



Matteo & Sons, Inc. Superfund Site

Remedial Investigation Feasibility Study Proposed Remedial Action Plan

Public Meeting
July 17, 2019

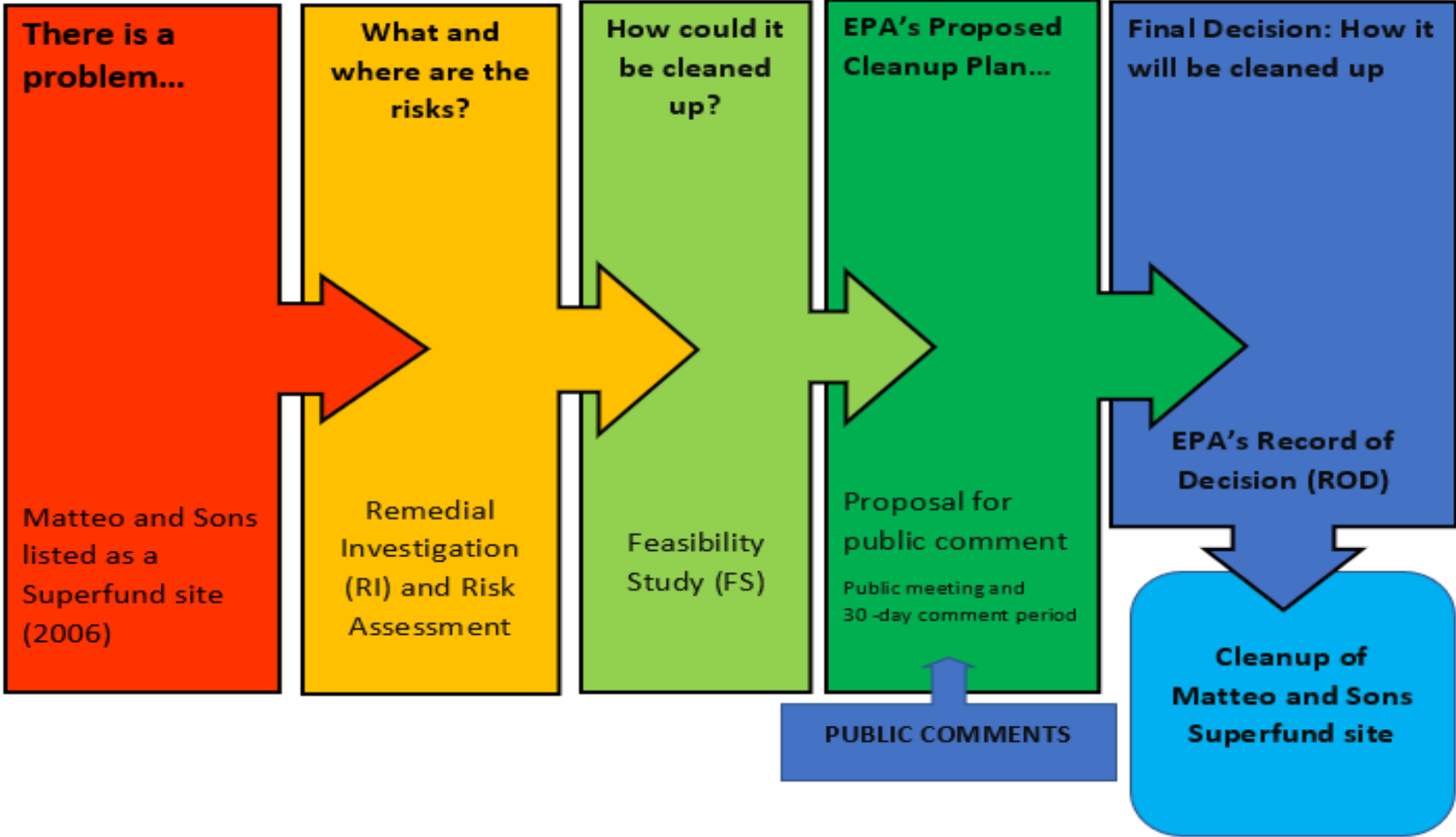


EPA Representatives	
Lawrence Granite	U.S. Environmental Protection Agency (EPA) Project Manager
Natalie Loney	EPA Community Involvement Coordinator
Bob McKnight	EPA Section Chief
Kim O’Connell	EPA New Jersey Remediation Branch Chief
Nick Mazziotta	EPA Human Health Risk Assessor
Mindy Pensak	EPA Ecological Risk Assessor
Tom Dobinson	EPA Project Manager



KEY MILESTONES IN THE SUPERFUND PROCESS

WE ARE HERE





Public Outreach Objectives

- *To discuss the preferred remedy and other cleanup options for Operable Unit 1 of the Matteo & Sons, Inc. Superfund Site.*
- *To accept public comments on the preferred remedy until Friday, August 2, 2019.*
- *To address public comments in a Record of Decision Responsiveness Summary.*



Meeting Agenda

- **Superfund Overview**
- Site Background
- Remedial Investigation and Risk Assessments
- Remedial Alternatives
- Preferred Remedy
- Questions/Comments



Superfund Law

- Toxic waste disposal disasters prompted law passage by Congress in 1980
- Provides federal funds for cleanup of hazardous waste sites
- Allows EPA to respond to situations involving hazardous substances
- Empowers EPA to compel potentially responsible parties to pay for or conduct necessary response actions

