



Hunters Point Naval Shipyard



Parcel C: Upcoming Cleanup

Hunters Point Naval Shipyard
Community Meeting
October 24, 2012



Welcome and Introductions



Navy Team Members

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Welcome and Introductions



Purpose of Tonight's Meeting

- Provide an overview of Parcel C
- Describe plans for upcoming field work in Parcel C
- Provide a schedule for Parcel C cleanup work
- Answer community questions



Welcome and Introductions



Meeting Agenda

Time	Topic
6:00 – 6:10	Welcome & Introductions
6:10 – 6:15	Meeting Format & Ground Rules
6:15 – 6:55	Presentation
6:55 – 7:25	Open House Tables
7:25 – 7:30	Open House Summaries
7:30 – 7:45	Questions & Answers
7:45	Adjournment & Action Items



Meeting Format & Ground Rules



- The Navy's general presentation will take about 40 minutes
- Please raise your hand and ask your question when called upon
- We welcome you to visit our Open House tables following the presentations to talk with members of the Navy and regulatory agencies
- There will be time at the end of the meeting to answer any additional questions
- Meeting materials are available to provide more detailed information on the Navy's cleanup activities at HPNS

Parcel C: Upcoming Cleanup

Hunters Point Naval Shipyard

COMMUNITY MEETING
October 24, 2012

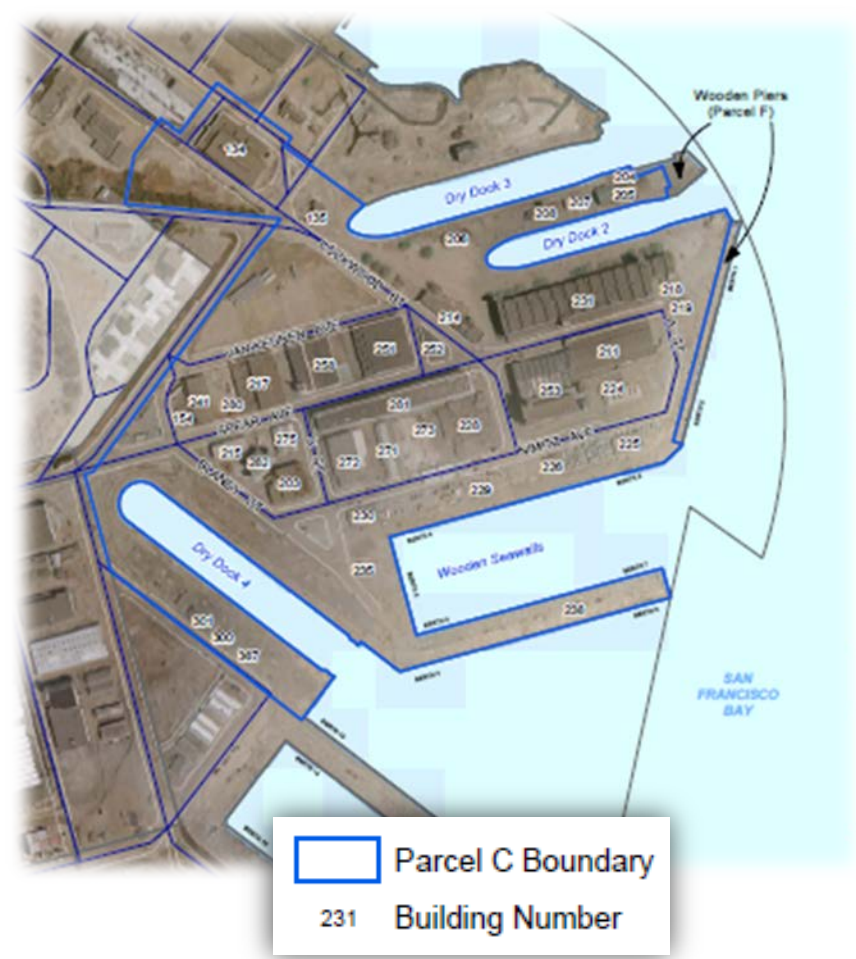


Parcel C: Overview



Site Overview

- Historically used for ship repair and maintenance activities
- Additional Shipyard support services
 - Power plant
 - Machine, metalworking and paint shops
- Parcel C is 73 acres in size
- Most intensive industrial area of the shipyard





