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Leadership and Excellence in Environmental Engineering and Science

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Professor Daniel B. Oerther, PhD, PE, BCEE, BCES is the Executive Director of the American Academy of Environmental Engineers and Scientists and a Professor of Environmental Health Engineering at the Missouri University of Science and Technology. Dan earned his PhD from the University of Illinois, and he previously served as the Senior Science Advisor to the United States Secretary of State in the Office of Global Food Security. Dan is widely known for his discovery research in environmental biotechnology, his integrative research resulting in the nurse+engineer STEMpathy framework, his application research employing science diplomacy to support access to water and food security in developing communities globally, and his scholarship of teaching and learning including modified mastery learning. Dan is a three-time recipient of the Fulbright Award (India, Brazil, and the United Kingdom), and the only individual to be recognized as Board Certified by the American Academy of Environmental Engineers and Scientists, a Diplomate Laureate of the American Academy of Sanitarians, and a lifetime honorary Fellow of the American Academy of Nursing.

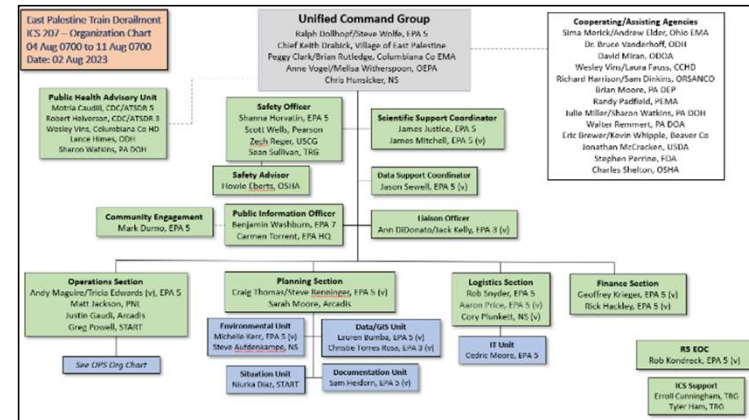


Leadership and Excellence in Environmental Engineering and Science



East Palestine Train Derailment Emergency & Cleanup

Response Organization



ENVIRONMENTAL PROTECTION AGENCY
REGIONS 3 AND 5

IN THE MATTER OF:)

East Palestine Train Derailment Site)
East Palestine, Columbiana County, Ohio)

Norfolk Southern Railway Company,)

Respondent)

Proceeding under Section 106(a))
of the Comprehensive Environmental)
Response, Compensation, and Liability)
Act, as amended, 42 U.S.C. § 9606(a).)

CERCLA Docket No. V-W-23-C-004

**UNILATERAL ADMINISTRATIVE
ORDER FOR REMOVAL ACTIONS**

Appendices

Appendix A – Health and Safety Plan

Appendix B - Site Security Plan

Appendix C - Air Sampling and Analysis Plan

Appendix D - Main Line Interim Soil Removal Plan

Appendix E - Characterization and Remediation Work Plan for Derailment-Area Soil

Appendix F - Phase I – Preliminary Residential / Commercial / Agricultural Soil Sampling Plan

Appendix G - Surface Water Sampling and Analysis Plan

Appendix H - Sediment Sampling Work Plan

Appendix I - Groundwater Characterization Work Plan

Appendix J - Potable Water Sampling Work Plan Update

Appendix K - Sentinel Well – Monitoring Well Installation and Groundwater Sampling Work Plan

Appendix L - Waste Sampling and Management Plan

Appendix M - Community Impact Mitigation Plan

Appendix N - Schedule

Public Health



Unified Command - Public Health Advisory Unit

- EPA convenes state, federal and local health officials regularly to keep lines of communication open w/ UC

Independent Initiatives

- National Academies of Science, Engineering, & Medicine workshop
- University of Kentucky health research grant
- Several academic institutions conducting independent research

Potable Water Sampling

- 860+ private well samples (to date)
- 24 rounds of sampling public water supply (to date)