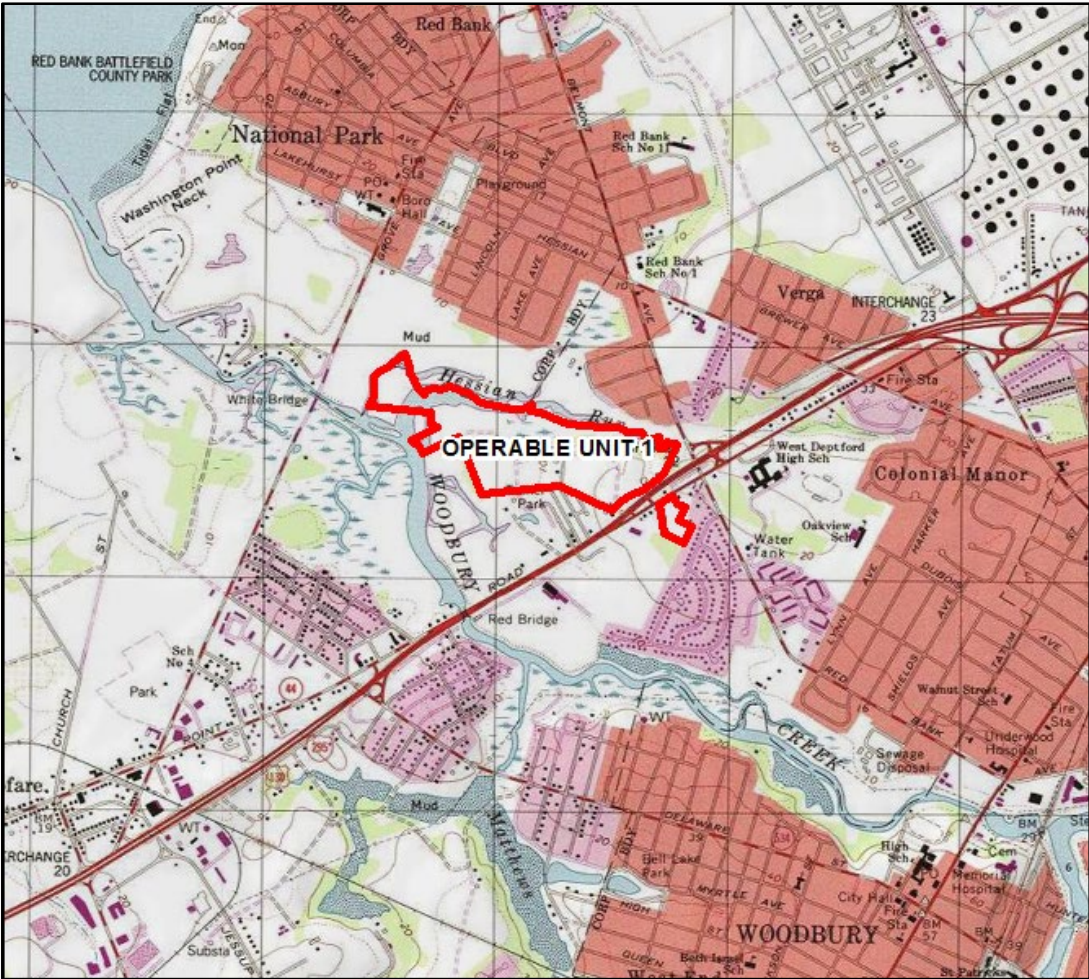


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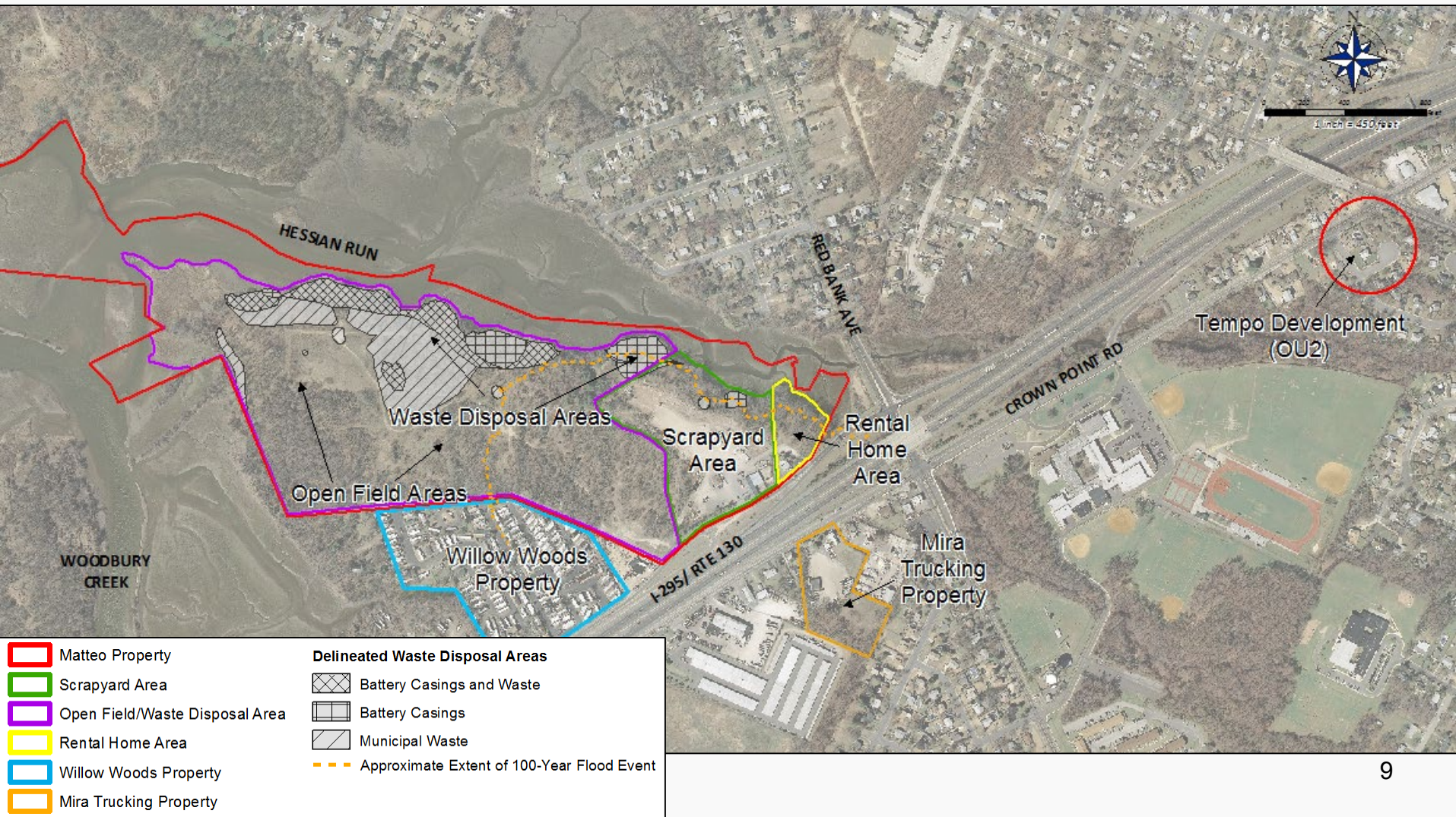


Matteo & Sons, Inc. Superfund Site, OU1





Matteo & Sons, Inc. Superfund Site, OU1





Site History

- Since **1961**, site operated as an unregistered landfill, scrapyard, and metals reclamation/recycling facility
 - Operation of onsite incinerator to reclaim lead and copper from automotive batteries and recycled wire
 - Crushed battery casings landfilled in areas adjacent to and within Hessian Run
- **1984** NJDEP issued an Administrative Consent Order which required Matteo to cease waste disposal
- **1991/1996** NJDEP conducted a soil and drum investigation and a Preliminary Assessment/Site Inspection
- **1997** EPA conducted an Extent of Contamination Investigation
- **2000 to 2005** NJDEP completed an RI and Remedial Action Selection Evaluation Report and submitted site for CERCLA removal action consideration



Site History – Recent Actions

- **2005 to 2006** EPA conducted several investigations
- **2006** Site listed on NPL
- **2006** Contaminated soil removed at Willow Woods; fence installed to limit trespassing on the site and stone cover installed in the active scrapyard area
- **2011** Cost Recovery Settlement finalized
- **2016-2017** Information was obtained during OU2 investigation that suggested dumping had occurred at the nearby Mira Trucking property



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Remedial Investigation (RI) and Risk Assessments

- RI Objectives
- RI Activities
- Data results



RI Objectives

- Purpose
 - To determine the nature and extent of contamination in site media (soil, sediment, groundwater, surface water)
- RI data identifies
 - Sources of contamination
 - Contaminants of potential concern
 - Pathways, mechanisms, and rates of contaminant migration through environmental media
 - Concentrations of contaminants at points of exposure to human and ecological receptors

