Cleanup of PCB Contaminated Sites

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U.S. EPA Region 9

October 3, 2022

EPA's TSCA Regulatory Oversight

- Toxic Substances Control Act (1976)
- TSCA PCB regulations found at 40 C.F.R. Part 761
- 1977 - manufacture of PCBs banned
- 1979 - use of PCBs in products banned

Land, Chemicals, and Redevelopment Division (LCRD)

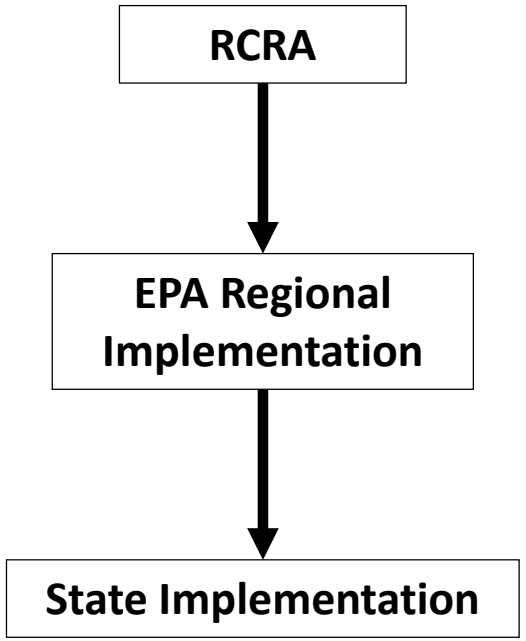
PCB-contaminated sites subject to TSCA

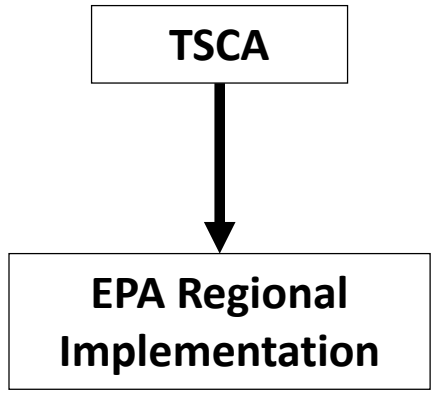
Superfund Division (SFD)

National Priority List sites (including PCB-contaminated)

Implementation of TSCA PCB Regulations

Unlike RCRA, TSCA *not* delegated to States





Risk-Based PCB Cleanups

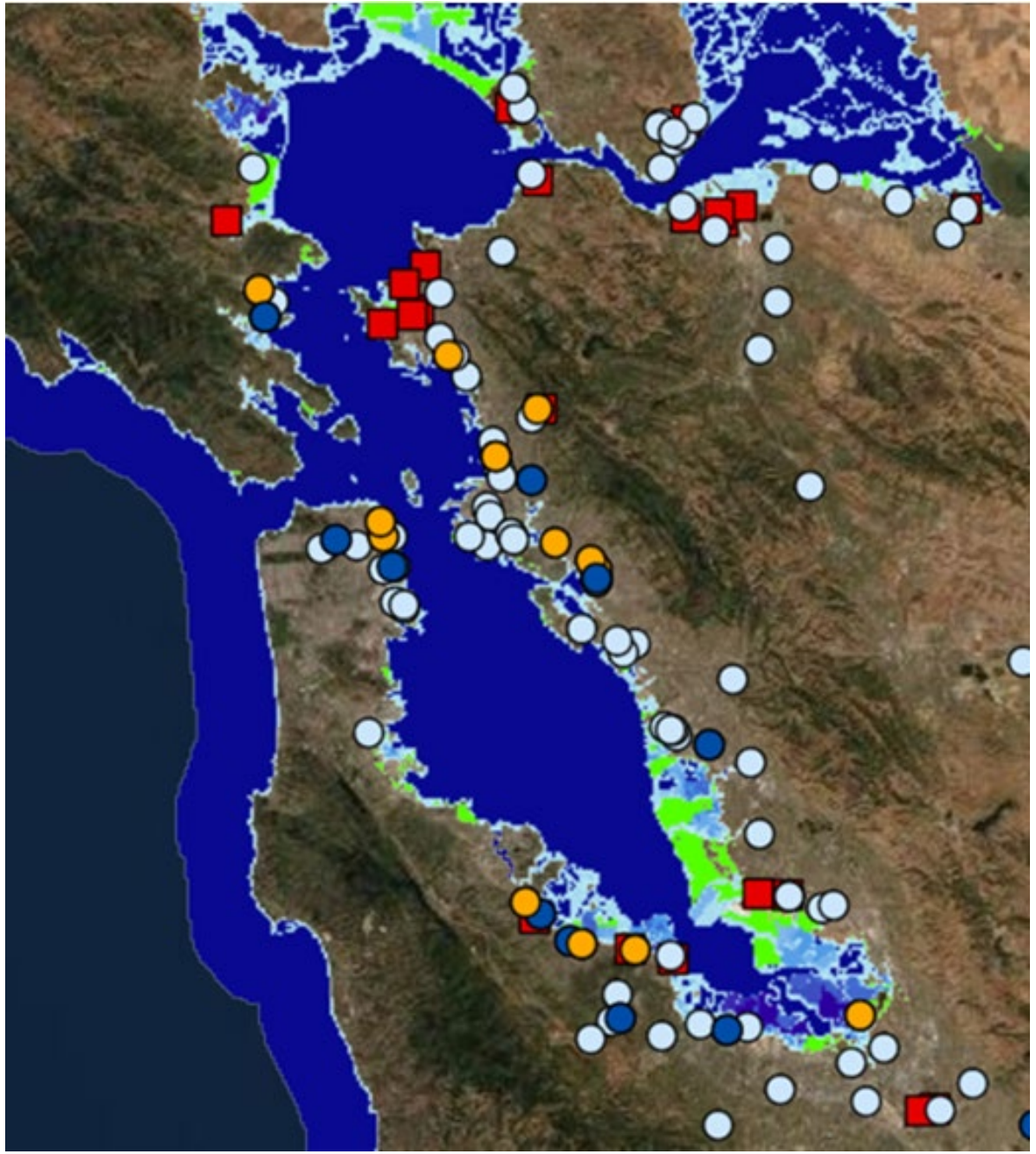
- Most common type of PCB cleanup
- Responsible Parties submit an application to EPA for approval
- Address human and ecological risk
- EPA makes a “no unreasonable risk determination” and can establish enforceable conditions in approvals
- EPA’s PCB Facility Approval Streamlining Toolbox (FAST)