Community Air Monitoring & Sampling Program

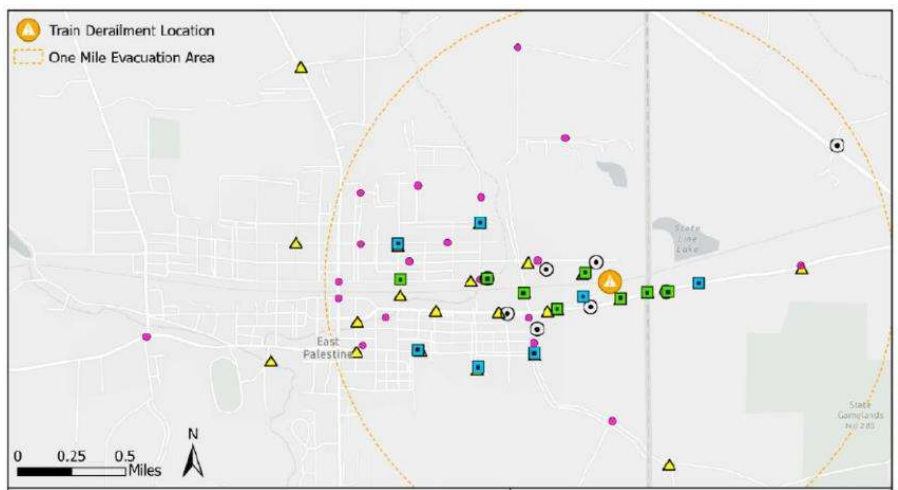
• Monitoring

- Conducted by EPA & NS for > 180 days
- > 100 million discrete measurements have been collected

• Sampling

- Over 17,500 air samples collected
- SUMMA canisters, badges, sorbent tubes

Monitoring & sampling for the primary contaminants of concern (vinyl chloride, n-butyl acrylate) have not been detected at sustained levels of concern in the community for the duration of the response.



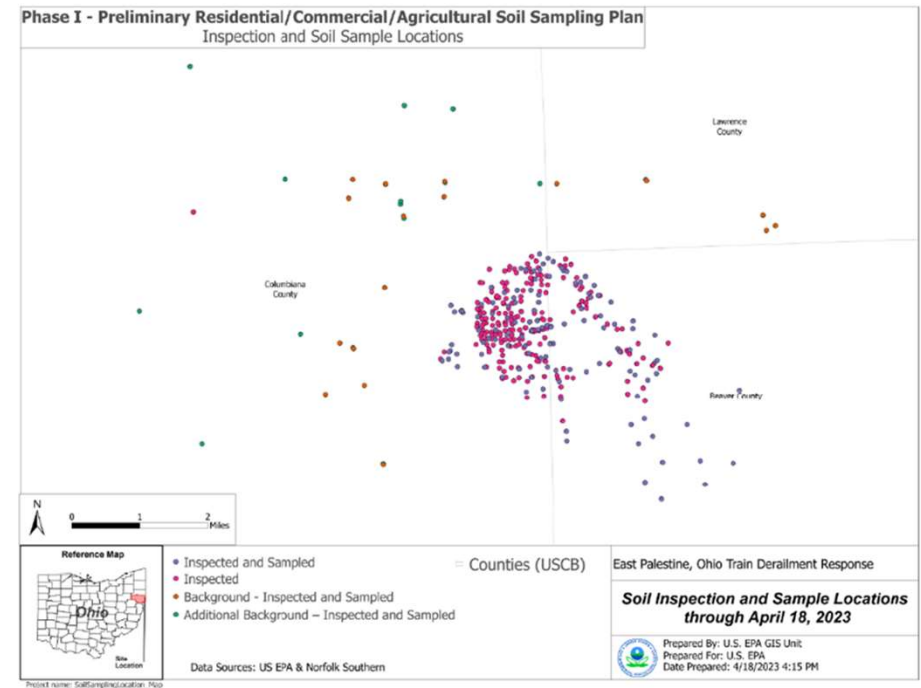
Site Safety

- Site wide HASP
 - > 500,000 person hours without serious incident
- OSHA in Unified Command since February
- Comprehensive safety audit conducted
 - OSHA, EPA ERT, 3rd party construction/traffic safety consultants
 - Implemented all recommendations