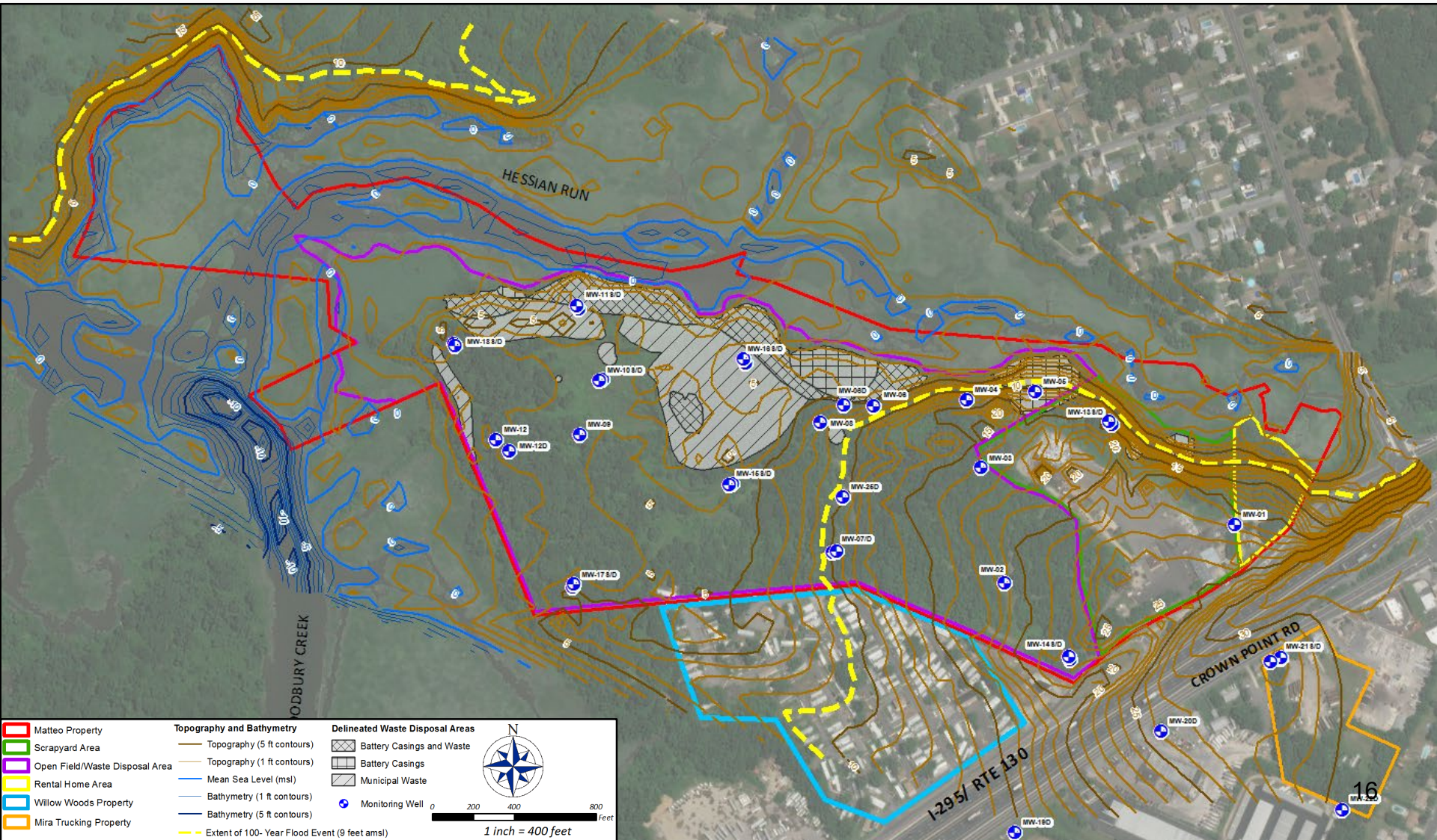


RI Activities

- Reviewed historical NJDEP RI data to focus EPA RI
- Soil investigation
- Groundwater investigation
- Hessian Run and Woodbury Creek investigation
 - Surface water
 - Sediment

