award: Sep 17, 2025
 - Duration: 4 years
 - Field work: Summer 2026 (anticipated)
 - Scope includes treatability studies, pilot tests, and bench-scale tests to optimize the design and effectiveness



Three Pipes Ditch Source Area

IRA: groundwater pumping with foam fractionation and reinjection

Wastewater Treatment Plant Area

IRA: Slurry wall and horizontal reactive treatment (HRX) wells



Three Pipes Ditch Source Area and Wastewater Treatment Plant Area IRAs



■ Draft Quality Program Plan (QPP) includes:

- Sampling and Analysis Plan in UFP-QAPP / Field Sampling Plan
- Project-Specific Investigation-Derived Waste Management Plan
- Treatability Study work plans for each IRA
- Draft QAPP under revision

■ Clark's Marsh Wildlife Area:

- Working with local, state, and federal officials to evaluate potential impacts to Clark's Marsh due to installation of IRAs
- Completed a WWTP Wetlands Site Walk with U.S. Department of Forestry - Feb 2026
- Submitted Final Wastewater Treatment Plant Wetland Delineation Report - Mar 2026



Three Pipes Stormwater NTCRA



- **Purpose: Prevent infiltration of PFAS impacted groundwater into storm water infrastructure**
- **Engineering Evaluation and Cost Analysis (EE/CA), AR# 651057, is underway**
 - **Required by CERCLA for NTCRAs prior to implementing an action**
 - **30-day regulatory and public comment period April 15 – May 15, 2026**
 - **Action memo will respond to substantial EE/CA comments and document DAF's decision; will be routed for signatures July 2026 (shifted since what was previously presented did not account for 30-day comment period and responsiveness summary)**
- **Environmental Services Agreement (ESA) between DAF and Oscoda Township**
 - **Oscoda Township will complete repair with DAF funding**
 - **Board approved in Jan 2026**
 - **DAF signature contingent upon EE/CA & action memo completion**



PFAS RI Data Gaps Investigation

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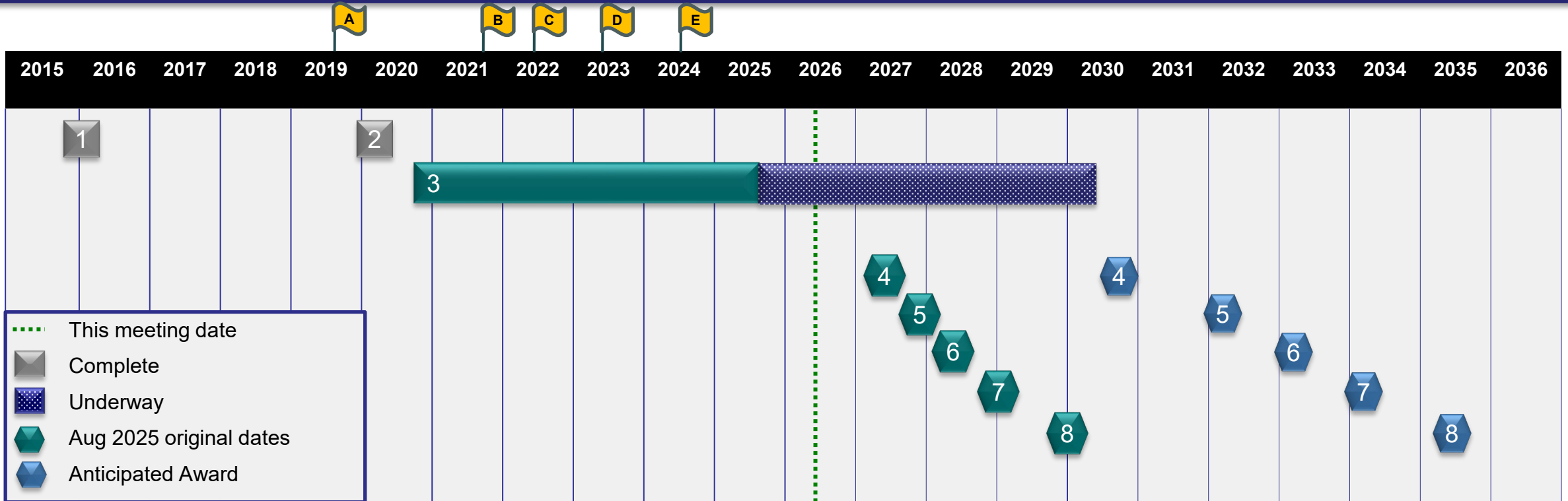
PFAS RI Data Gap Investigation



- **Purpose: Complete delineation of PFAS impacts**
 - **Awarded Sep 17, 2025**
 - **Duration: 5 years**
 - **Field work: Fall 2026 (anticipated)**
- **Uniform Federal Program-Quality Assurance Project Plan (UFP-QAPP) Addendum**
 - **Incorporates the latest DoD guidance for screening criteria (Jan 2025)**
 - **DAF receipt anticipated 45 days after TWG finishes DGI discussions**
 - **Will solicit input from the TWG**