EPA-Managed Sites in SF Bay

Circles: PCB cleanup sites

Squares: RCRA permitted TSD facilities

Note: map does not include Superfund or UST sites.



Common PCB applications

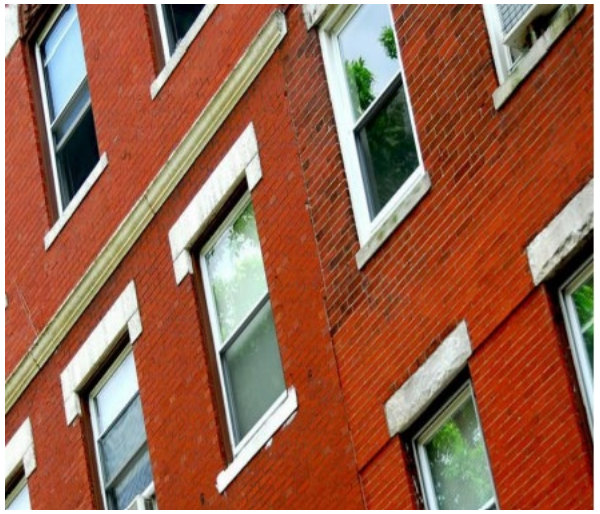
Industrial and utility sites that hosted electrical equipment containing PCBs

Transformers

Capacitors

Building Materials

(buildings constructed or renovated in the 50s-70s)



Other PCB Cleanup Sites

Shipyard repair

Photo credit: Adrian Scott Fine/LA Conservancy

Auto crushing, repair, scrap metal recycling

Contaminated Fill

Other PCB Cleanup Sites

Old drinking water storage tanks

Photo credit: Remedy Engineering

Photo credit: US Fish and Wildlife Service

Illegal activities
(e.g., dumping, theft)

TSCA Cleanup Site Definition

The areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of a cleanup of PCB remediation waste, regardless of whether the site was intended for management of waste.