Parcel C: Overview



Contaminants of Concern in Parcel C

- Metals
 - arsenic, lead, zinc and manganese
- Polycyclic aromatic hydrocarbons (PAHs)
- Volatile organic compounds (VOCs) in groundwater
- Polychlorinated biphenyls (PCBs) in soil
- Industrial solvents/chemicals in groundwater
 - Chlorinated compounds
 - Chromium and zinc
- Low level, residual radionuclides
 - In structures (such as buildings)
 - In sanitary sewer and storm drains





Parcel C: Work Completed



Removal Actions and Treatability Studies

- Two key removal actions removed or eliminated risks to human health and ecological receptors
 - More than 3,000 samples collected
 - Approximately 9,600 cubic yards of soil excavated & disposed of off-site
 - Treatability studies focused on technologies to reduce chlorinated solvents in soil and groundwater
- Led to the treatments chosen for action today
 - The extent of remaining contamination in soil and groundwater have been well characterized
 - Removal, survey, and backfill of 22,907 linear feet of sewer/drain lines for radiologic contamination
- Low level, residual radionuclides
 - in structures (such as buildings)
 - in sanitary sewer and storm drains



Parcel C: Overview



Parcel C Cleanup Objectives

- Remove and treat contaminated soil
 - Excavation and Disposal = *Dig and Haul*
 - Soil Vapor Extraction
 - Long-lasting covers
 - Asphalt
 - Concrete repair/replacement
 - Soil
 - Guidelines and limitations to be set for future use
- Treat groundwater in 4 plumes: RU-C1, RU-C2, RU-C4, RU-C5
 - Iron injections/bioremediation treatment
 - Professionally managed, monitored natural attenuation
 - Guidelines and limitations to be set to protect future use
- Radiological cleanup
 - Investigate and remove "Rad" when found
 - Obtain "free release" from State of California/EPA



Parcel C: Soil "Dig and Haul"



- Excavation planned in 31 areas
- Dig down to 10 feet (except 2 locations)
- Remove up to 42,000 cubic yards (yd³) of soil and dispose of off-site



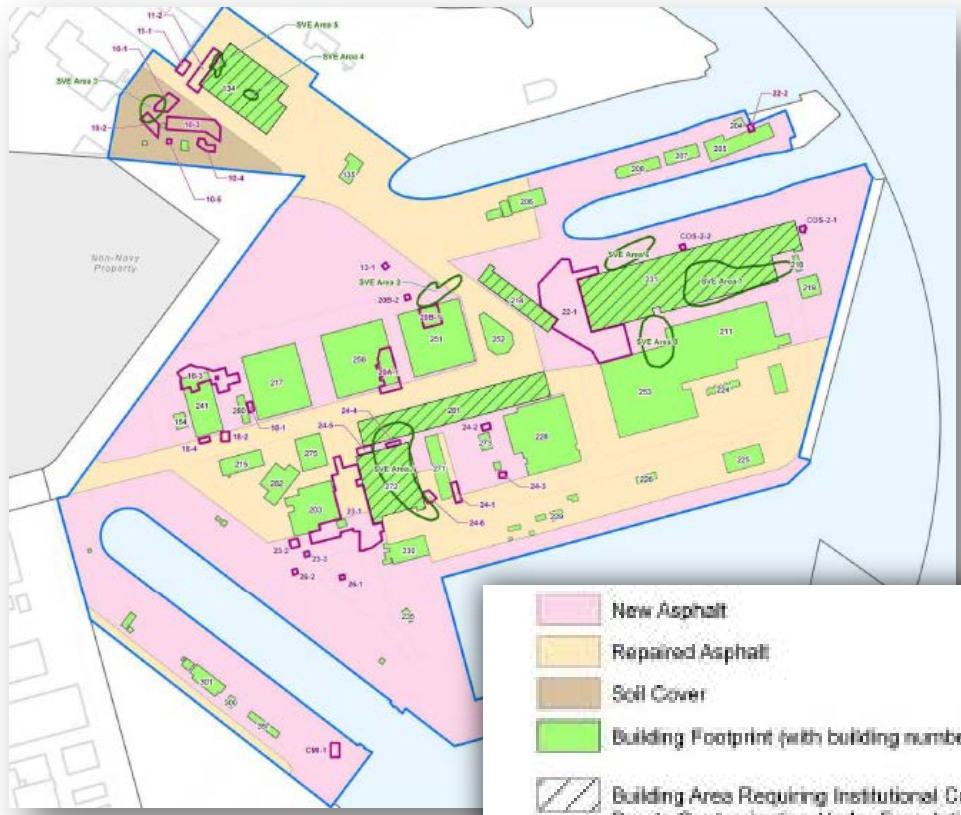
Parcel C: Soil Vapor Extraction (SVE)