PFAS Progress Current Status and Forecasted Phases



CERCLA Phases

1. Preliminary Assessment (completed Jan 2016)
2. Site Inspection (Oct 2018; Apr 2020)
 - a. Expanded SI (completed Apr 2020)
3. Remedial Investigation
4. Feasibility Study
5. Proposed Plan
6. Record of Decision
7. Remedial Design
8. Remedial Action Construction

Screening Level Milestones

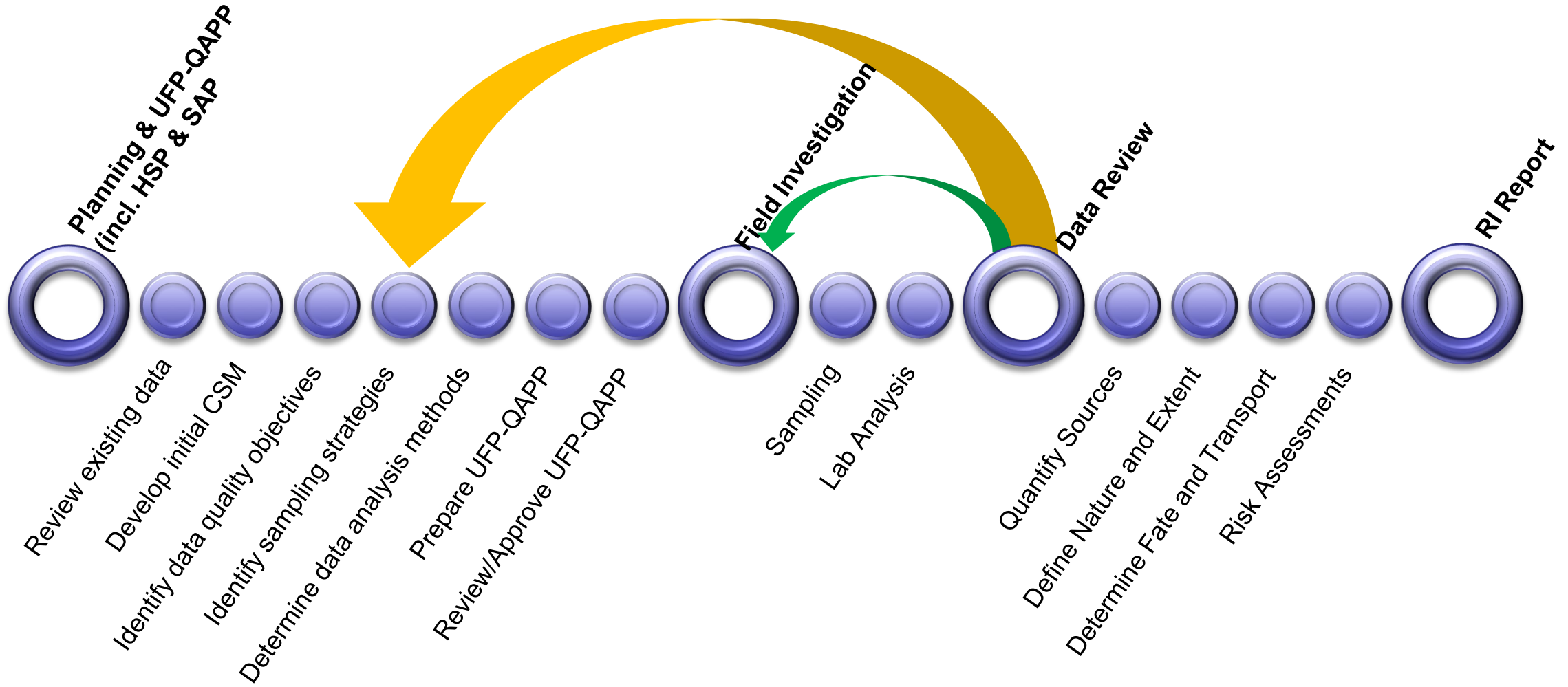
- A. DoW policy on Investigating PFAS: screening levels (SLs) for PFOS, PFOA, PFBS
- B. DoW policy update: new SL for PFBS
- C. DoW policy update: SLs for PFOS, PFOA, PFNA, PFHxS, and HFPO-DA
- D. DoW policy update: add SLs for PFBA and PFHxA
- E. DoW policy update: add SLs for TFSI, PFPrA, and PFDA

Date change rationale:

- #3 end date moved out due to changes in RSLs (both levels and additional PFAS compounds) necessitating a data gaps investigation
- #4-8 moved out since dependent on completion of #3
- #4-8 duration increased to reflect greater site complexity



RI Process



*Actions that take place after a contract has been awarded

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Military Munitions Response Program

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Military Munitions Response Program



- No significant update/changes from Feb 2026 RAB
- RI for 2 MMRP sites
 - OT049 – Demolition and Burn Facility (6.5 acres)
 - XU402 – Grenade Launch Area Munition Response Site (20.0 acres)



Work team mobilized to the site Oct 2, 2025, to begin clearing activities

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Military Munitions Response Program



