

Air Force Civil Engineer Center



Fire Training Area-1 Explanation of Significant Differences

Joint Base Cape Cod
Public Hearing
27 May 2026



Overview



- Public Comment Period
- Ashumet Valley (Legacy) Remedy Review
- Ashumet Valley/Fire Training Area-1 (FTA-1) Per- and Polyfluoroalkyl Substances (PFAS)
 - Source
 - CERCLA Actions to Date
- Proposed FTA-1 PFAS Groundwater Interim Remedial Action
- Questions/Comments

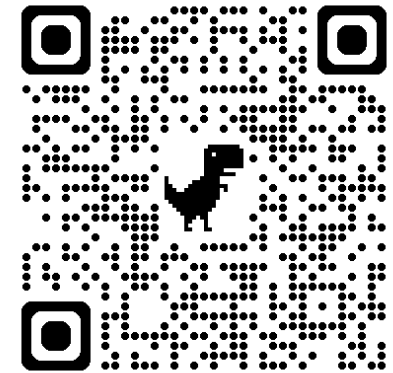


FTA-1 PFAS Explanation of Significant Differences (ESD) Public Comment Period



- Public Comment Period (May 22 – June 20, 2026)
- A copy of the Draft FTA-1 ESD has been provided to the main libraries of Falmouth, Mashpee, Sandwich and Bourne and is available online at the following link:

<https://jbcc-iagwsp.org/community/public/irp/>



- Submit comments by June 20, 2026, to: Douglas Karson at: douglas.karson@us.af.mil or Douglas Karson, AFCEC/JBCC, 199 Falmouth-Sandwich Road, Mashpee, MA 02649.



Ashumet Valley (Legacy) Remedy



- Ashumet Valley (AV) Plume
 - Contaminants of Concern (COCs)
 - Volatile Organic Compounds (VOCs): tetrachloroethylene (PCE) and trichloroethylene (TCE)
 - manganese, thallium
 - AV plume caused by discharges from Fire Training Area-1 (FTA-1) and former wastewater treatment plant (WWTP) operations/disposal
 - FTA-1 shut down in 1985; WWTP shut down in 1995
 - Contaminated soil has been removed or treated; no on-going VOC sources. PFAS was not treated and is still a source.
 - AV Treatment System started in 1999
 - Removed over 373 lbs of VOCs from groundwater
 - Shut down in 2022 – will be re-started for PFAS