- Reduces source of contaminants in soil and above groundwater plumes
- Installed and operated in eight areas
- Survey to be conducted after completion of cleanup



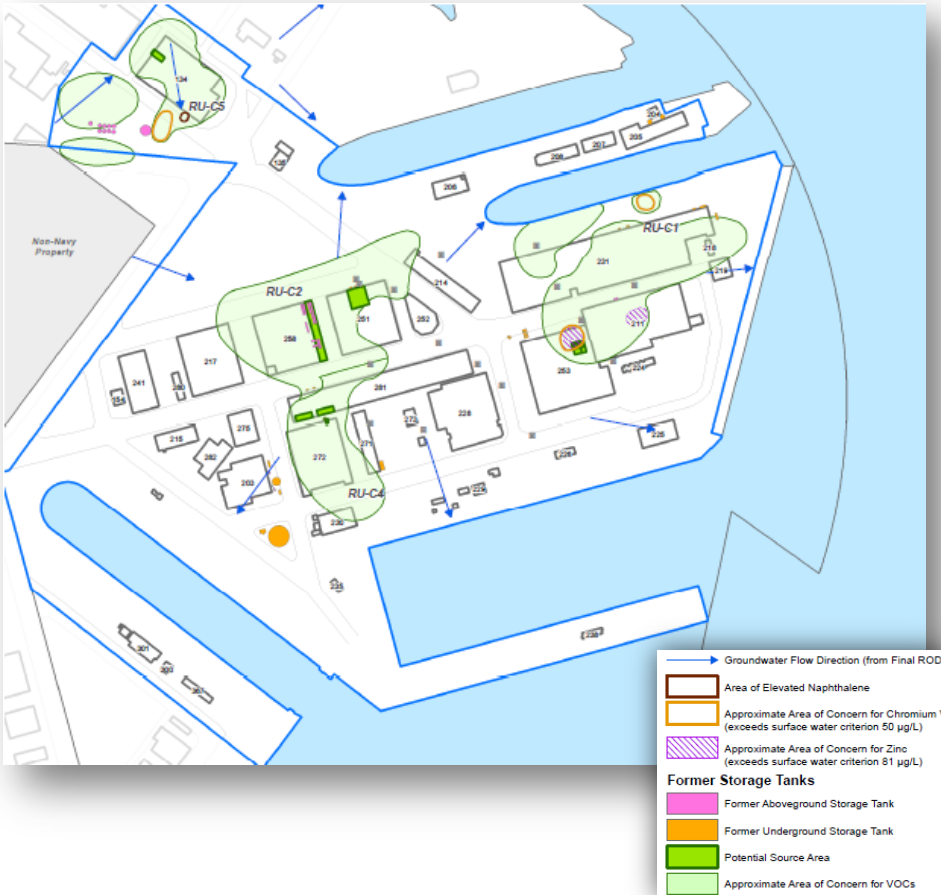
Parcel C: Soil Cleanup Map



- Install long-lasting covers
 - New asphalt
 - Asphalt repair
 - Soil
- Keep covers in place after cleanup
 - Limit exposure to any left-over contaminants



Parcel C: Groundwater Cleanup



- **RUC1**
 - Plume C1-1
 - Plume C1-2
 - Plume C1-4
 - Plume C1-5
- **RUC2**
 - Plume C2-1
 - Plume C2-2
- **RUC4**
 - Plume C4-1
- **RUC5**
 - Plume C5-1
 - Plume C5-2