Phase 1 Residential/Commercial/Agricultural Soil Sampling - Comparison Study

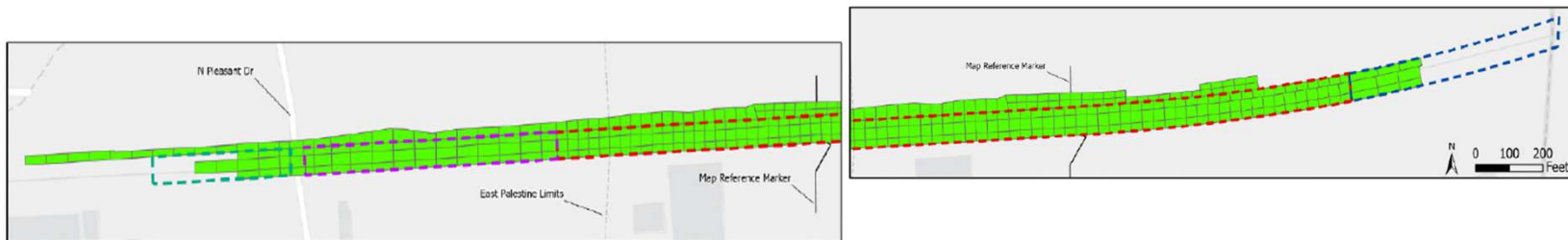
- Evaluate the area of interest against U.S. background conditions (select PAHs, Dioxins)
- Compare shallow surface soil to deeper surface soil
- Results
 - Results consistent with typical background conditions
 - A few outliers associate with public right-of-way (roadside)