Ashumet Valley (AV) Groundwater

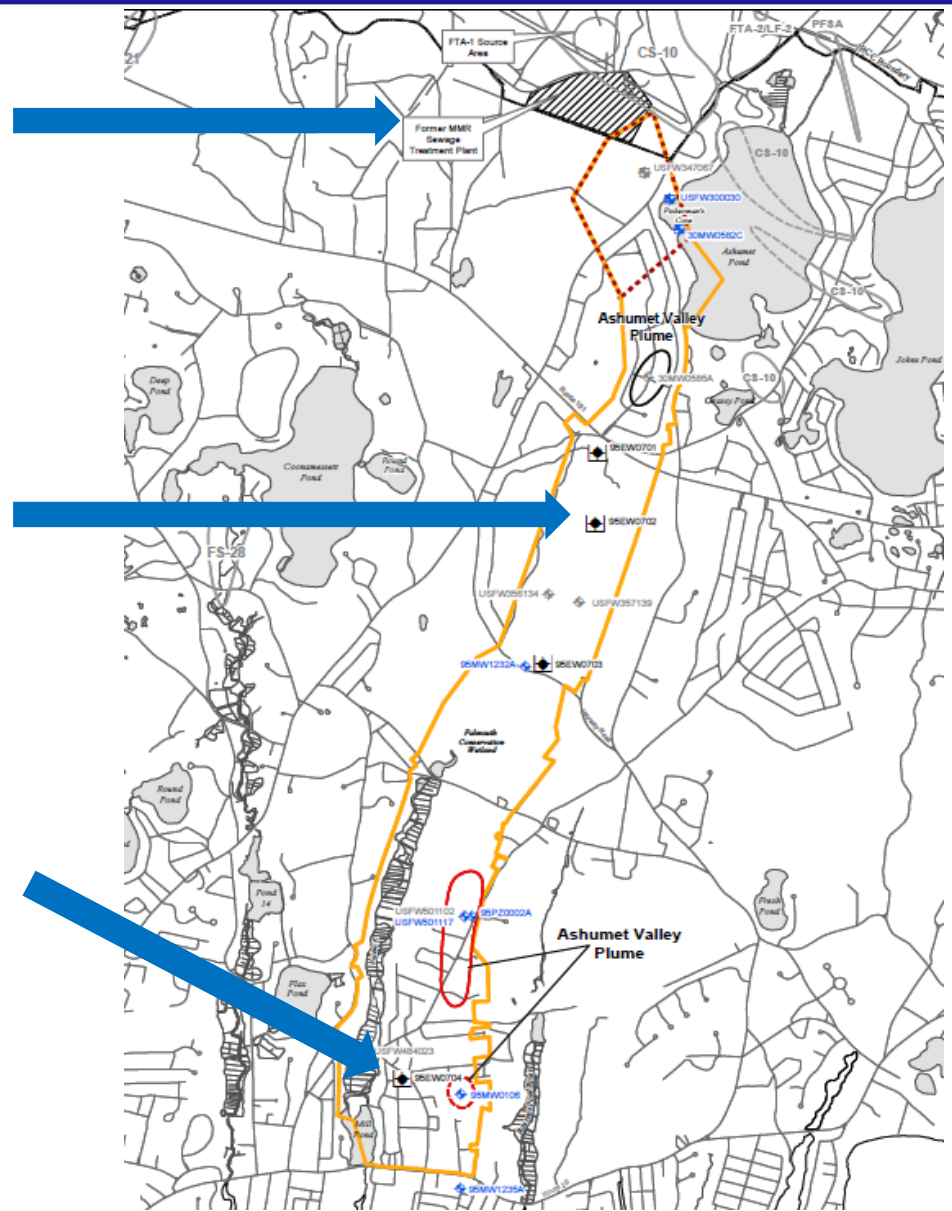
COCs: PCE, TCE, manganese, thallium

- Source Areas: Fire Training Area-1 (FTA-1) and Former Sewage Treatment Plant

- Interim AV Remedy: 3 Extraction Wells started in 1999

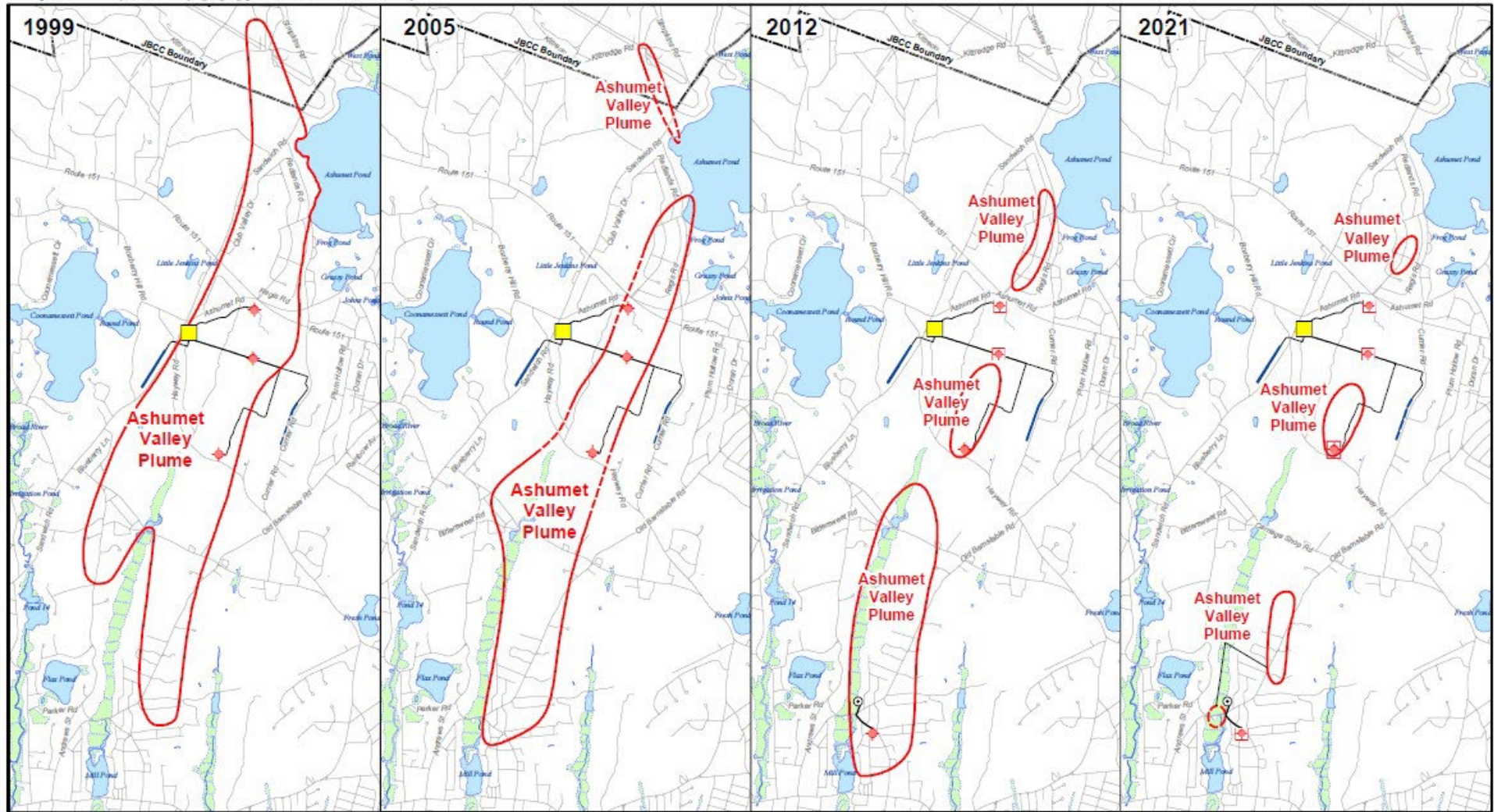
- Record of Decision issued in 2009 required a 4th Extraction Well

- All extraction wells are now turned off – 2 remaining VOC areas in red outline.