Parcel C: Groundwater Cleanup

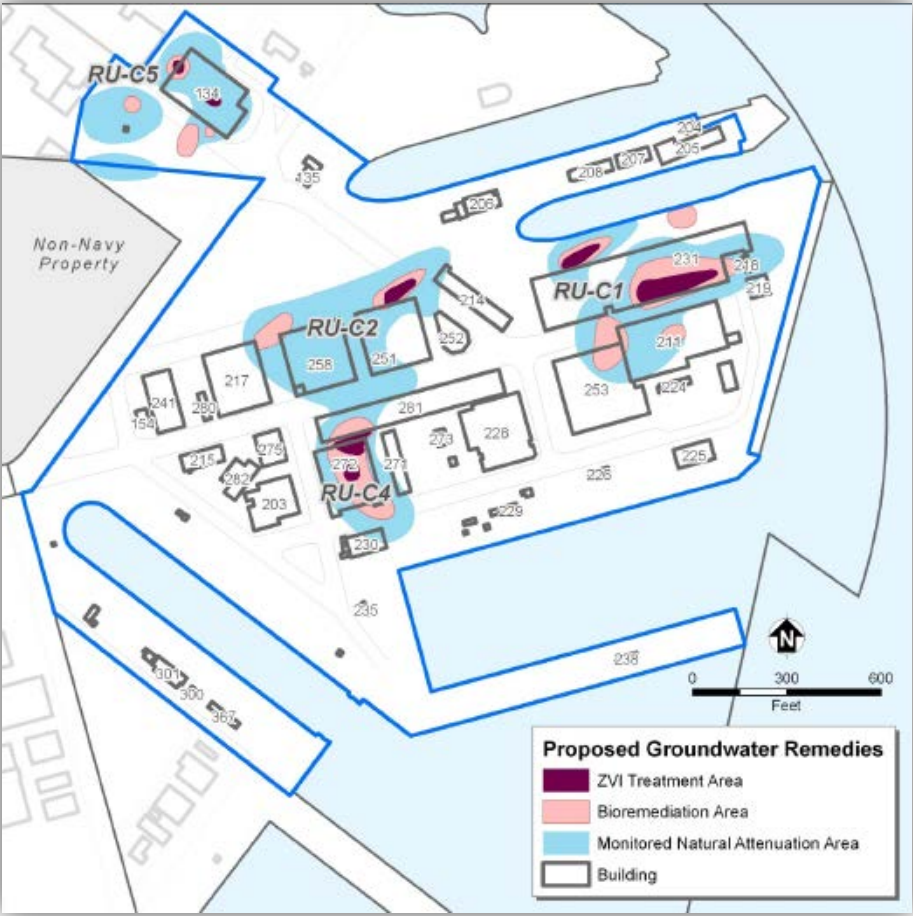


- Zero Valent Iron Injections
 - Planned in 6 locations
 - Target hotspot areas where concentrations are highest
 - Liquid form of iron into groundwater
 - creates reaction to break down contaminants
- Bioremediation (Cleanup)
 - Planned in 7 locations
 - Injection of materials to feed natural bacteria that break down contaminants
 - sodium lactate (for solvents)
 - molasses (for Cr6+ and zinc)
 - Permanently reduce concentrations of metals in groundwater