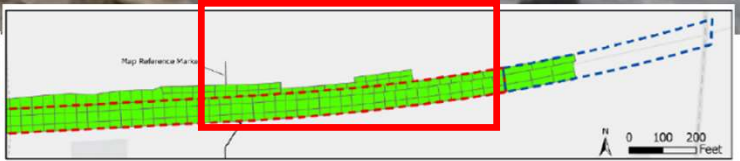
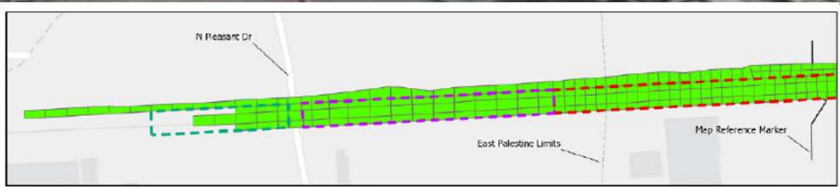
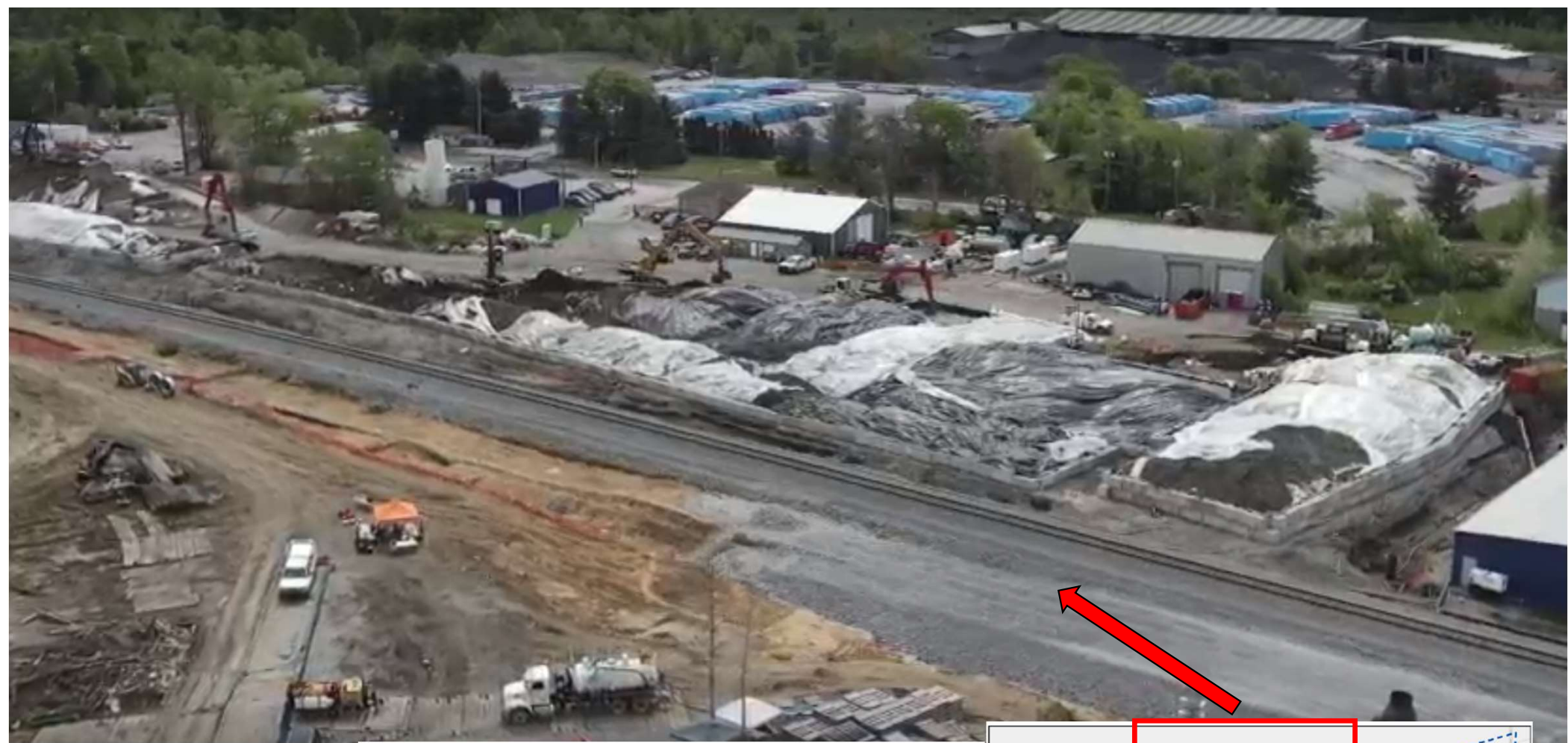