Ashumet Valley Groundwater Temporal Legacy Plume Cleanup Progress





Ashumet Valley/FTA-1 PFAS



- What are per- and polyfluoroalkyl substances (PFAS)?
 - A large class of chemicals found in many consumer products, as well as in industrial products such as certain firefighting agents called aqueous film forming foam (AFFF or “A Triple F”).
 - The known sources of PFAS at JBCC are primarily associated with AFFF discharges to the ground surface.
 - Investigation of PFAS at JBCC began in 2014.



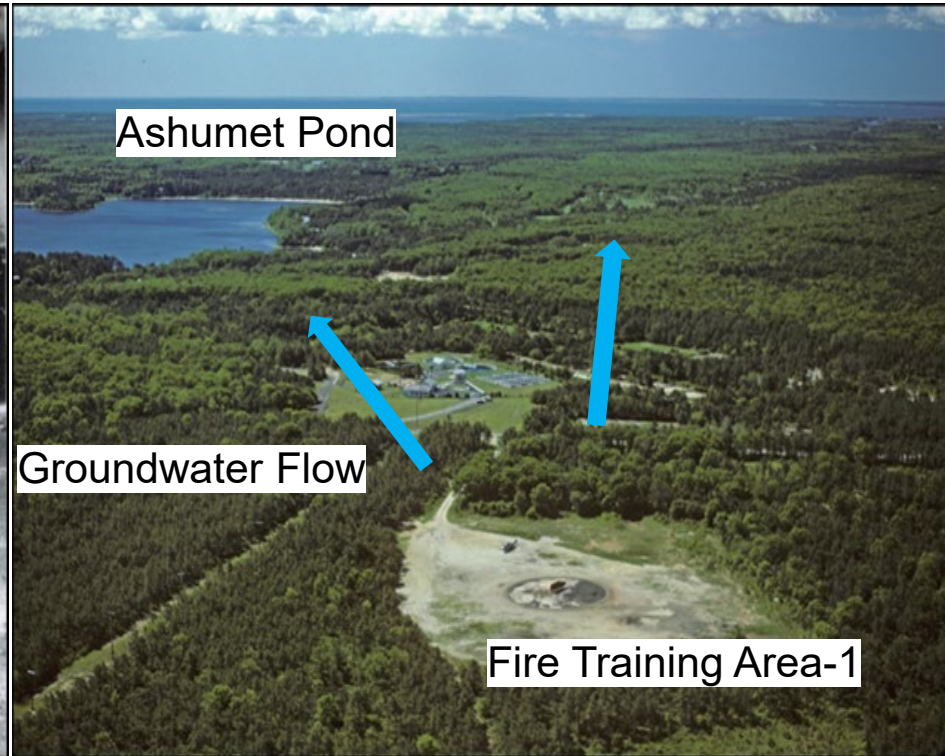
Ashumet Valley/FTA-1 PFAS Source Overview



- The primary source of PFAS to Ashumet Valley (AV) is from FTA-1
 - PFAS plume called “FTA-1” to distinguish it from AV Legacy
- FTA-1 operated from 1958 – 1985
 - Use of AFFF with PFAS began in 1970
- Additional AFFF release in 1997
 - AFFF used to suppress a fire during thermal treatment to remove VOC contamination from FTA-1 soil
- PFAS is present in the FTA-1 soils and is an on-going source to groundwater.



Ashumet Valley/FTA-1 PFAS





Ashumet Valley/FTA-1 PFAS CERCLA Actions



- **Interim Removal Actions (2015-current)** eliminate exposure in drinking water
 - Included time-critical and non-time critical removal actions documented in Action Memorandums
 - Municipal Wellhead Treatment Systems (4), connected residences to municipal water (+130), bottled water, residential treatment systems
 - Regular Monitoring of Drinking Water Wells
- **Supplemental PFAS Remedial Investigation (RI)** completed March 2024
 - RI started in 2015
 - Describes Nature and Extent of Contamination
 - Includes Human Health and Ecological Risk Evaluation
 - Contaminants of Concern (COCs):
 - PFOA, PFOS, PFHxS, PFNA in groundwater and soil (leaching potential)
 - PFOS in fish (human consumption)

PFOA = Perfluorooctanoic acid
PFOS = Perfluorooctane sulfonic acid
PFHxS = Perfluorohexane sulfonic acid
PFNA = Perfluorononanoic acid

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act



FTA-1 PFAS Extent



PFAS Detections in Groundwater

- Above PFAS MCL* or MassDEP PFAS6 MMCL**
- Below PFAS MCL and MassDEP PFAS6 MMCL
- No Detection