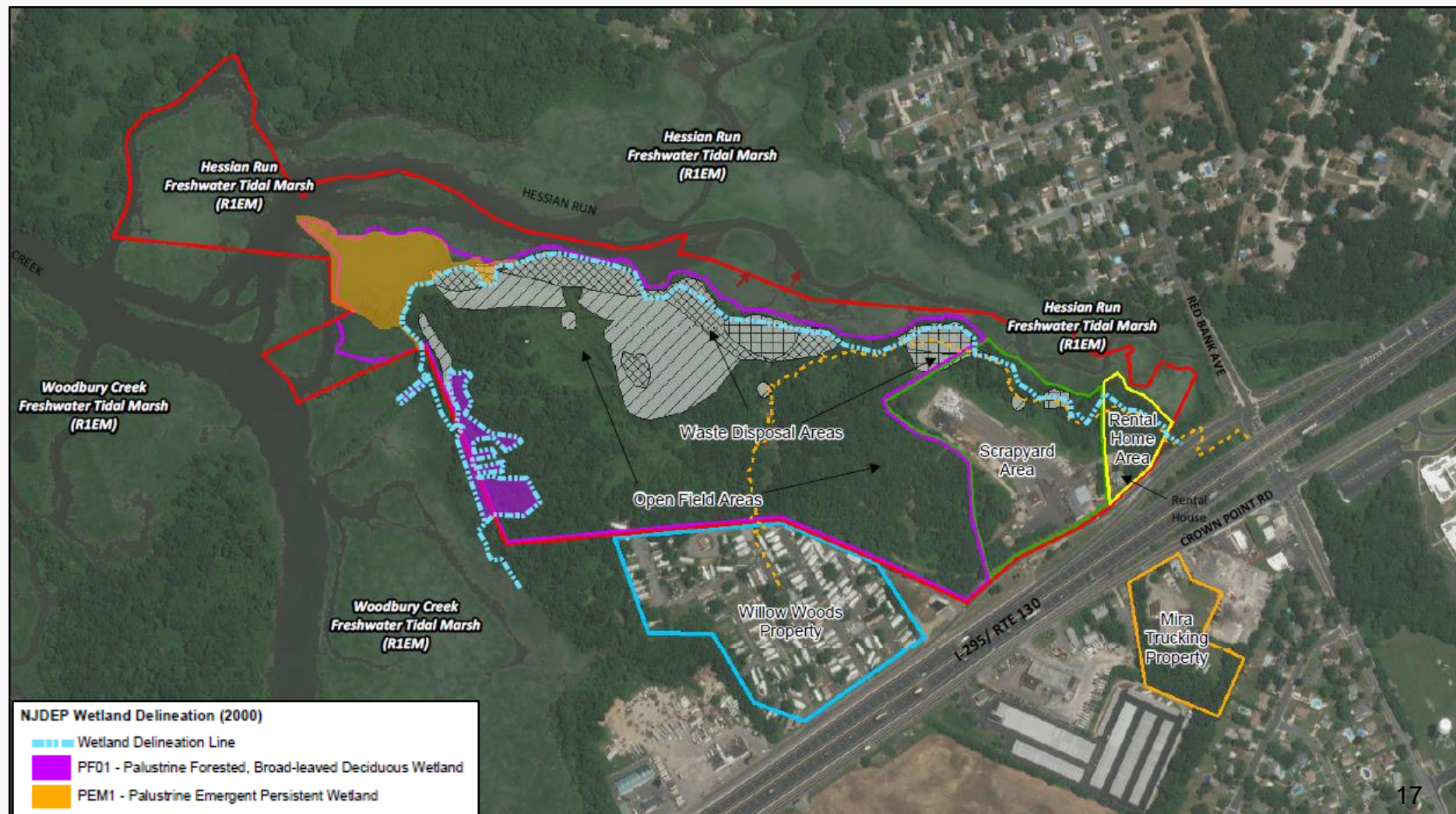


Physical Setting – Drainage and Surface Water Flow



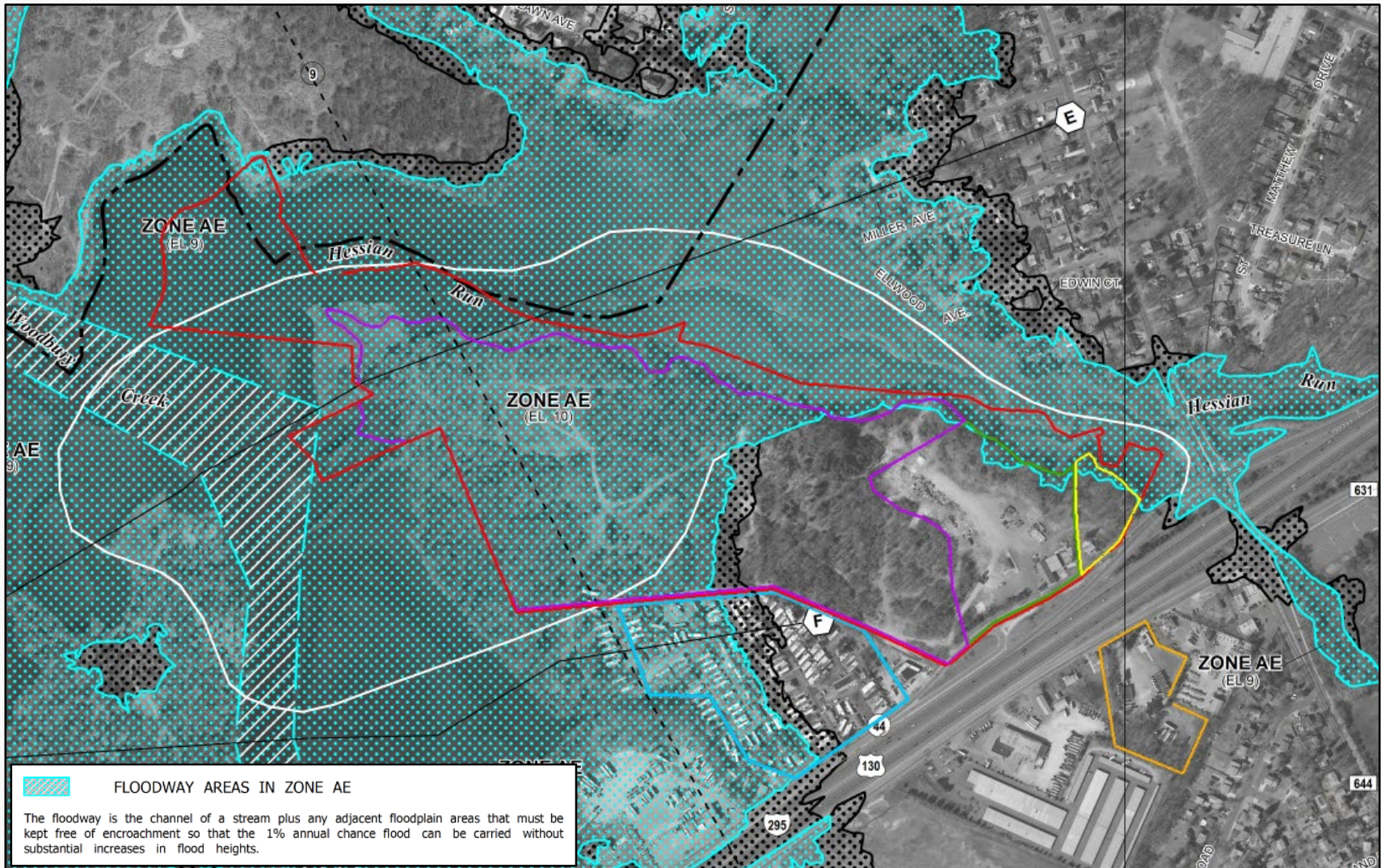


Physical Setting – Wetlands





Physical Setting – 100-Year Flood Zone





Sources of Contamination

- Lead, antimony, copper and zinc
 - Believed to originate from site practices and landfilling of battery casings
 - Residual lead in battery casings likely act as ongoing contaminant source
 - Antimony, copper, and zinc generally collocated with lead
- PCBs
 - May have resulted from application of PCB-laden dust/weed control agents
 - May have been mixed with waste that was buried on site

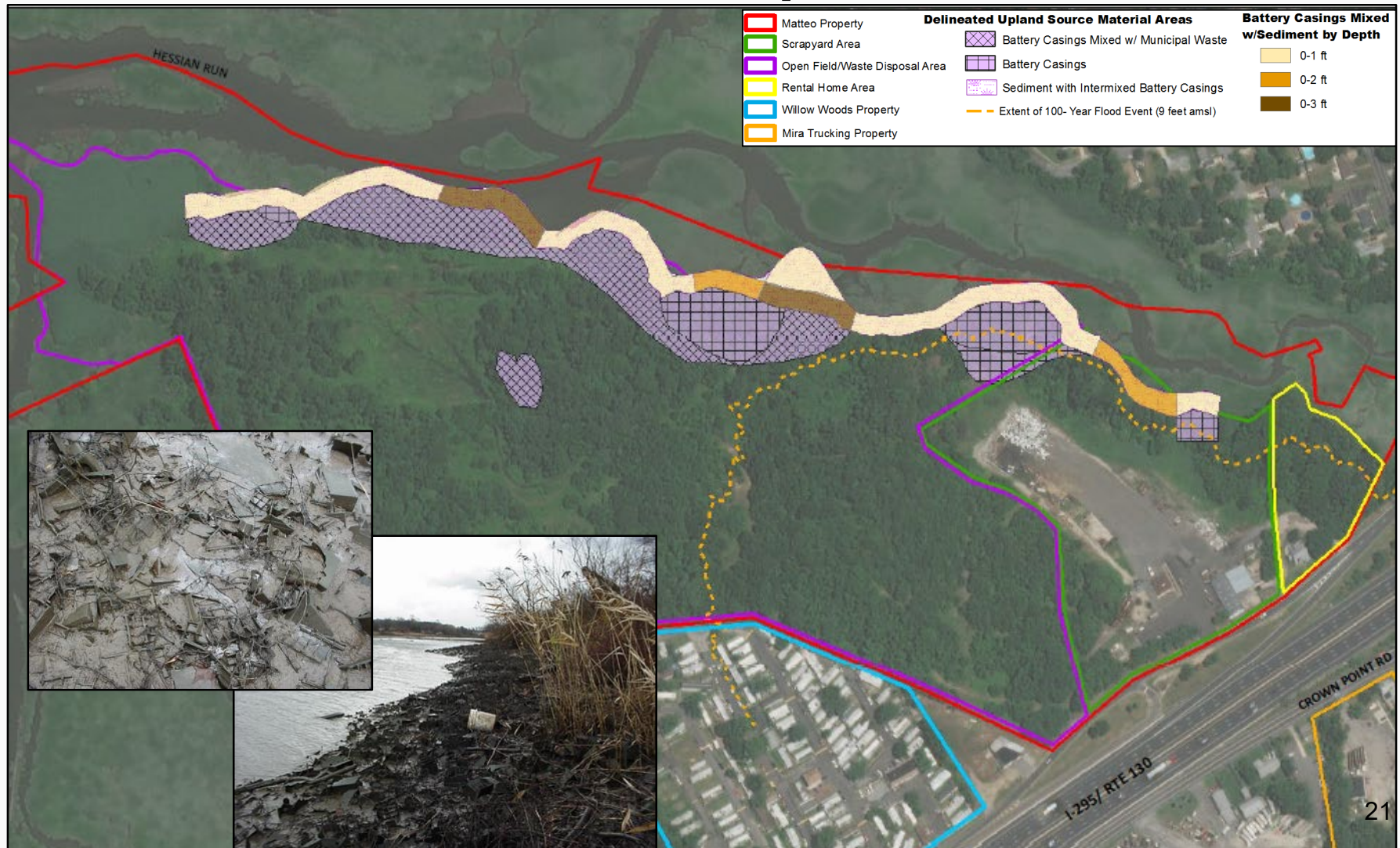


Media to be Addressed

- Source materials – principal threat waste
 - Battery casings are characteristically hazardous
 - Serve as a continued source of contamination to soil, surface water, sediment, and groundwater
 - Present significant risk to human health and environment should exposure occur
- Soil – surface and subsurface
 - Lead, copper, zinc, antimony
 - PCBs
- Groundwater