PCB Off-Site Mobilization Pathways

- Storm drains
- Overland flow into adjacent water body
- Soil sidewall erosion into adjacent water body
- Soil contaminants leaching to groundwater

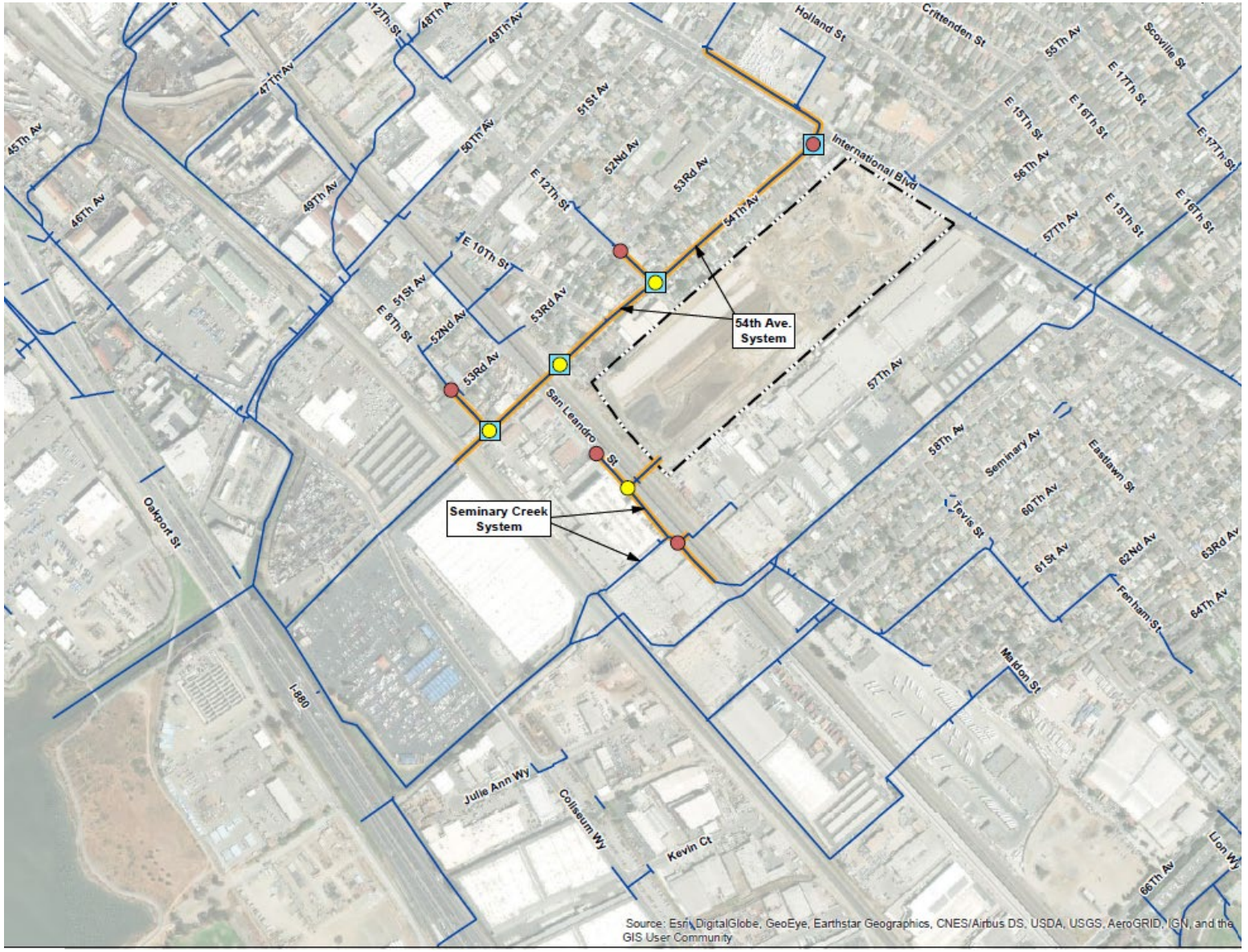
PCBs in Sediment

- Site storm drains (via overland transport)
- Offshore areas adjacent to the site (via either storm drain outlets or at overland flow discharge areas)
- Tidal influences may affect how PCBs are distributed

Coordination on Bay Area Sites

- San Francisco Regional Water Quality Control Board
  - EPA-Water Board Monthly meetings
- San Francisco Estuary Institute
- County Urban Runoff Pollution Prevention Programs