Phase 1 (completed April 14)
- inspected 359 locations -
sampled 146 locations

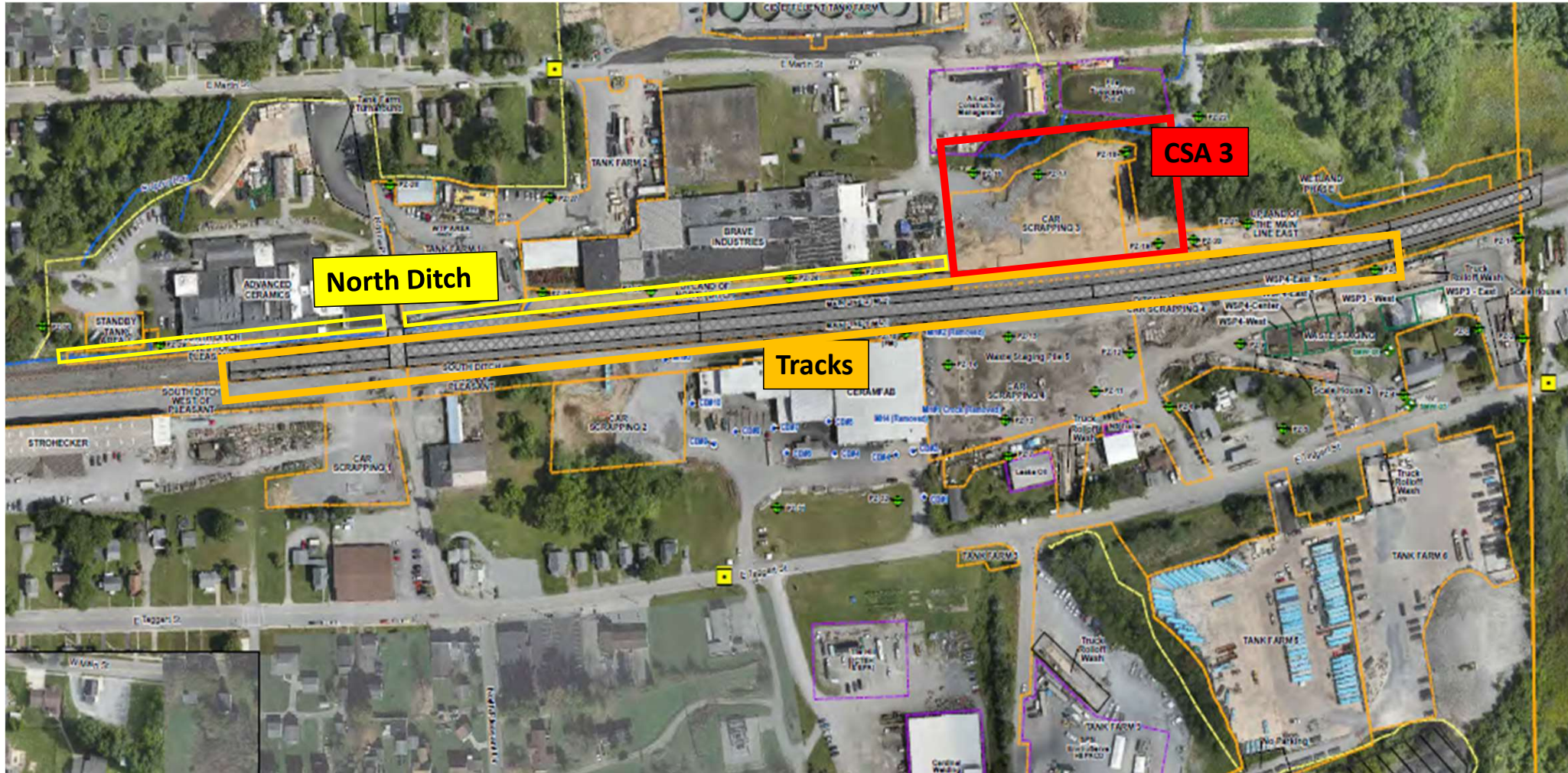
Main Line Soil Removal

Completed on June 26
both lines are currently operational





Derailment Area Excavations



Waste Management

(as of August 1)

Soil Disposal

9,900 truckloads (88,000 tons)



Liquid Disposal

5,700 truckloads (28,000,000 gal)