Parcel C: ZVI/Bioremediation



ZVI/Bioremediation Cleanup Process

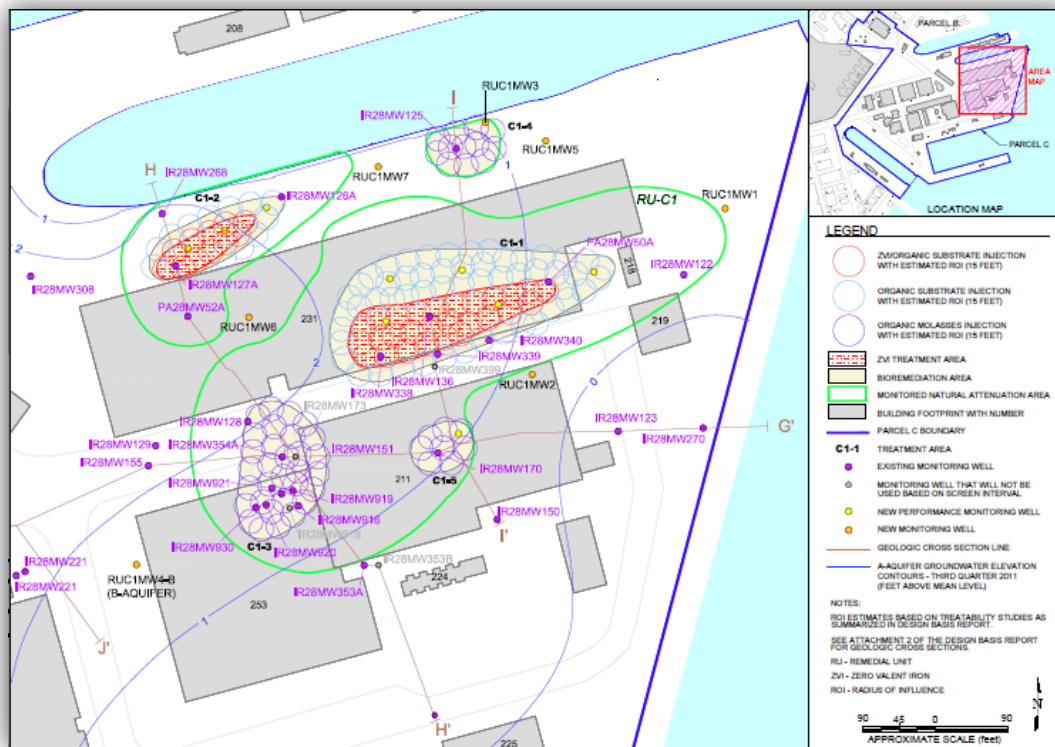
- Inject ZVI/biological materials
 - 7 areas
 - Break-down of contaminants in groundwater
 - Annual review/optimization
- Perform cleanup as needed



Parcel C: RU-C1



RU-C1 Treatment Areas



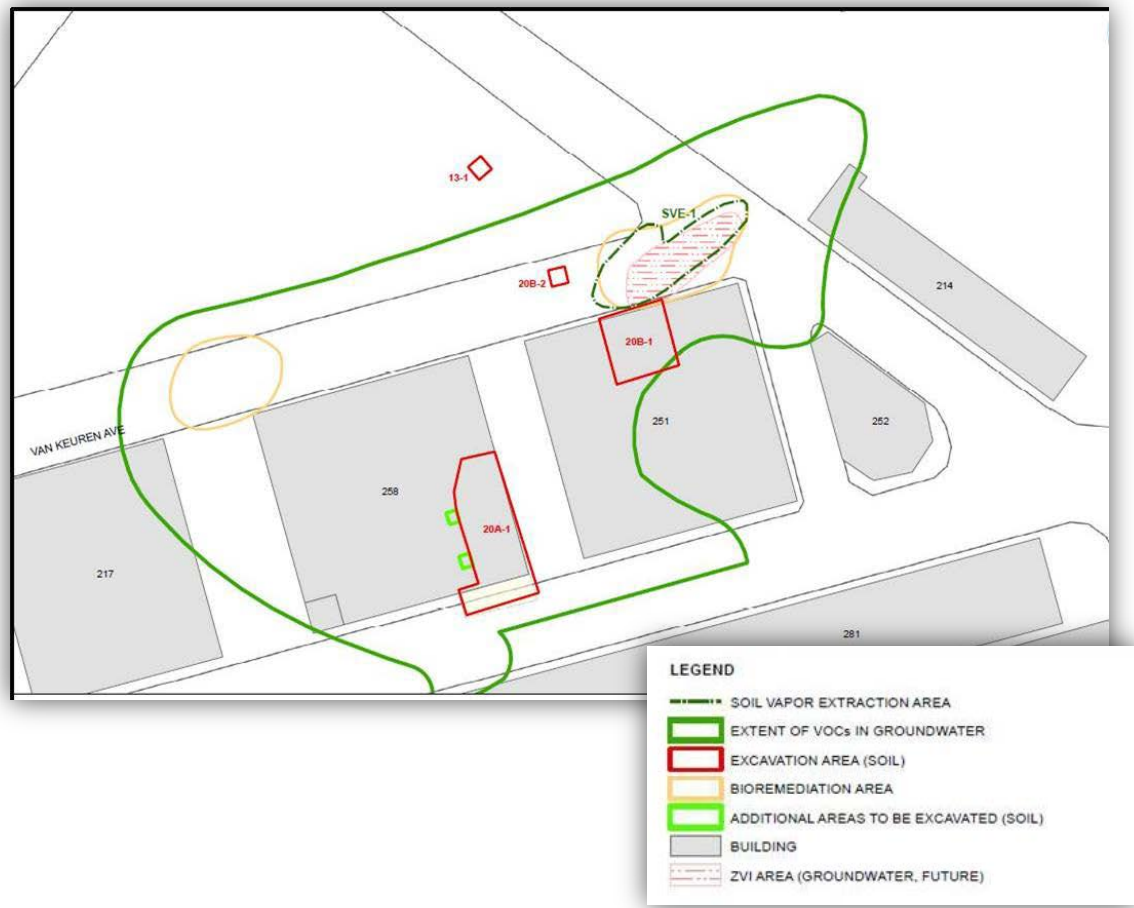
- Treatment depth
 - approximately 7 to 25 feet below ground surface
 - water table at approximately 7 feet below ground surface
- Plume C1-1
 - 171,405 sq ft
- Plume C1-2
 - 34,201 sq ft
- Plume C1-3
 - 4,835 sq ft
- Plume C1-4
 - 5,007 sq ft
- Plume C1-5
 - 2,976 sq ft