Former GE Oakland Site

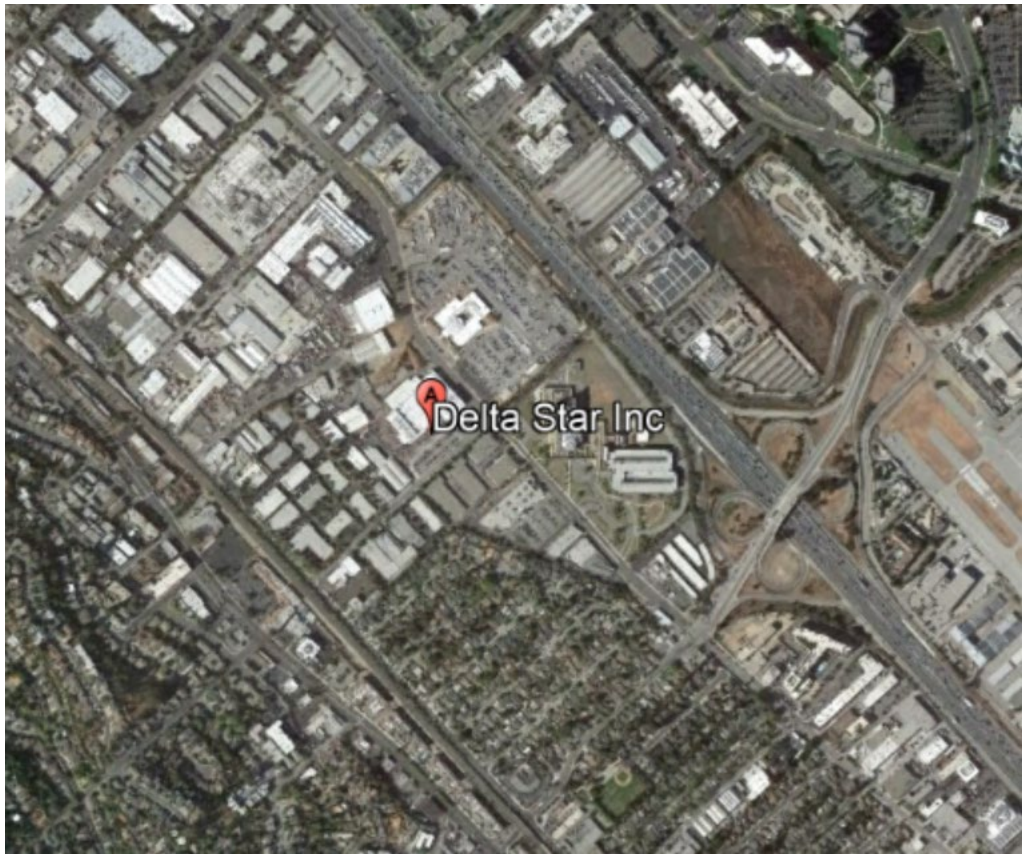


Former GE Oakland Site Timeline

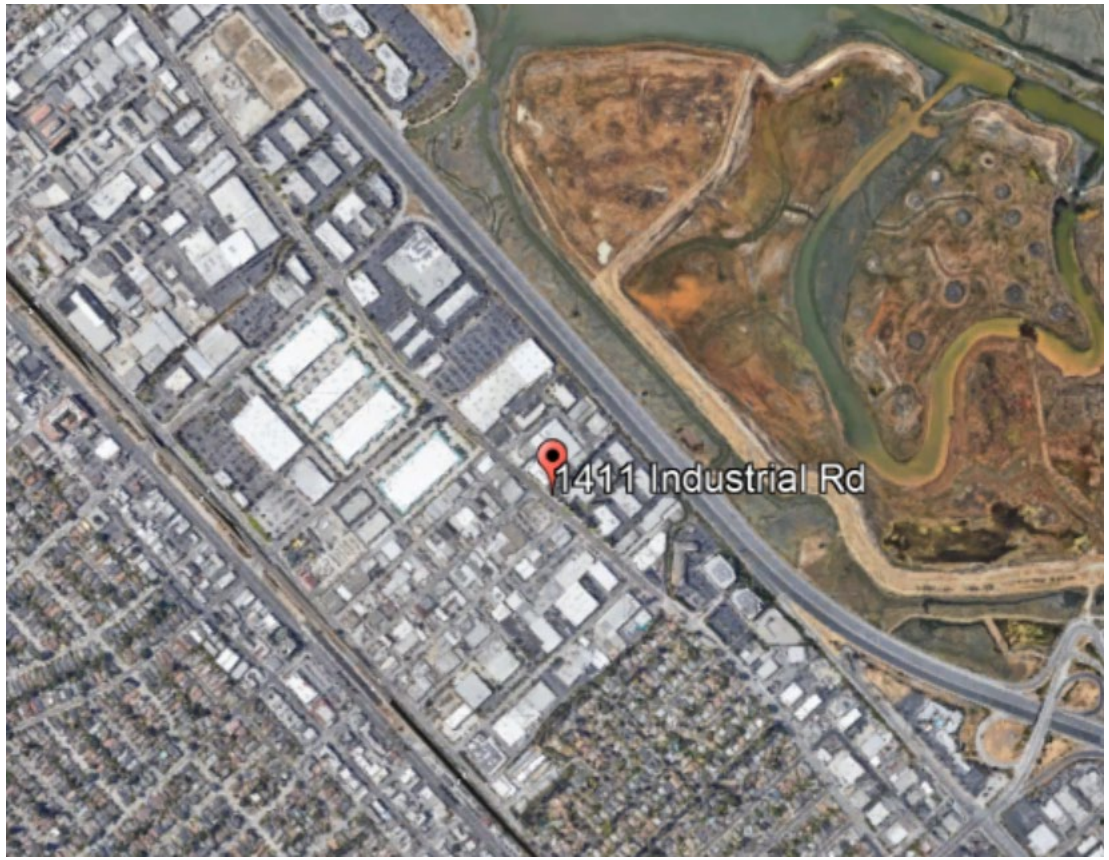
Date	Action
March 2022	SFEI shared PCB data for lines adjacent to the site
April 2022	EPA & Water Board met to discuss collaborative cleanup requirement efforts
May 2022	EPA sent letter to GE requesting a PCB storm drain investigation
June 2022	Water Board sent coinciding letter to GE requiring PCB sediment sampling
August 2022	GE submitted a workplan to investigate PCBs in stormwater systems
Rainy Season 2022-2023	GE to conduct sediment & stormwater sampling
Spring/Summer 2023	PCB cleanup application & EPA approval (estimated)