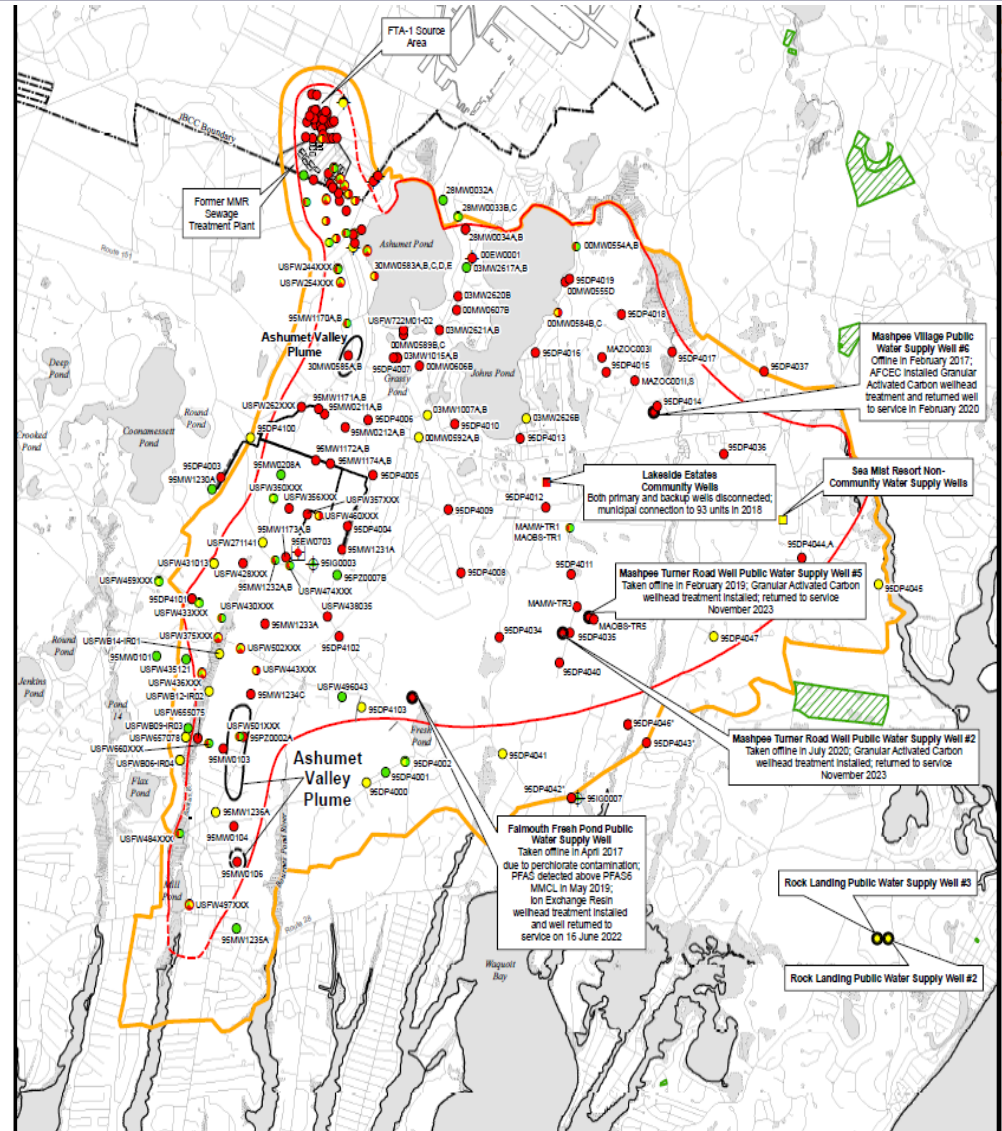
— FTA-1 PFAS Plume Boundary

— FTA-1 Land Use Control Area

Exposure to PFAS-contaminated groundwater addressed with bottled water, in-house treatment systems, connections to public water supply, and treatment systems on municipal wells.

*MCL = maximum contaminant level

**MMCL = Massachusetts maximum contaminant level



Ashumet Valley/FTA-1 PFAS

- PFAS is impacting Ashumet Pond and Johns Pond
- MA Dept of Public Health issued advisory not to eat any fish
- Safe for swimming
 - Avoid swallowing water and contact with foam

PUBLIC HEALTH ADVISORY

Ashumet Pond
Falmouth, Mashpee



Fish Contaminated with Mercury & Per and Polyfluoroalkyl Substances (PFAS)

CHILDREN UNDER 12; AND PEOPLE WHO ARE NURSING, PREGNANT, OR MAY BECOME PREGNANT:	• Do not eat any fish
ALL OTHER PEOPLE:	• Do not eat any fish

Issued by the Massachusetts Department of Public Health. For additional information, please scan the QR code or call 617-624-5757.



PUBLIC HEALTH NOTIFICATION

ASHUMET POND
Falmouth / Mashpee



PFAS* DETECTED AT PUBLIC BEACH
SWIMMING NOT A HEALTH RISK

AVOID SWALLOWING WATER
AVOID CONTACT WITH FOAM (if present)

*Per- and Polyfluoroalkyl Substances (PFAS)

SCAN THE QR CODE FOR MORE INFORMATION ON PFAS AND SWIMMING OR CONTACT



Environmental Toxicology Program
Massachusetts Department of Public Health
617-624-5757



Proposed FTA-1 PFAS Groundwater (GW) Interim Remedial Action



- AF evaluated three (3) Interim Remedial Action alternatives in the *Alternatives Analysis to Limit Migration of PFAS at FTA-1 (Sep 2025)*
 - Existing remedy, add PFAS as COCs, and optimize the AV remedial system using existing infrastructure
 - **Existing remedy, add PFAS as COCs, and optimize the AV remedial system with additional infrastructure**
 - **Existing remedy, add PFAS as COCs, and add remedial system infrastructure along Sandwich Road**
- AF selected the two **bold** alternatives and is issuing an Explanation of Significant Differences (ESD) to modify current Ashumet Valley (FTA-1) GW remedy