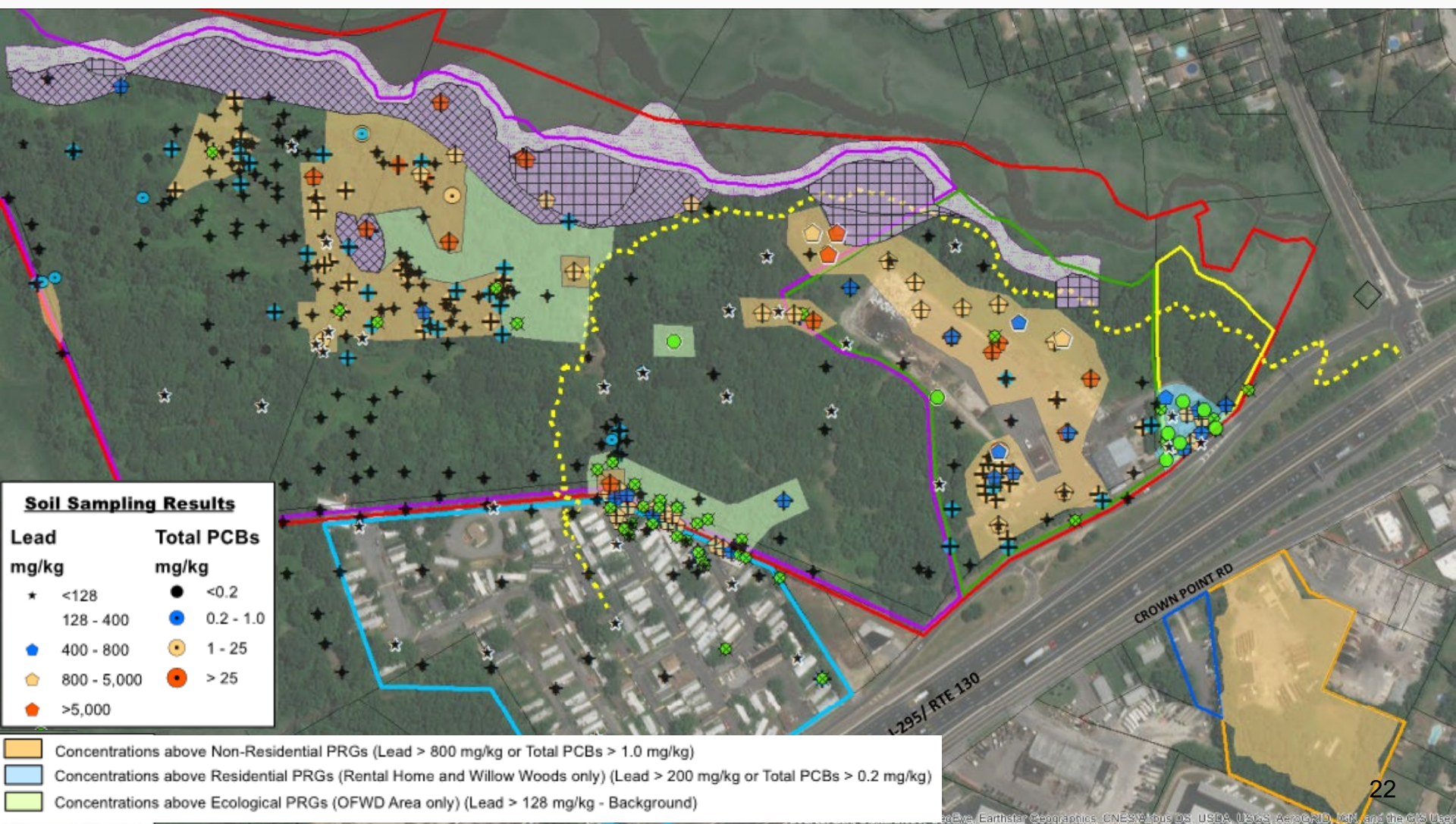


Source Material/Principal Threat Waste



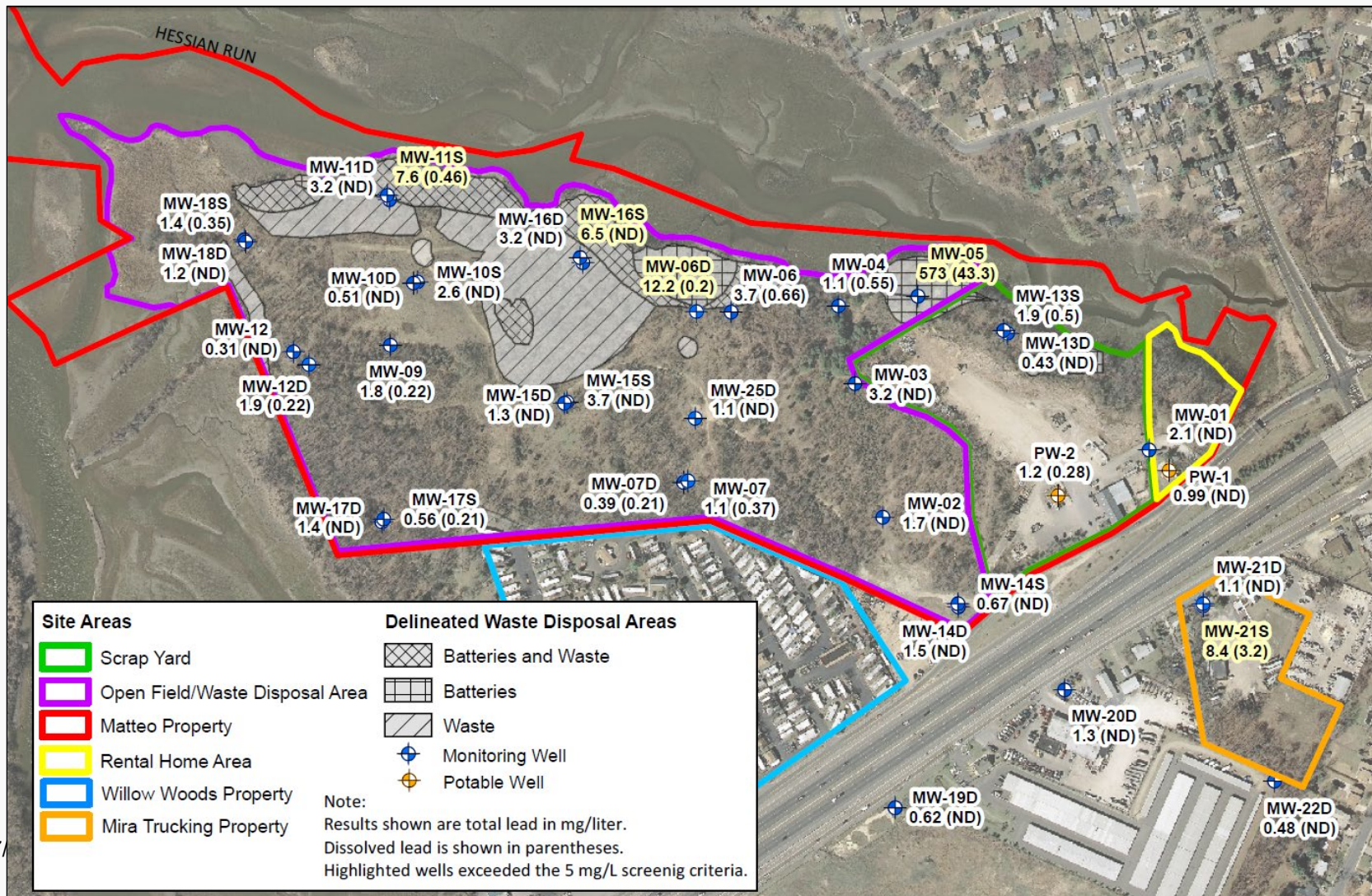


Soils





Groundwater





Human Health Risk Assessment

- Risks identified above EPA thresholds for current/future rental home residents, scrapyards workers, trespassers, recreational users and construction workers due to **lead** and/or **PCBs** in soil
- **Lead and antimony** concentrations in groundwater also yielded risks above EPA thresholds; however, exposure to contaminated groundwater at the site is not currently occurring
- Elevated lead and PCB concentrations were found in sediment, surface water and fish tissue. Risks associated with these media will be further assessed after source material remediation is complete
- Willow Woods property:
 - No risks were identified above EPA threshold values for residents or future construction workers



Ecological Risk Assessment

- Preliminary Remediation Goals (PRGs) were developed for lead and zinc (the risk drivers)
- **Lead** in Sediment
 - Based off of the great blue heron model (only model that indicated risk)
 - 636 mg/kg
- **Lead and Zinc** in Soil
 - Based off of the American robin model since it was the most sensitive receptor
 - Site-specific BAF – 55 mg/kg for lead and 62 mg/kg for zinc
- Ecological PRGs developed for lead and zinc are below the background concentrations for lead (128 mg/kg) and zinc (106 mg/kg) so the PRGs defaulted to the background values for each metal.
- Ecological PRGs only apply to surface soil.