Delta Star and 1411 Industrial Road, San Carlos

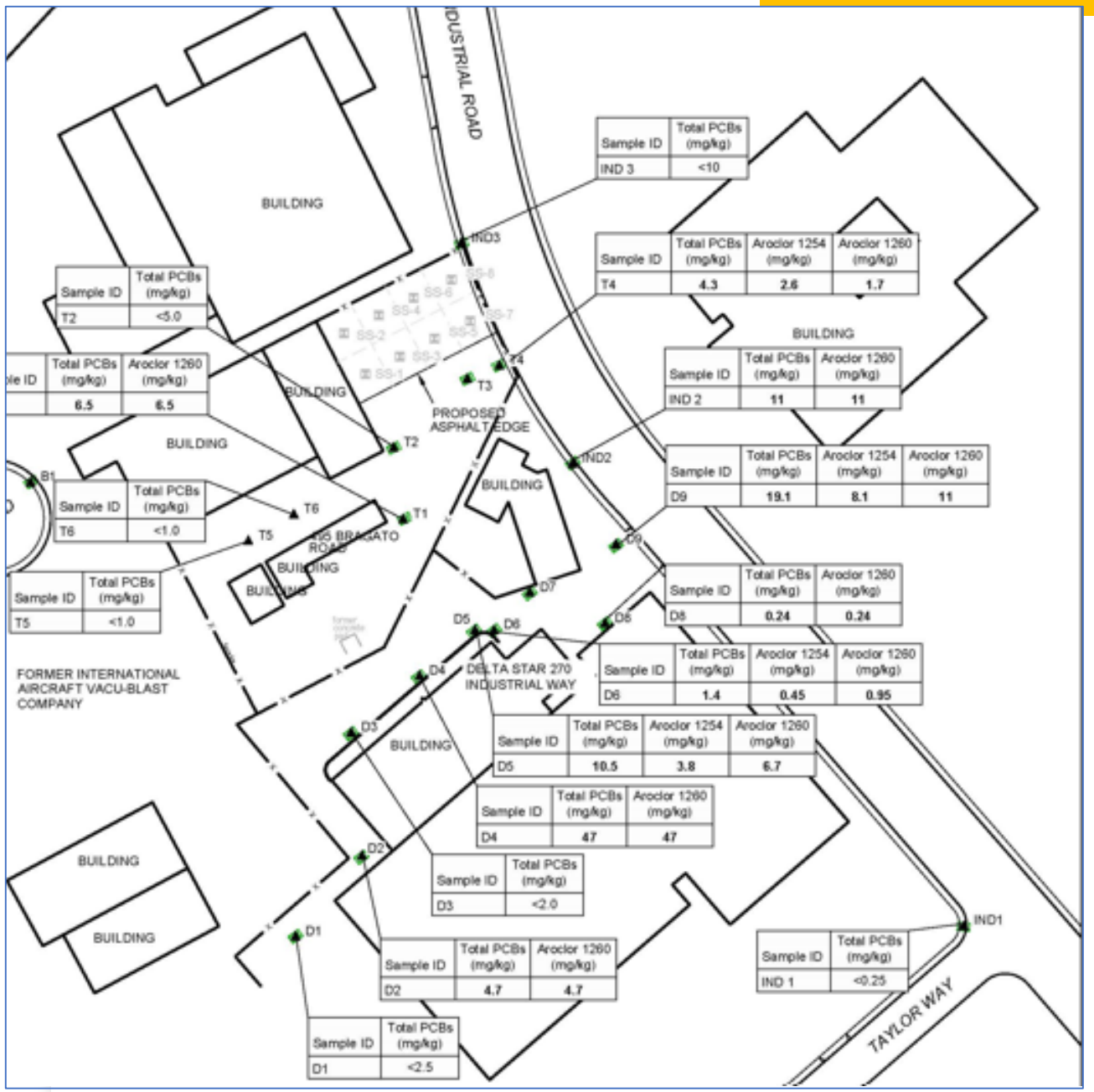
Delta Star



1411 Industrial Road



Delta Star storm drain sediment testing

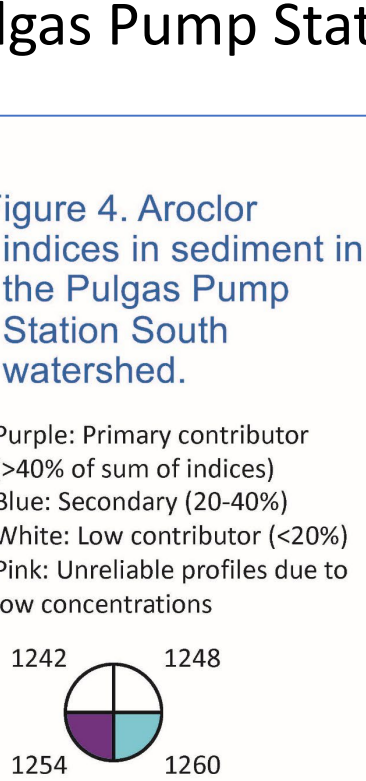


1411 Industrial Road

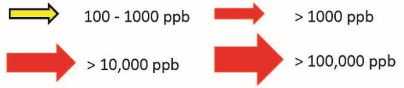
Pulgas Pump Station South watershed data

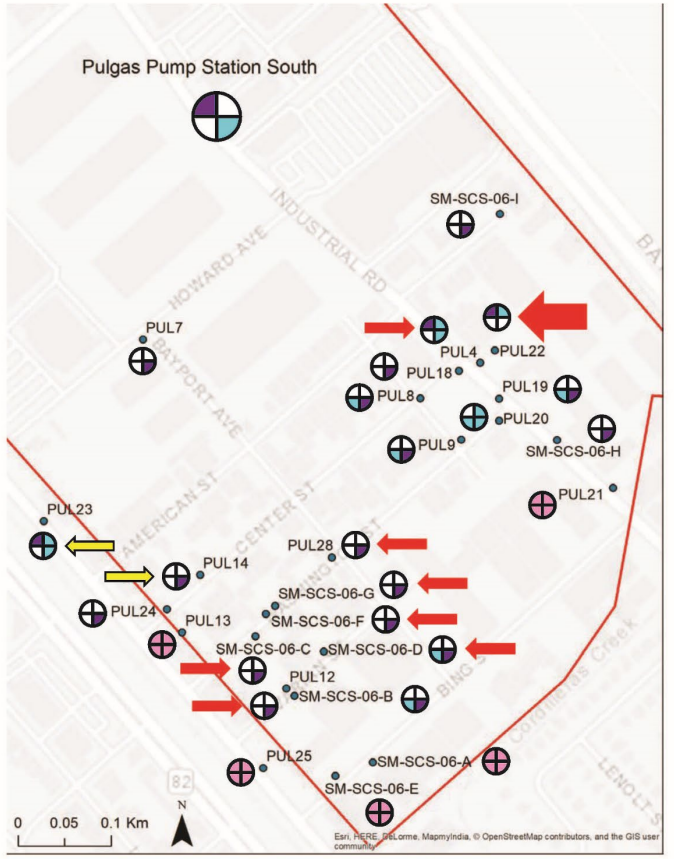
Figure 4. Aroclor indices in sediment in the Pulgas Pump Station South watershed.