Proposed FTA-1 PFAS Groundwater (GW) Interim Remedial Action



- ESD will:
 - Add four PFAS as GW Contaminants of Concern: PFOS, PFOA, PFHxS, and PFNA
 - Add PFOS as a COC for fish ingestion (Ashumet and Johns ponds)
 - Add Remedial Action Objectives to prevent residential exposure to PFAS in GW/Fish and to manage migration of PFAS plume
 - Implement active treatment in two plume areas as an interim remedy
 - Establish a formal Land Use Control (LUC) Program for FTA-1 PFAS in GW and Fish with expanded LUC boundary
 - Expand the GW and surface water monitoring program to address PFAS
- Estimated total cost for FTA-1 PFAS Interim Remedy: \$81.4M

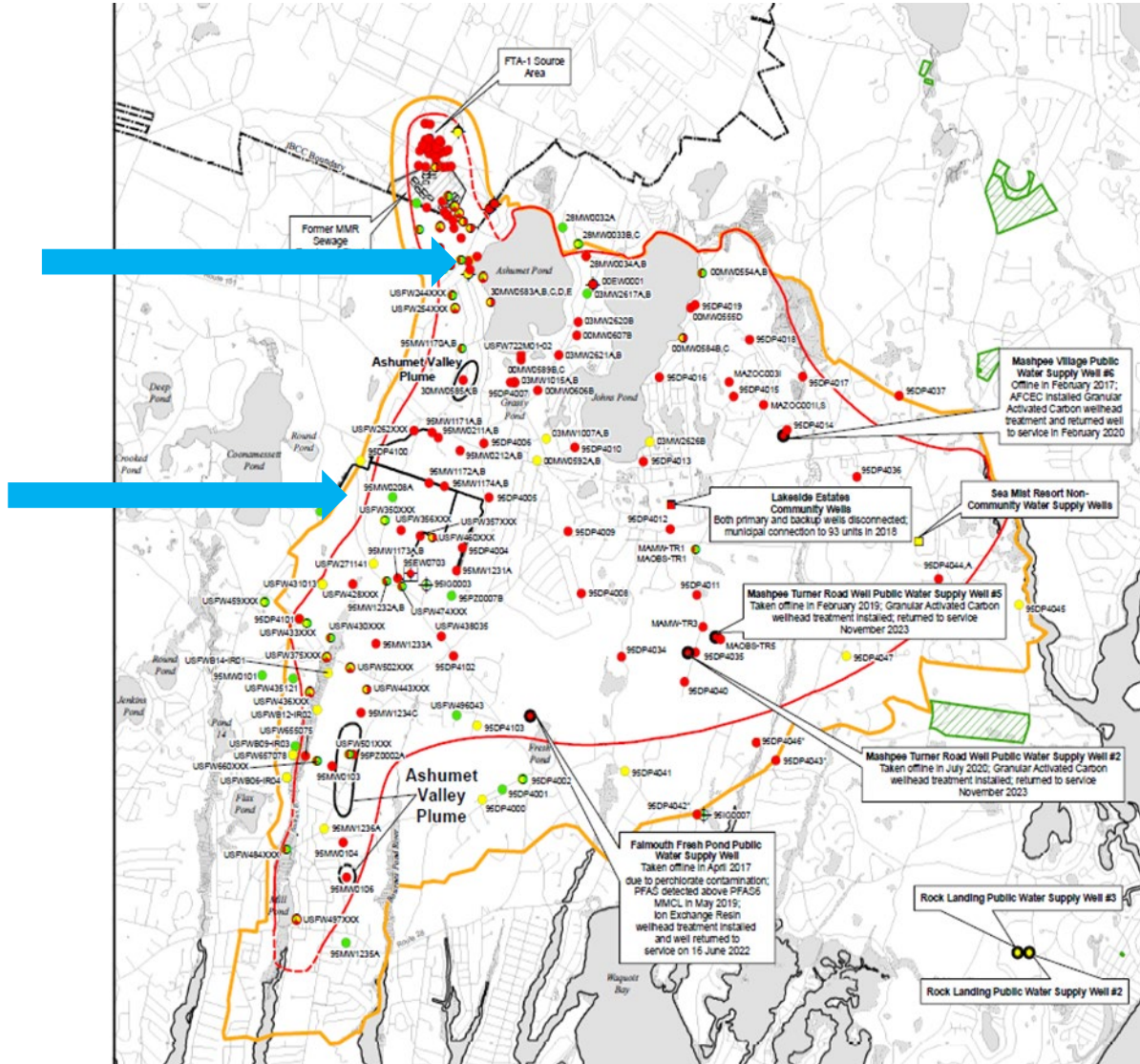


FTA-1 PFAS Interim Remedial Action Locations



**New Sandwich Rd
Extraction Fence**

**Restart Ashumet Valley
Treatment System
With Additional
Infrastructure**

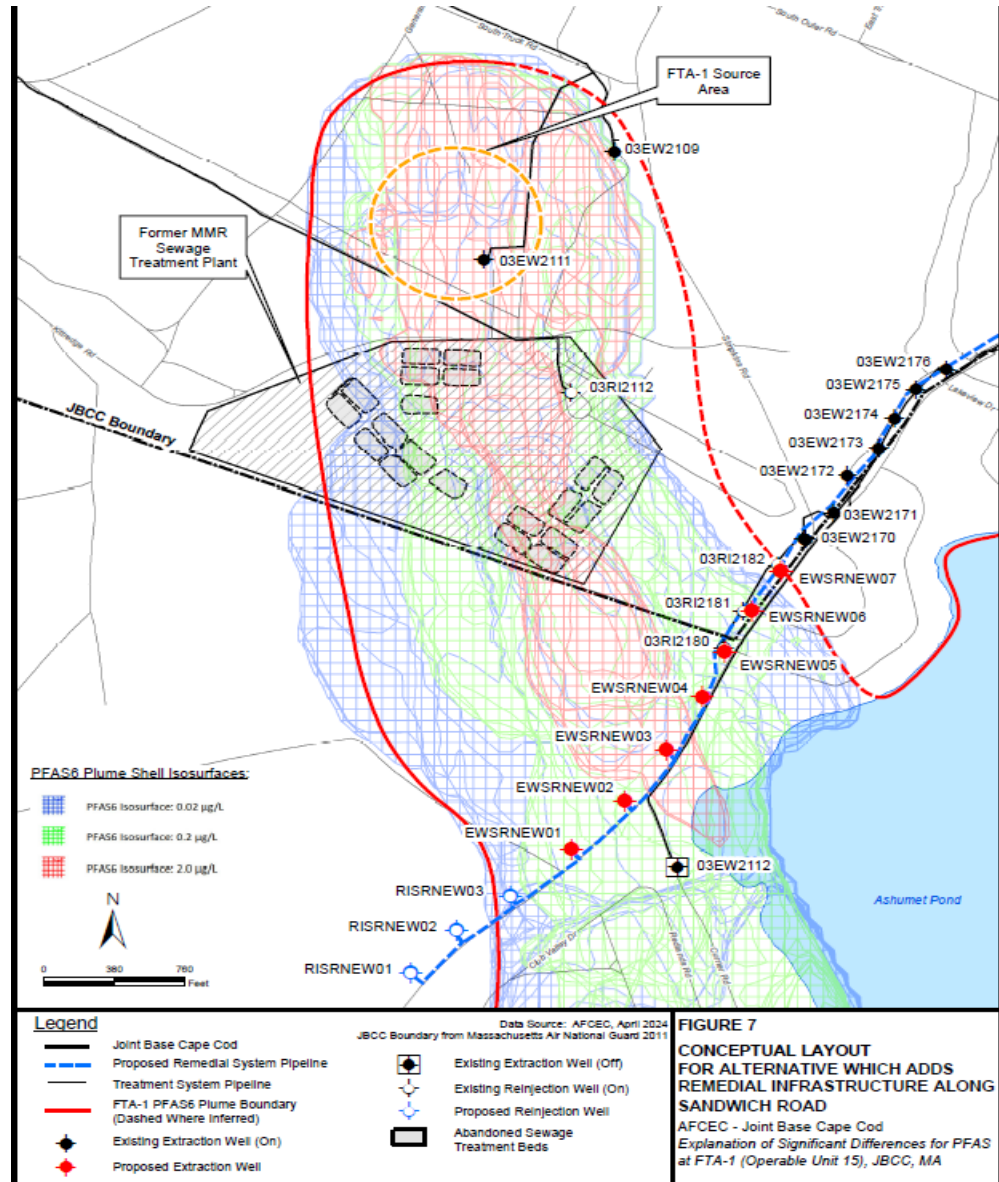




FTA-1 PFAS Sandwich Rd Extraction Fence

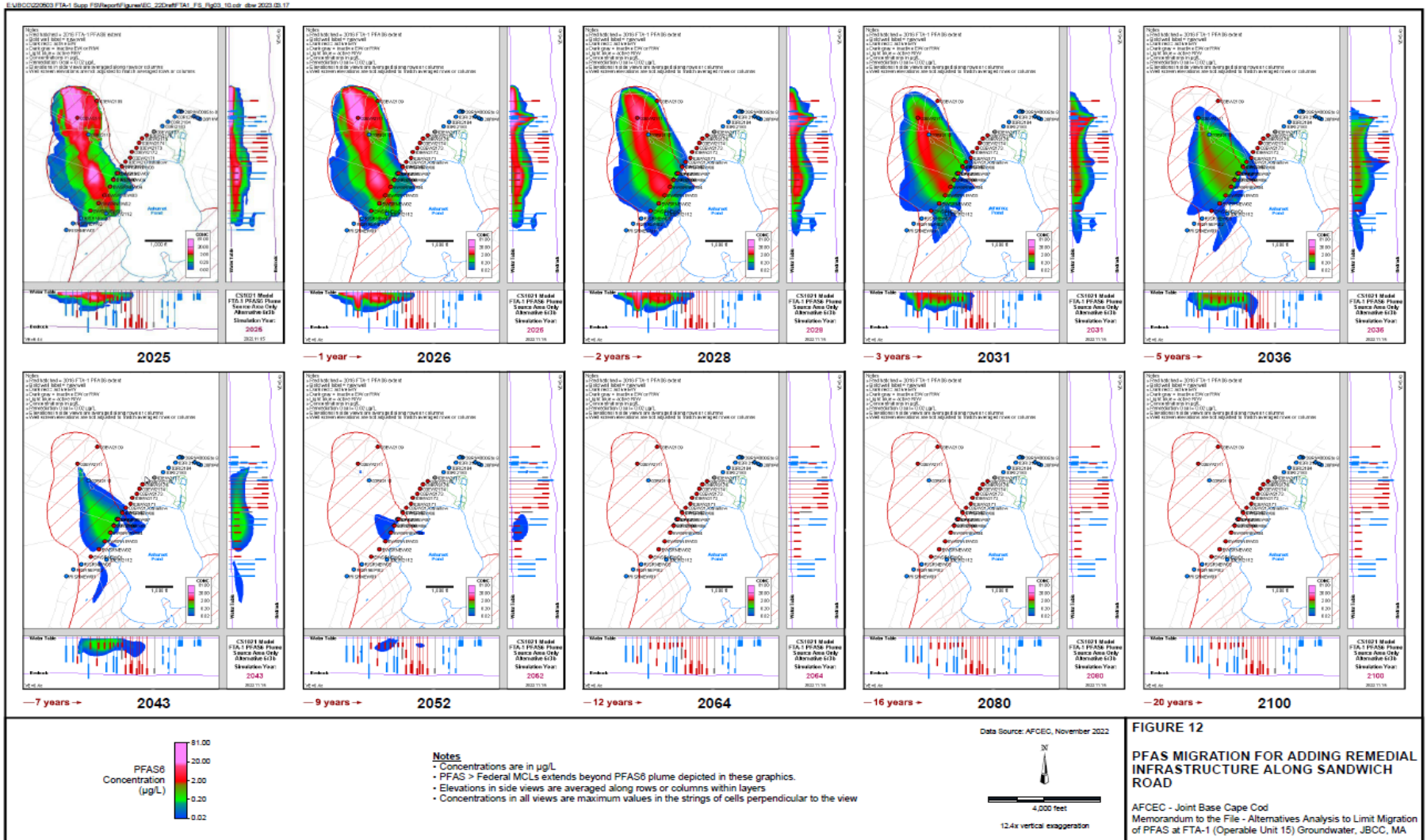


- Install 7 new extraction wells and 3 new reinjection wells
- Total flow rate estimated at 1,350 gallons per minute (gpm)
- Water to be treated at Sandwich Road Treatment Facility (Granular Activated Carbon [GAC])