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- Superfund Process Overview
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Remedial Action Objectives

■ **Source Materials**

- Eliminate migration of contamination from the source materials to surface water, sediment, soil, and groundwater.
- Eliminate exposure to source materials at concentrations exceeding the PRGs to human and ecological receptors.

■ **Soil**

- Reduce or eliminate exposure to contaminated soil at concentrations exceeding the PRGs by human and ecological receptors.
- Minimize contaminant migration to sediments, groundwater, and surface water.

■ **Groundwater and Surface Water**

- Reduce contaminant concentrations by remediating the source materials and contaminated soils exceeding the PRGs.



Assumptions for All Alternatives

- All source materials would be excavated
- Shoreline restoration to pre-landfill conditions
- Source materials are hazardous waste
- Onsite containment of source materials above the 100-year flood zone is acceptable
- Capping of stabilized contaminated soils within the 100-year flood zone is acceptable with erosion control measures
- Maintaining net-zero flood storage capacity as practicable
- All non-contaminated municipal waste will be left in place and would not require covering



Alternative 1 - No Action

- Under this alternative, EPA would take no further actions to address the Site
- Because contamination would be left in place, the Site would be reviewed once every five years
- The Superfund program requires consideration of a “no-action” alternative to act as a baseline for comparison

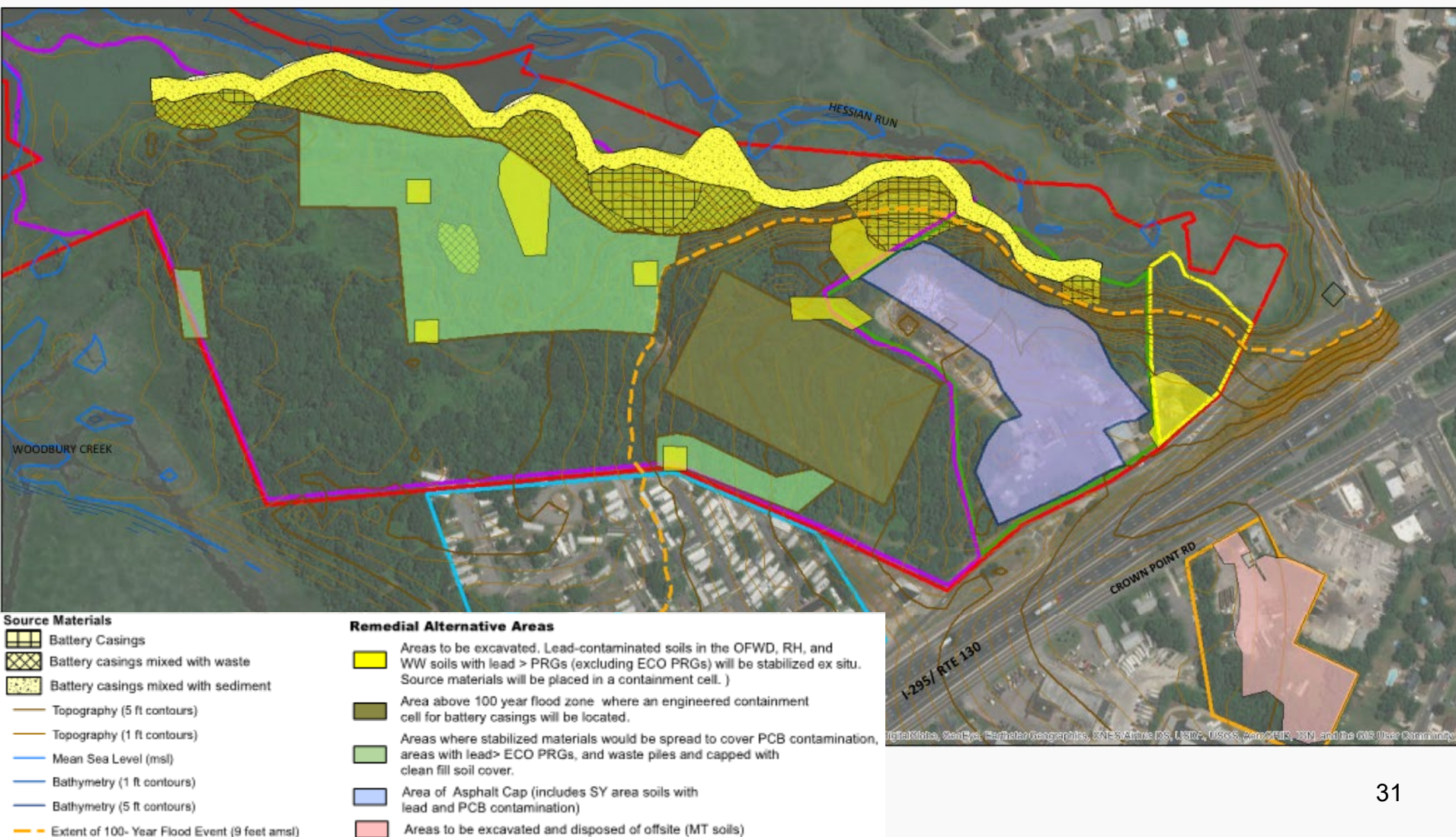


Common Elements of Alternatives 2, 3, 4, and 5

- Excavate source materials/principal threat waste along shoreline and at Mira Trucking
- Connection to public water
- Institutional Controls
- Long-term monitoring of groundwater quality