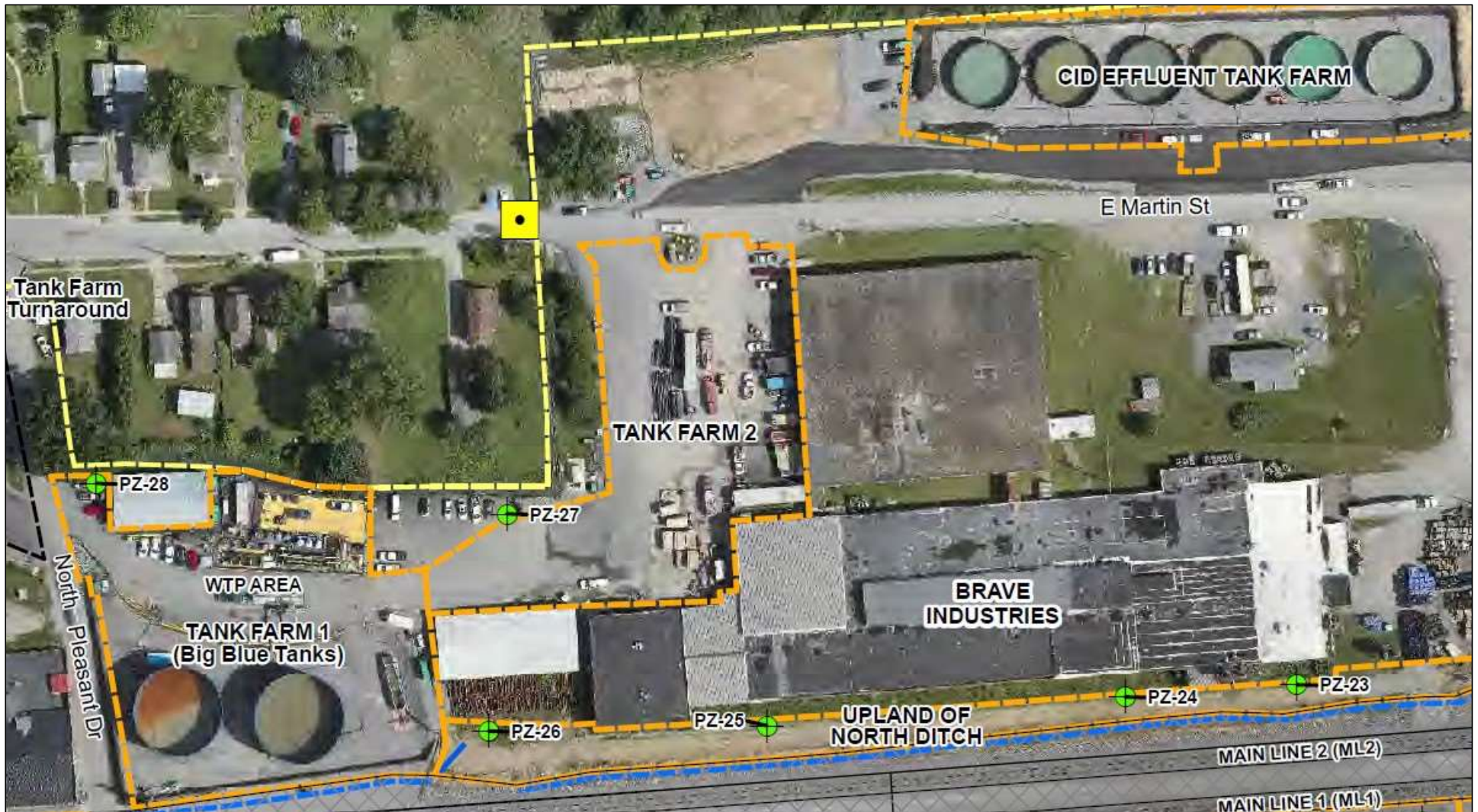


Remaining Work

Car Scrapping Area 4 (CSA 4)