FTA-1 PFAS Sandwich Rd Extraction Fence Model

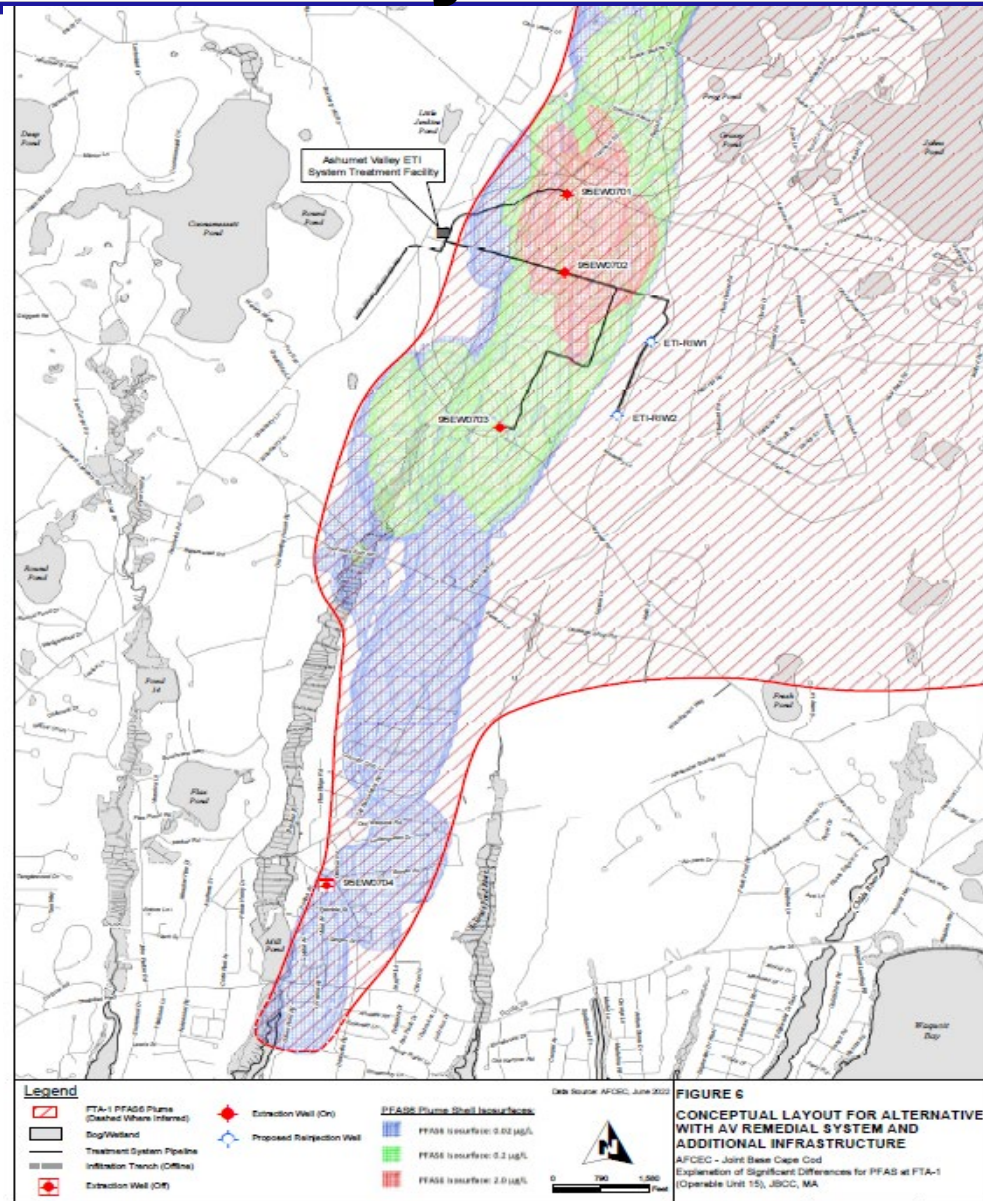




FTA-1 PFAS Restart Ashumet Valley Treatment System



- Restart existing 3 extraction wells
- Install 2 new reinjection wells
- Total flow rate estimated at 1,400 gpm
- Treatment at existing Ashumet Valley system (GAC)

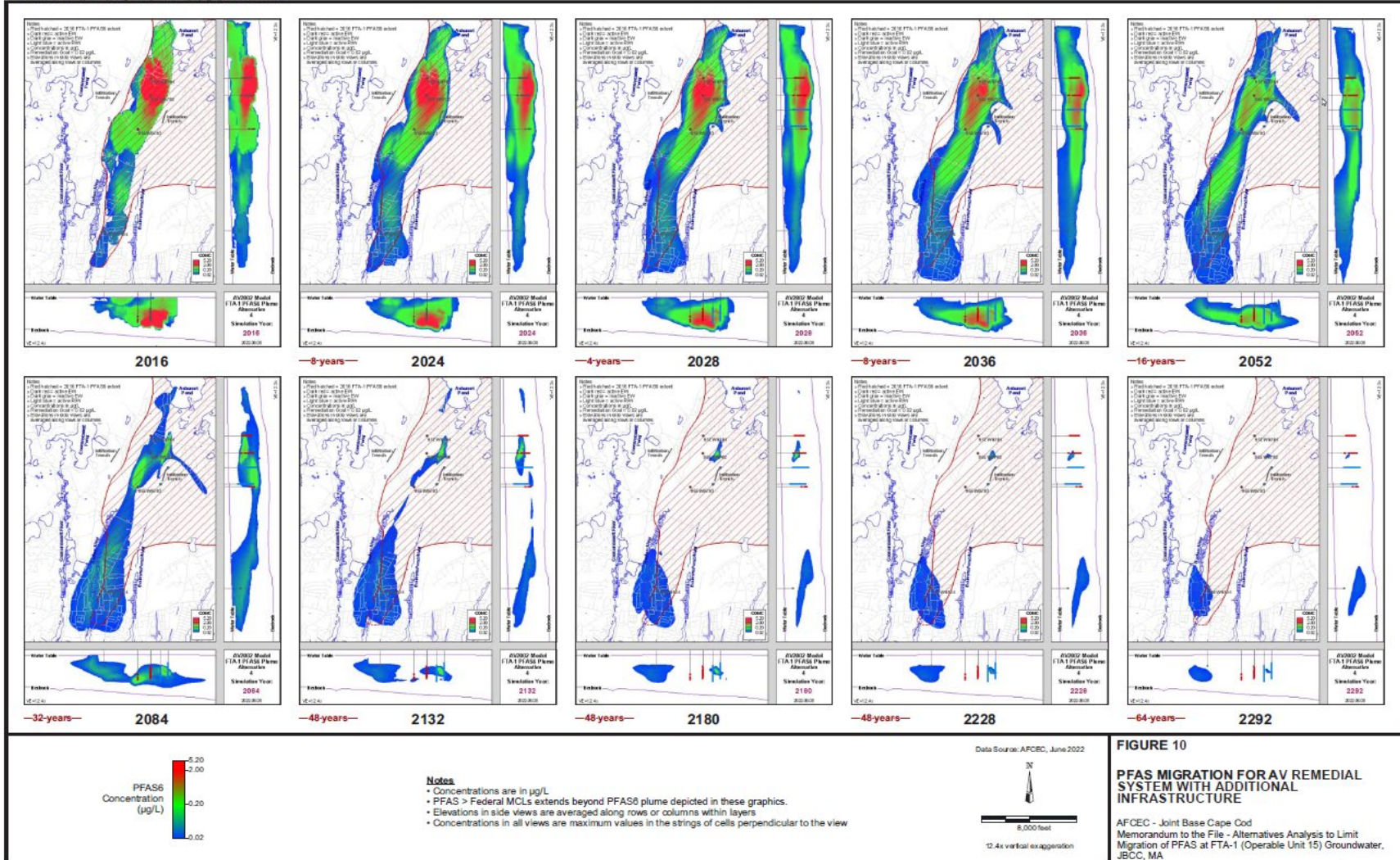




FTA-1 PFAS Restart Ashumet Valley Model



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FTA-1 PFAS Interim Remedial Action ESD - Next Steps



- Gather comments at this hearing and during public comment period (May 22 – June 20, 2026)
 - Issue Final ESD with response to public comments
- Finalize design and begin construction in summer 2026
- Begin interim system start-up and commissioning in Spring 2027
- Future Remedial Investigations/Feasibility Studies for combined source areas and groundwater, and selection of final remedies.



FTA-1 PFAS Interim Remedial Action ESD



QUESTIONS or COMMENTS?