Parcel C: RU-C2



RU-C2 Treatment Areas



- Treatment depth
 - approximately 15 feet below ground surface
 - water table at approximately 7 feet below ground surface
- Plume C2-1
 - 10,125 sq ft
- Plume C2-2
 - 7,875 sq ft
 - Shallow bedrock



Parcel C: RU-C4



RU-C4 Treatment Areas



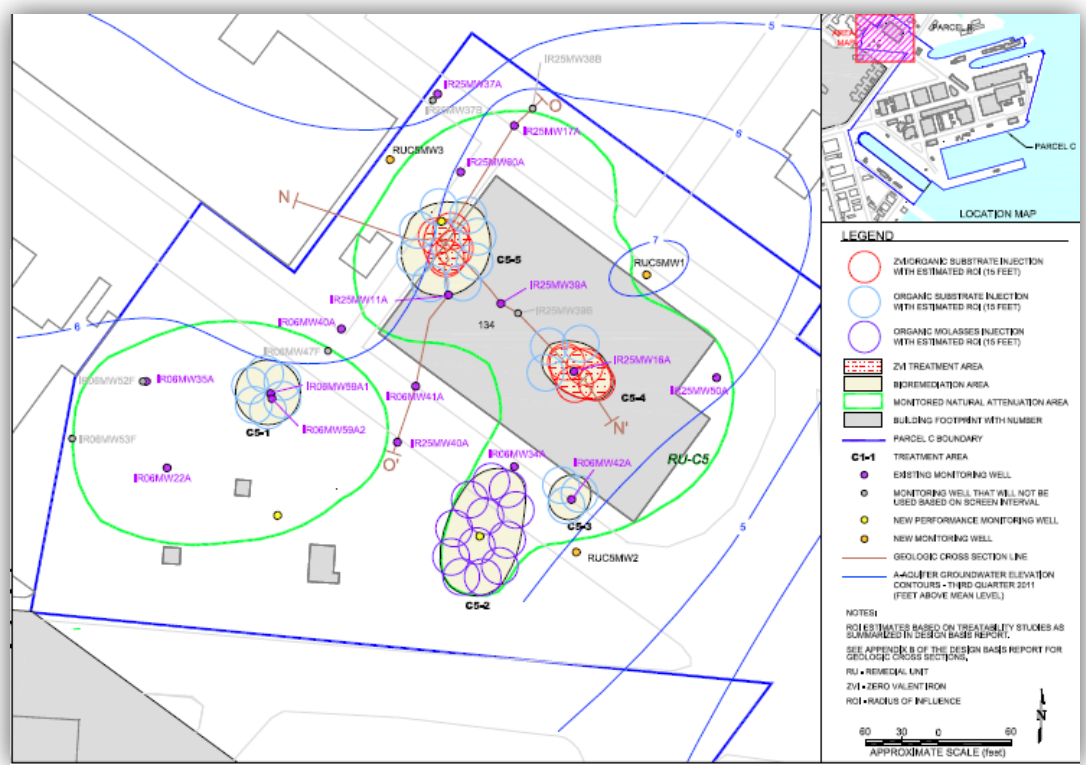
- Treatment depth
 - approximately 25 feet below ground surface
 - water table at approximately 7 feet below ground surface
- Plume C4-1
 - 98,393 sq ft
- Sources of contamination
 - Solvent pipes
 - Storage tanks
 - Sumps/dip tanks