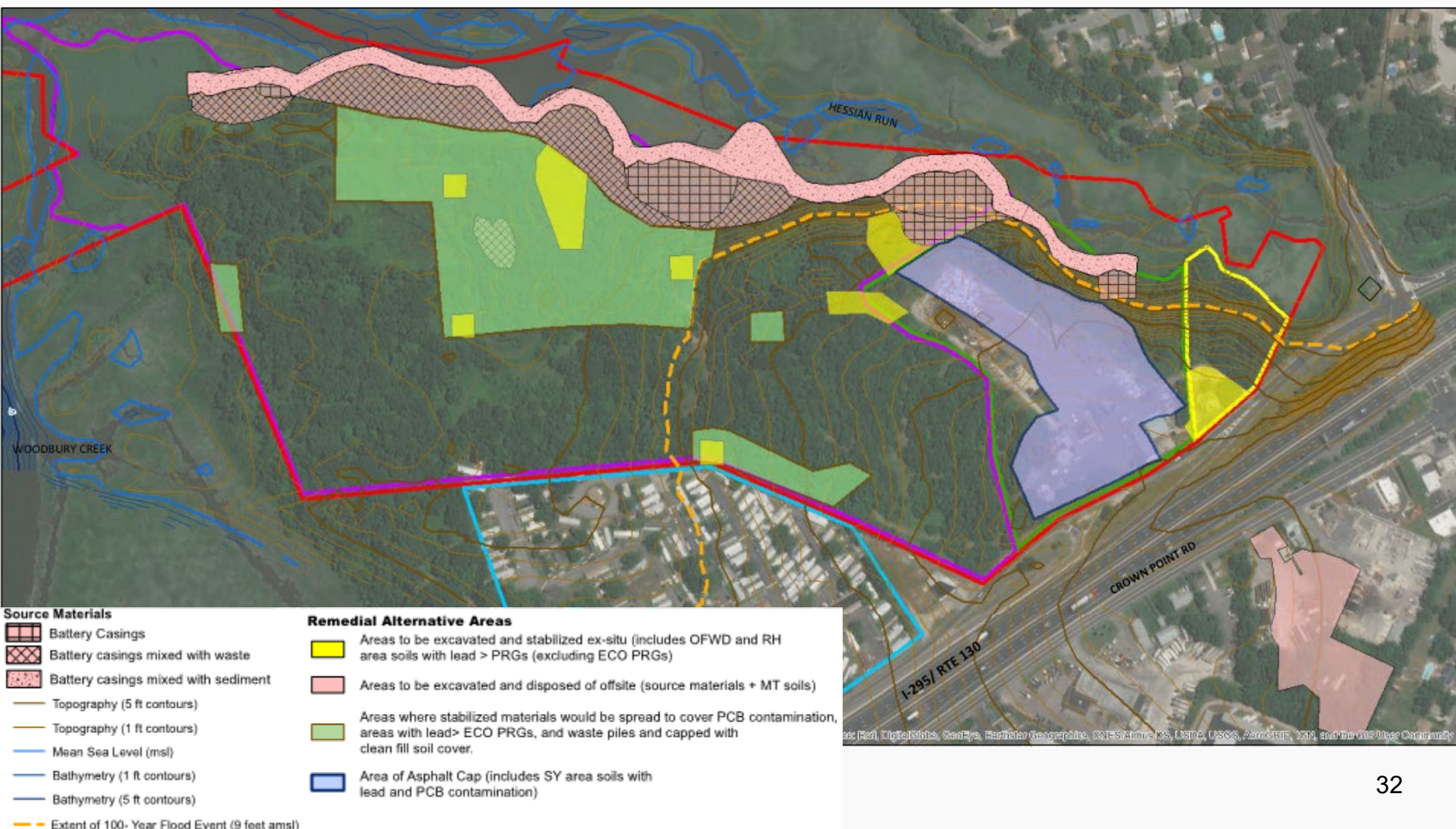


Alternative 2



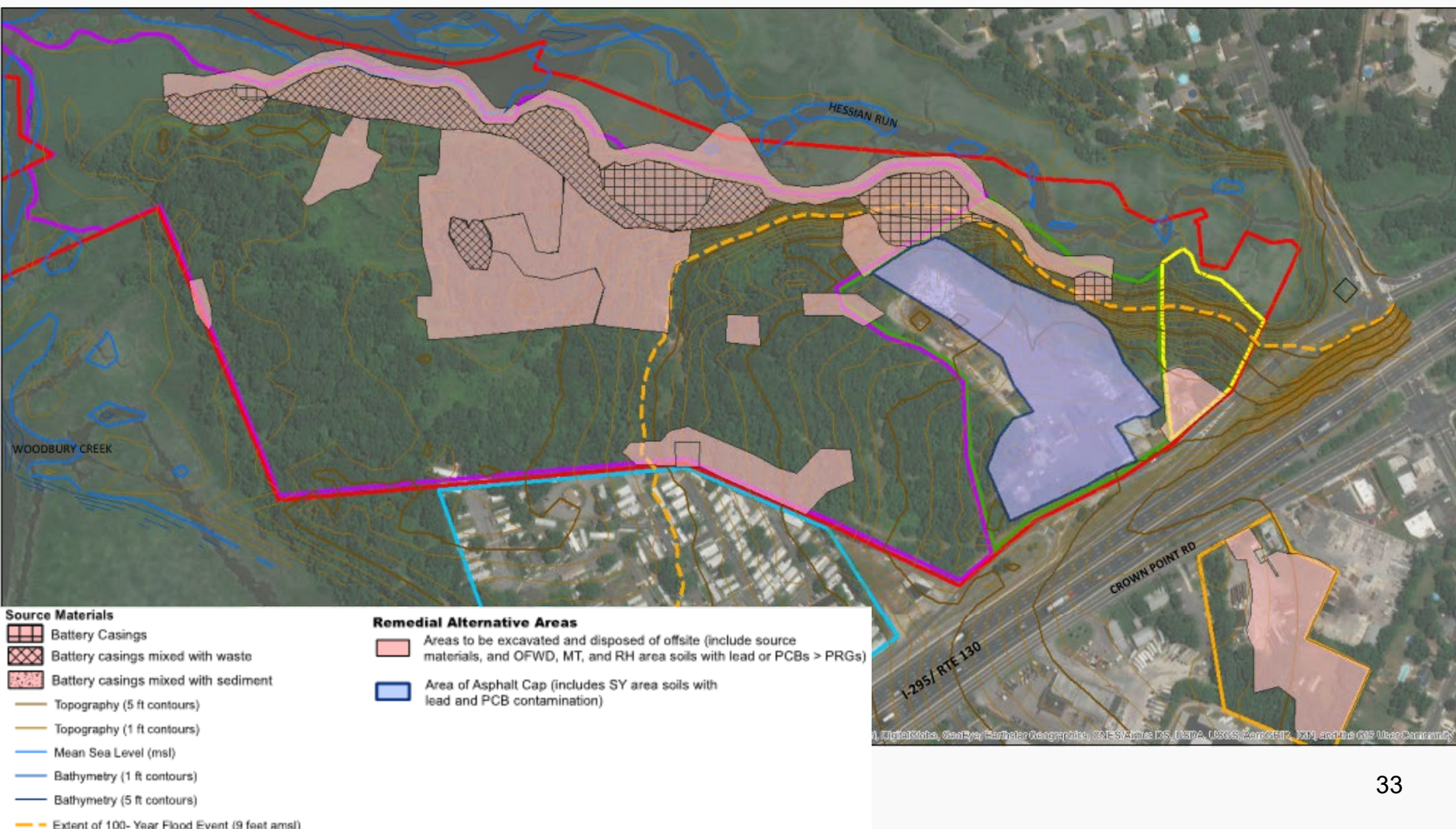


Alternative 3



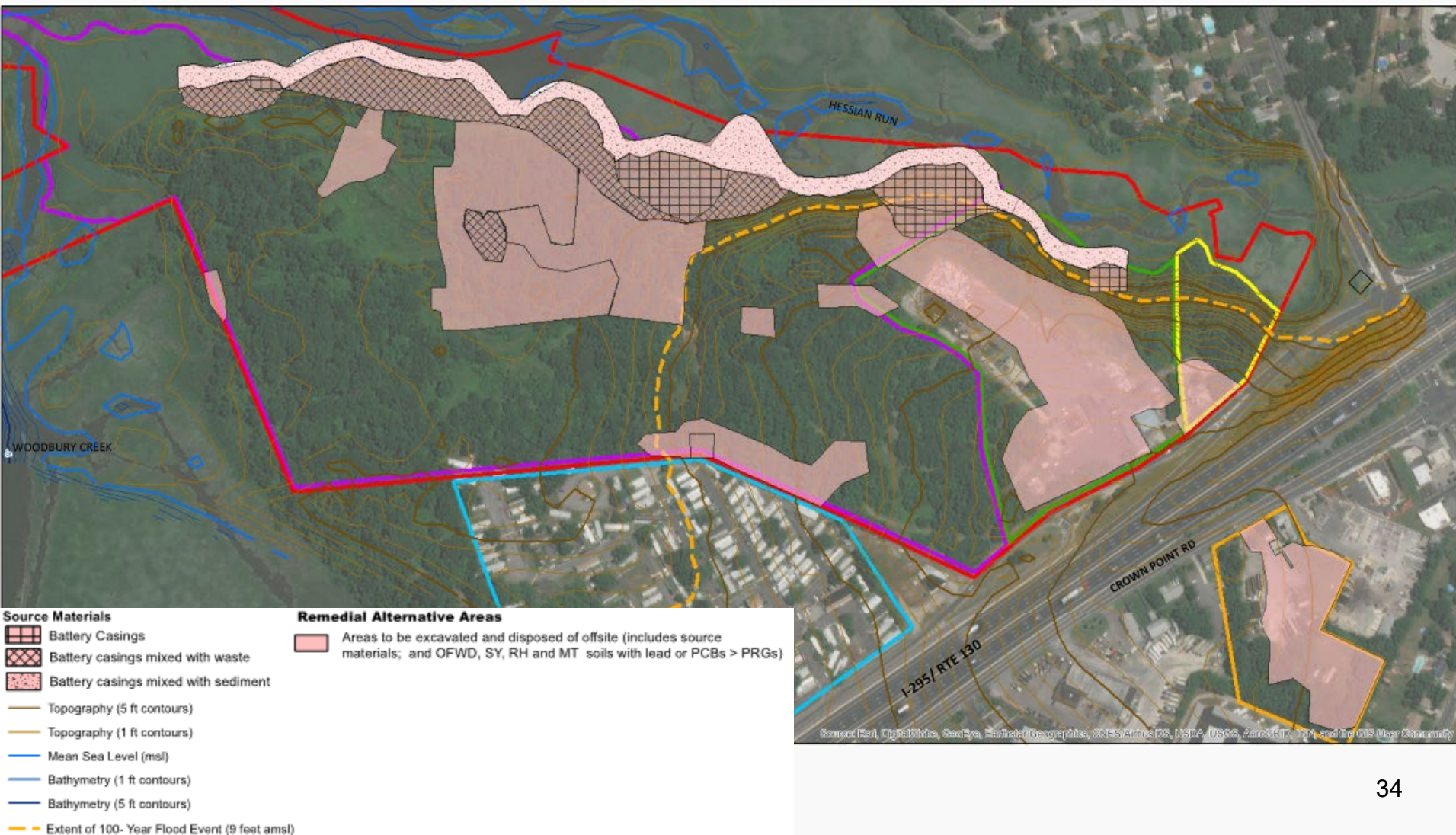


Alternative 4





Alternative 5





Summary of Alternatives

Alternative No.	Alternative Description	Volume of Contaminated Material Removed (cubic yards)	Estimated Cost (millions)	Estimated Construction Time (years)
1	No Action	0	\$0	0
2	Excavation, Stabilization, On-site Containment, and Capping	0	\$38.5	3 – 3.5
3	Excavation, Off-site Disposal of Source Materials, Stabilization, and Capping	61,680	\$67.1	2.5 – 3
4	Excavation, Off-site Disposal of Source Materials and Contaminated Soils, and Capping	92,250	\$72.2	3 – 3.5
5	Excavation and Off-site Disposal	101,100	\$82.4	3 – 3.5



EPA's Nine Criteria for Evaluating Cleanup Plans

- To address federal Superfund requirements.
- To address any additional **technical** and **policy considerations** that have proven to be important for selecting among remedial alternatives (cleanup options).



Threshold Criteria

1. Overall Protection of Human Health and the Environment
2. Compliance with Applicable or Relevant and Appropriate Requirements



Balancing Criteria

3. Long-Term Effectiveness and Permanence
4. Reduction in Toxicity, Mobility or Volume through Treatment
5. Short-Term Effectiveness