Purple: Primary contributor (>40% of sum of indices)
Blue: Secondary (20-40%)
White: Low contributor (<20%)
Pink: Unreliable profiles due to low concentrations



Sum of 40 Congeners (ppb)





Leo Avenue, San Jose, storm drain sediment testing

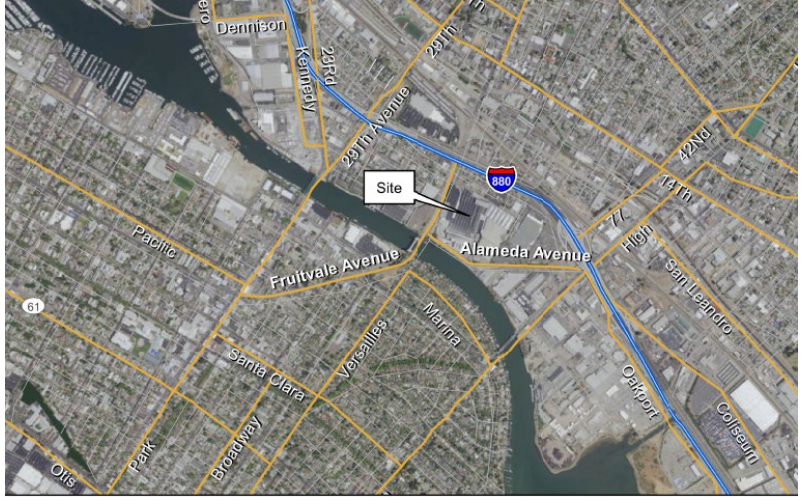
- Sediment filters (“reverse witch hats”) installed on storm drain inlets (Feb 2022)
- Effort informed by previous storm drain data collected by Santa Clara Valley URPPP
- Collaboration by EPA, Water Board, and City of San Jose