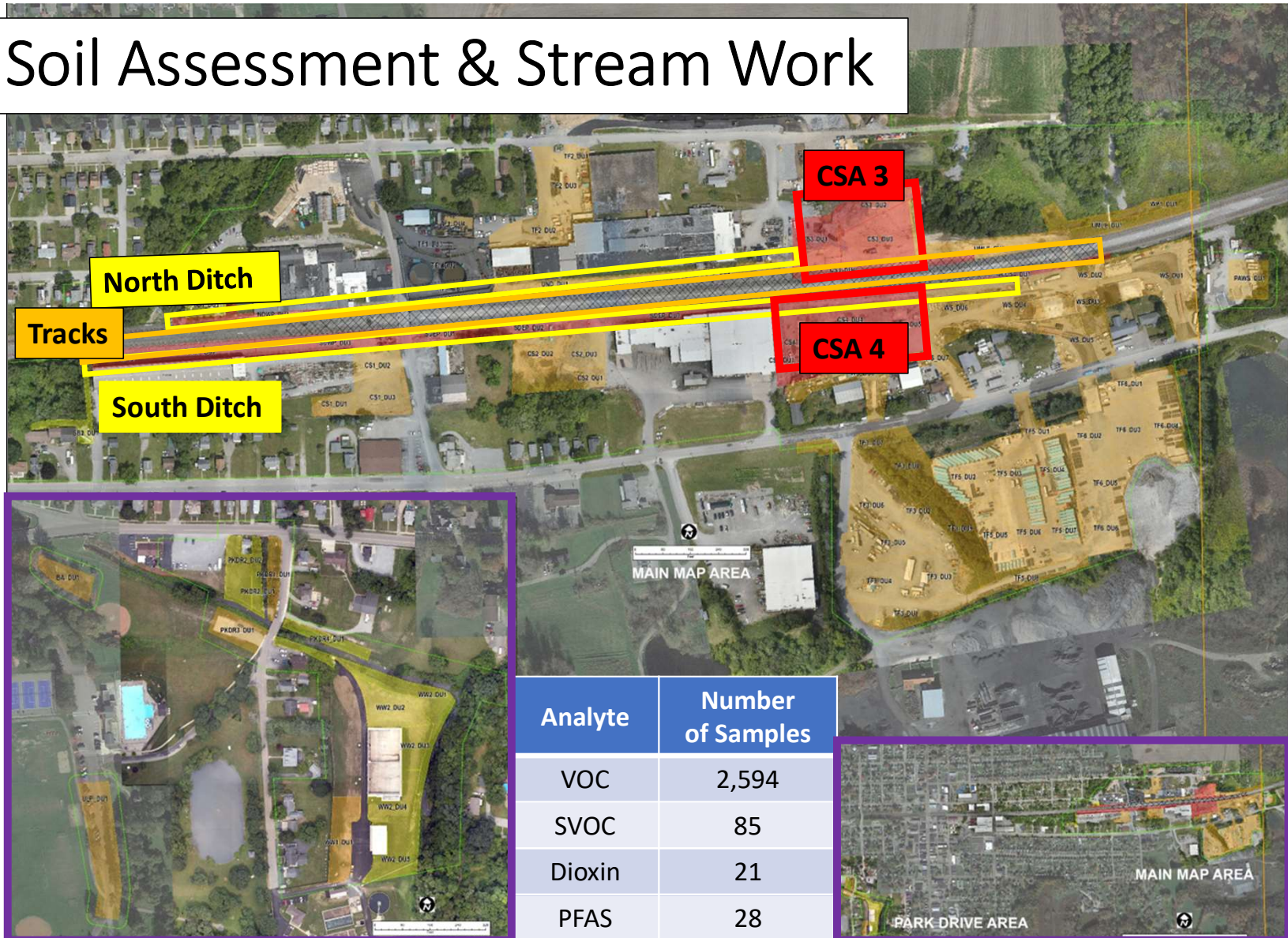
Wastewater Treatment Area



Structure Cleaning

- Enrollment **August 1**
 - Mailer
 - Websites
- Client interviews
- Schedule cleanings
- Oversight
- Confirmation of completion

Final Soil Assessment & Stream Work



Schedule for Remaining Work

TASK	2023				2024		
	September	October	November	December	January	February	March
Structure Cleaning							
CSA 4 / South Ditch excavation							
Water Treatment							
Final soil assessment							
Restoration							



Community Involvement

- Welcome Center
 - > 1,100 calls, > 990 visitors
- Public open houses (February/March)
- Public information sessions
 - Topic based community meetings
 - Recorded and posted
- Community partners engagement
 - Over 30 public events
 - Bi-weekly newsletters / content
 - In the moment videos
 - Leads on community-based events

A Quick Look Back

Evaluate early
communications

Longer term
community
engagement

On-going
misinformation
concerns

Training and
exercises

Technology and
resources

Continuity



Forward

Increasing numbers of emergencies
and disasters

Internal resource challenges

External resources needs

Increased collaboration

Whole of government response

Thanks to all of the
environmental, science &
health professionals!

East Palestine Train Derailment Emergency & Cleanup

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