6. Implementability
7. Cost



Modifying Criteria

8. State Acceptance
9. Community Acceptance - acceptance of preferred alternative will be assessed following the public comment period



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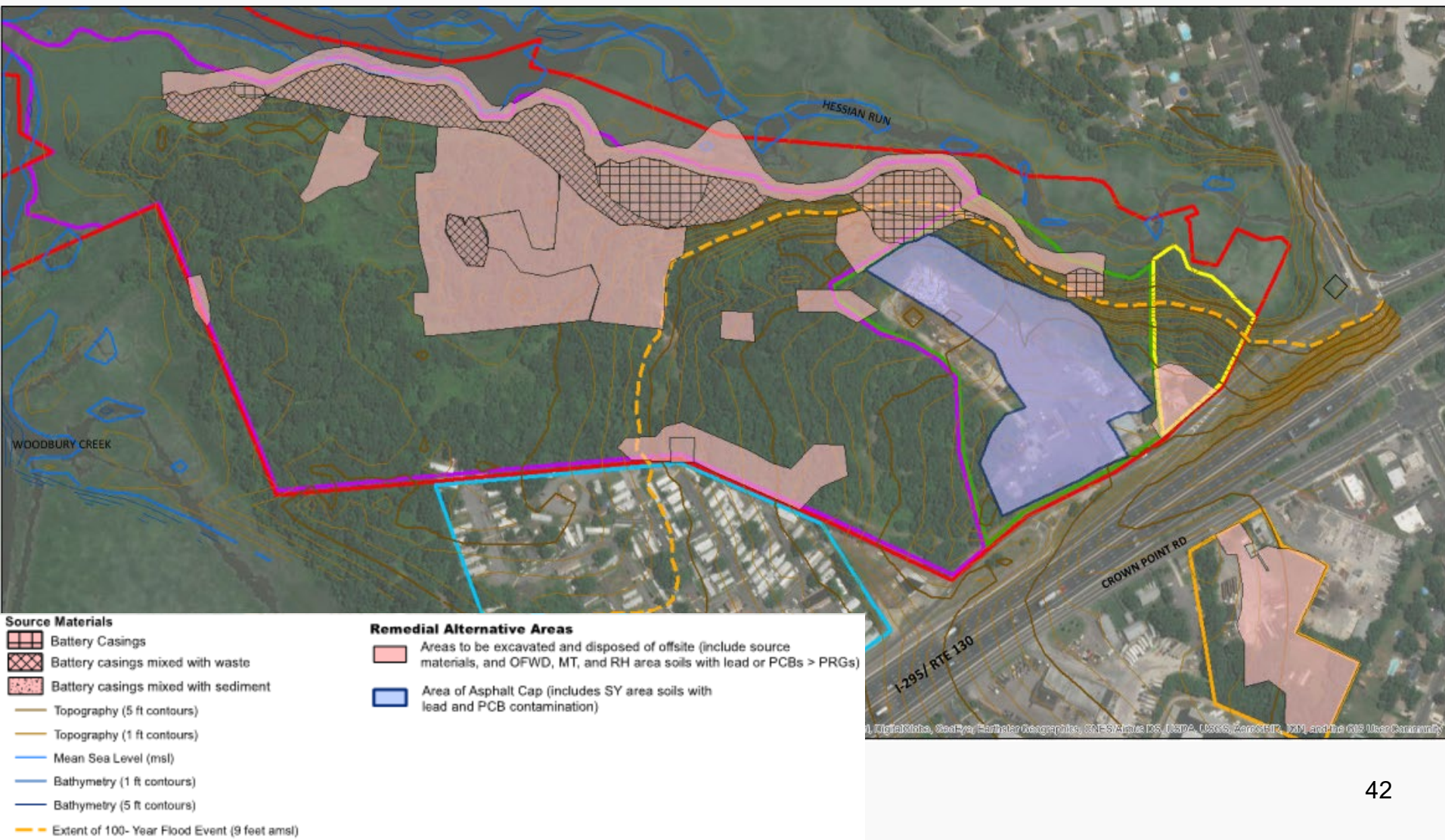
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Preferred Remedy - Alternative 4

- Excavation and off-site disposal of source materials
- Excavation and off-site disposal of all contaminated soils in the open field/waste disposal area, rental home area, and Mira Trucking area
- Restoration following excavation
- Restoration of shoreline of Hessian Run
- Capping of contaminated soil in the scrapyard area
- Connection to city water
- Inspection and maintenance of scrapyard cap
- Institutional controls: deed notice for scrapyard, CEA for groundwater
- Long-term monitoring of groundwater

Alternative 4





Preferred Remedy - Alternative 4

- Capital Cost - \$71,460,000
- Annual O&M Cost - \$85,000
- Present Worth Cost - \$72,245,000
- Implementation Time Frame - 3 to 3.5 years



Questions and Comments

Please submit written comments by no later than
Friday, August 2, 2019 to:

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**Public Meeting
Wednesday, July 17, 2019**

Thank you

www.epa.gov/superfund/matteo-and-sons