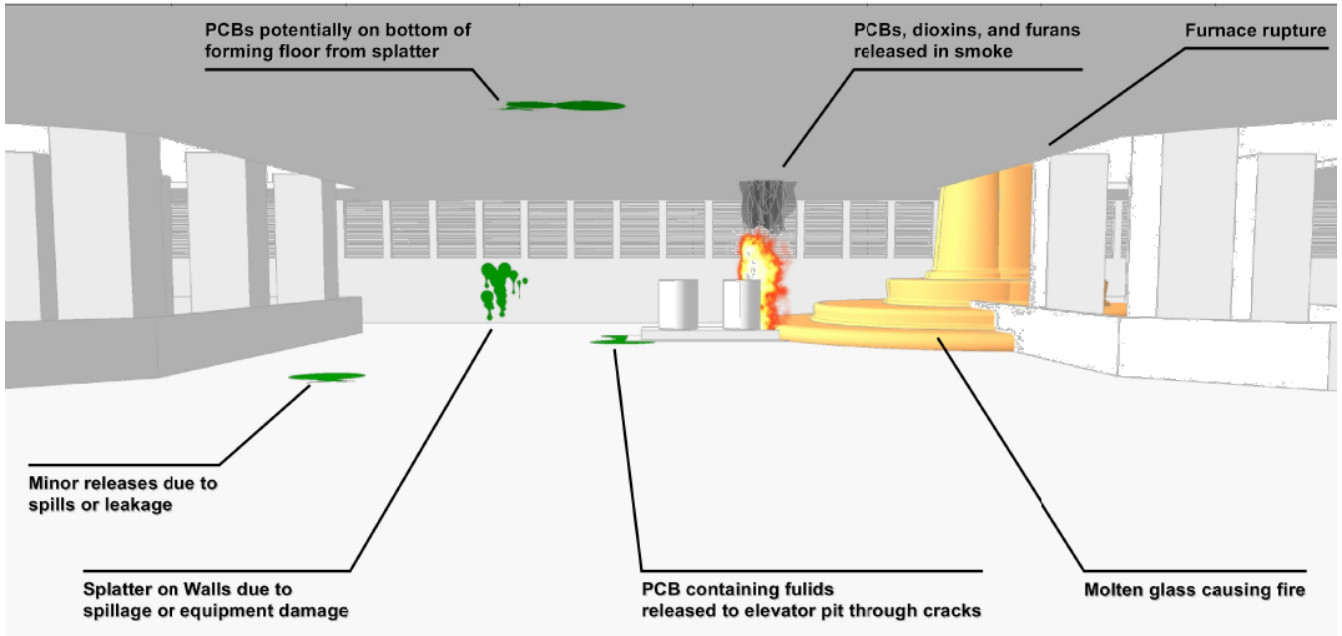
India Basin Site, San Francisco

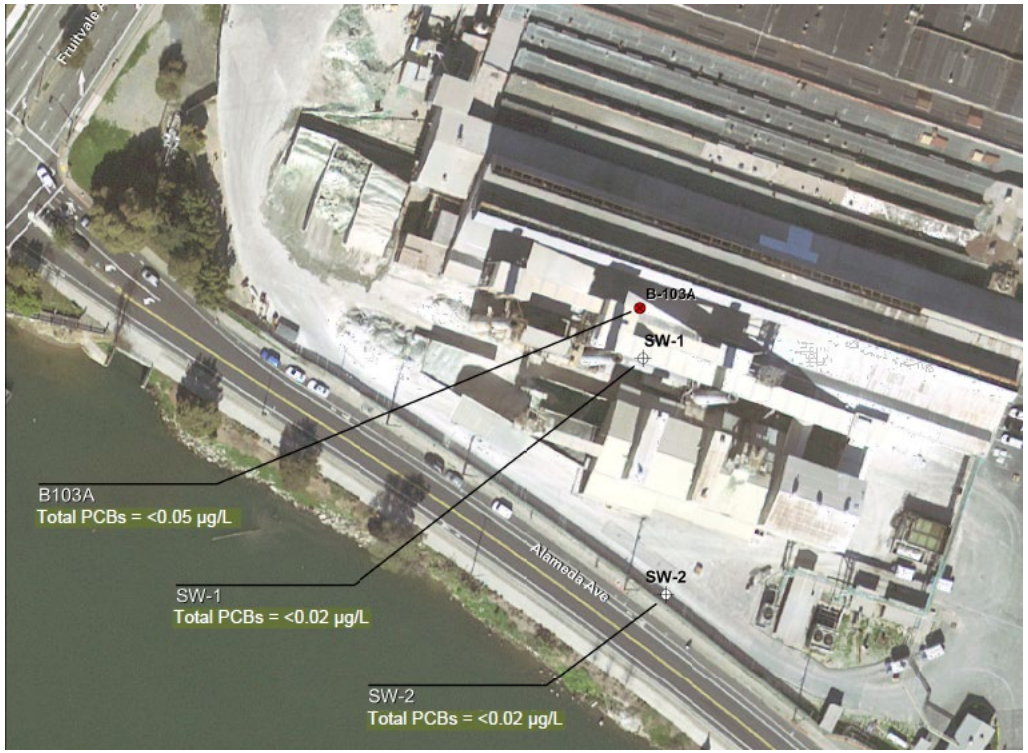
PCBs in Groundwater

- 330 mg/kg: SF RWQCB's ESL for PCBs in soil leaching to groundwater
- PCBs typically attach to sediment but can also dissolve in groundwater at lower concentrations if oils or chlorinated solvents are present
- As groundwater rises, PCB-impacted soils in the vadose zone may become saturated at a future date or during temporary storm surges
- Potential for PCBs to mobilize from groundwater into hydrologically connected surface waters

Owens Brockway Site, Oakland







Climate Resiliency

US EPA Region 9
Climate Adaptation Implementation Plan
for FY 2022 through FY 2026

August 1, 2022

Morro Bay Estuary, California

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MEMORANDUM

SUBJECT: Implement climate change resiliency into remedy protectiveness at RCRA and TSCA PCB Cleanup Sites, Permitted Facilities, and Tribal Underground Storage Tanks

FROM: Nicole Moutoux, Assistant Director
Land, Chemicals, and Redevelopment Division
EPA Region IX

NICOLE MOUTOUX
Digitally signed by NICOLE MOUTOUX
Date: 2022.06.15 09:59:48 -07'00'

TO: Region IX RCRA Branch Managers and Project Managers

Ensuring sites and facilities overseen by EPA Region IX's RCRA Branch are maintained with protective remedies that can withstand changing climate conditions is a priority objective for the current and forthcoming fiscal years. This extends to cleanup sites EPA manages under the Resource Conservation and Recovery Act (RCRA) and the Toxic Substances Control Act (TSCA), RCRA Permitted Facilities, and Tribal Underground Storage Tanks (USTs). In addition, EPA's October 2021 Climate Adaptation Plan (CAP) includes a commitment to develop/update national policy for remedy selection for RCRA and polychlorinated biphenyl (PCB) cleanup sites to address sea level rise. Accordingly, LCARD has proposed to implement climate change resiliency into remedy protectiveness at RCRA and TSCA cleanup sites and permitted facilities as a priority action item in EPA Region IX's draft CAP anticipated to be finalized this year.

Summary

- PCB sediment data can inform EPA's TSCA regulatory oversight
- Data sharing and coordination among entities can lead to identifying and cleaning up more PCB-contaminated sediment around the Bay