- **Purpose: Determine nature and extent of munitions related materials and conduct removal**
 - **Award: Aug 2022**
 - **Duration: 5 years**
 - **Scope: Includes survey for 26.5-acres and artifact removal**

- **2026 Field Work:**
 - **Spring mobilization to complete removal of subsurface artifacts**
 - **Digital Geophysical Mapping (DGM) Data Collection**
 - **Intrusive Investigation, Material Potentially Presenting an Explosive Hazard (MPPEH) Inspection and MEC Demolition**

Clearance of former munitions areas provides protectiveness



Legacy Contaminants

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Legacy Contaminants



■ Vapor intrusion (VI) RI

- **Purpose: Determine potential impacts of volatile chemicals migrating from contaminated soil/groundwater**
 - Award: Sep 2022
 - Duration: 5 years
 - Scope: Passive soil gas sampling and flux meters at multiple locations

- **2026 Field Work (phase 3)**
 - Completed Vapor Pin (VP) installation activities at the original sites
 - Preparation and coordination for exterior soil gas (SG) well installation activities at the original sites and contract modification sites, as well as VP installation activities at the contract modification sites.

- **Documents**
 - DAF received the YMCA Phase 1 Passive Soil Gas Data in Jan 2026
 - UFP-QAPP Addendum 5 for Phase 3 activities at the contract modifications sites (location updates only)



Legacy Contaminants



■ Extraction Well Maintenance Program

- **Extraction well maintenance performed across multiple well fields Mar 18-20, 2026**
 - Extraction wells were targeted to maintain pumping rates
 - Ongoing well work expected to take place as needed in summer of 2026

■ Annual Long Term Management (LTM) Remedial Action-Operation (RA-O)

- Includes groundwater samples and extractions wells at 11 IRP sites
- DAF receipt of 2025 LTM/RA-O report in May 2026
- Next groundwater sampling and gauging event scheduled for Sep 2026

■ Annual Land Use Control (LUC) inspection

- DAF receipt of 2025 annual report in Mar 2026, under review (receipt shifted 1 month due to additional contractor internal quality checks)
- Next LUC inspection scheduled Dec 2026



Next RAB

Aug 26, 2026

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Supplemental Information

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Acronyms



AAA	Alert Aircraft Area	NMRD	non-munitions related debris
ACM	asbestos containing material	O&M	operation and maintenance
AFB	Air Force Base	PFAS	per- and poly fluoroalkyl substances
AFCEC	Air Force Civil Engineer Center	PFM	passive flux meter
BECOS	BRAC Environmental Construction Optimization Services	PLS	professional land surveyor
BRAC	Base Realignment and Closure	PP	Proposed Plan
CTI	CTI and Associates	PSG	passive soil gas
CZOM	Environmental Operation Midwest	PTS	pump and treat system
DGI	Data Gap Investigation	QA	quality assurance
DGM	digital geophysical mapping	QAPP	Quality Assurance Project Plan
DRMO	Defense Reutilization and Marketing Office	QC	quality control
FS	Feasibility Study	RAB	Restoration Advisory Board
HRX	horizontal reactive treatment	RA-O	Remedial Action Operation
HUA	high use area	RI	Remedial Investigation
IRA	Interim Remedial Action	ROD	Record of Decision
IRP	Installation Restoration Program	SL	screening level
JV	joint venture	TPSA	Three Pipes Ditch Source Area
LATA	Los Alamos Technical Associates	TWG	Technical Working Group
LF	landfill	UFP	Uniform Federal Policy
LUC	land use control	USACE	United States Army Corps of Engineers
MEC	munitions of explosive concern	VAS	vertical aquifer sampling
MMRP	Military Munitions Response Program	VEL	Van Etten Lake
MPPEH	materials presenting potential explosive hazard	VI	vapor intrusion
MRS	Munitions Response Site	WWTP	wastewater treatment plant



Glossary



- **Passive soil gas (PSG) sampler** a device, often a sealed vial with absorbent material, placed in the ground to collect soil vapors over time (days to weeks) without pumping, using natural pressure gradients to capture volatile chemicals migrating from contaminated soil/groundwater
- **Passive flux meter (PFM)** for vapor intrusion is a device, usually a nylon tube with sorbents, placed in the ground (well screen or borehole) that passively collects contaminants and tracers from soil gas or groundwater over time to measure the rate (flux) of contaminants movement.
- **Vapor Pin (VP)** is a specialized sampling device used primarily in vapor intrusion assessments to collect soil gas/vapor beneath building floors or other hard surfaces.



Resources



- DoW policies on PFAS can be found on the PFAS Task Force website <https://www.acq.osd.mil/eie/eer/ecc/pfas/tf/policies.html>
 - *Investigating Per- and Polyfluoroalkyl Substances within the Department of Defense Cleanup Program, Jan 17, 2025*
- Administrative Record - <https://ar.cce.af.mil/>
- RAB Website - <https://www.afcec.af.mil/What-We-Do/BRAC/Restoration-Advisory-Boards/>



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RAB Member Questions

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Public Comment Period

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RAB Co-Chairs' Closing Remarks

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