Parcel C: RU-C5



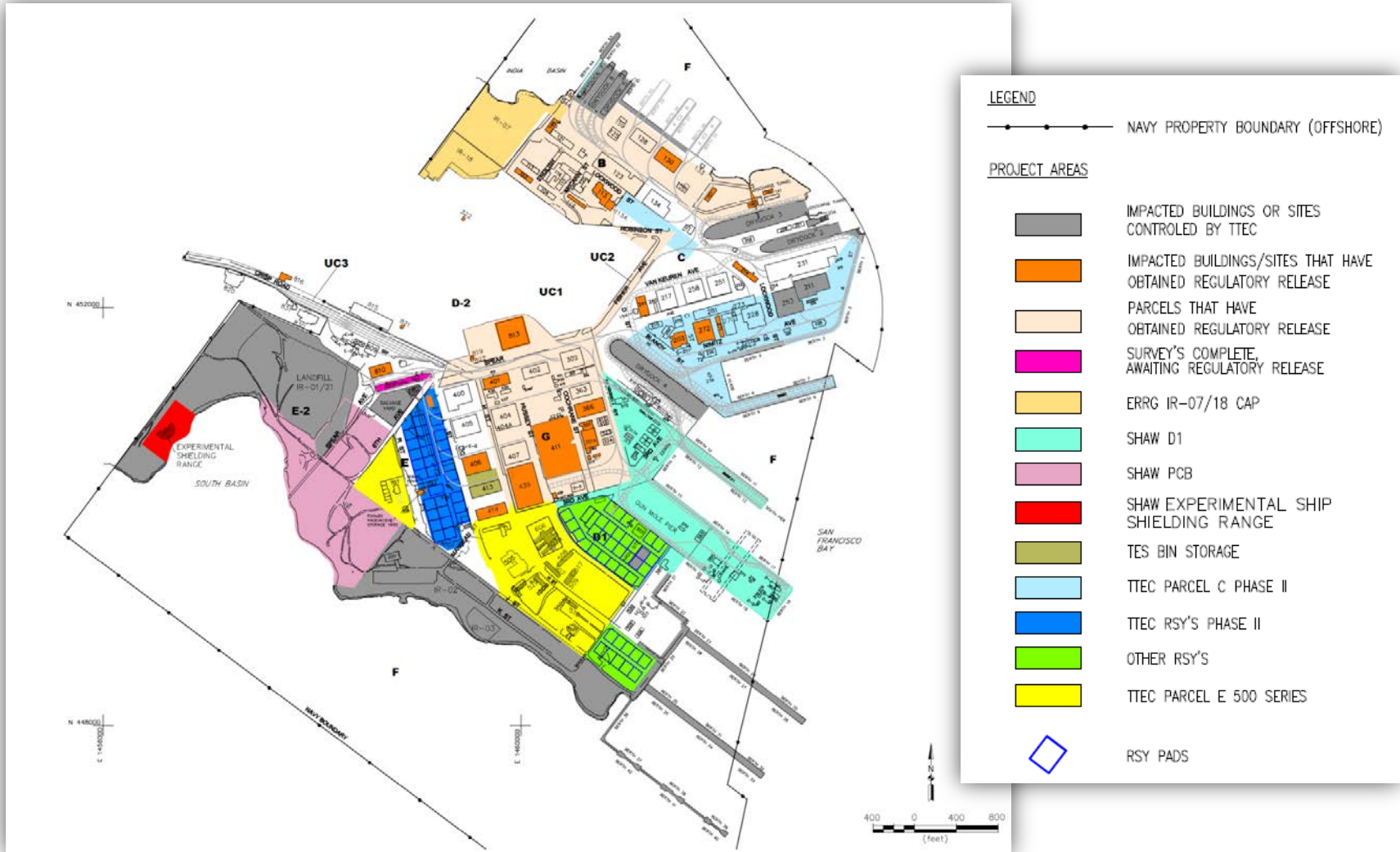
RU-C5 Treatment Areas



- Treatment depth
 - approximately 20 feet below ground surface
 - water table at approximately 7 feet below ground surface
- Plume C5-1
 - 37,373 sq ft
 - Sumps and drains at Bldg 134
- Plume C5-2
 - 70,216 sq ft
 - Former tank farm



Parcel C: Radiological Work



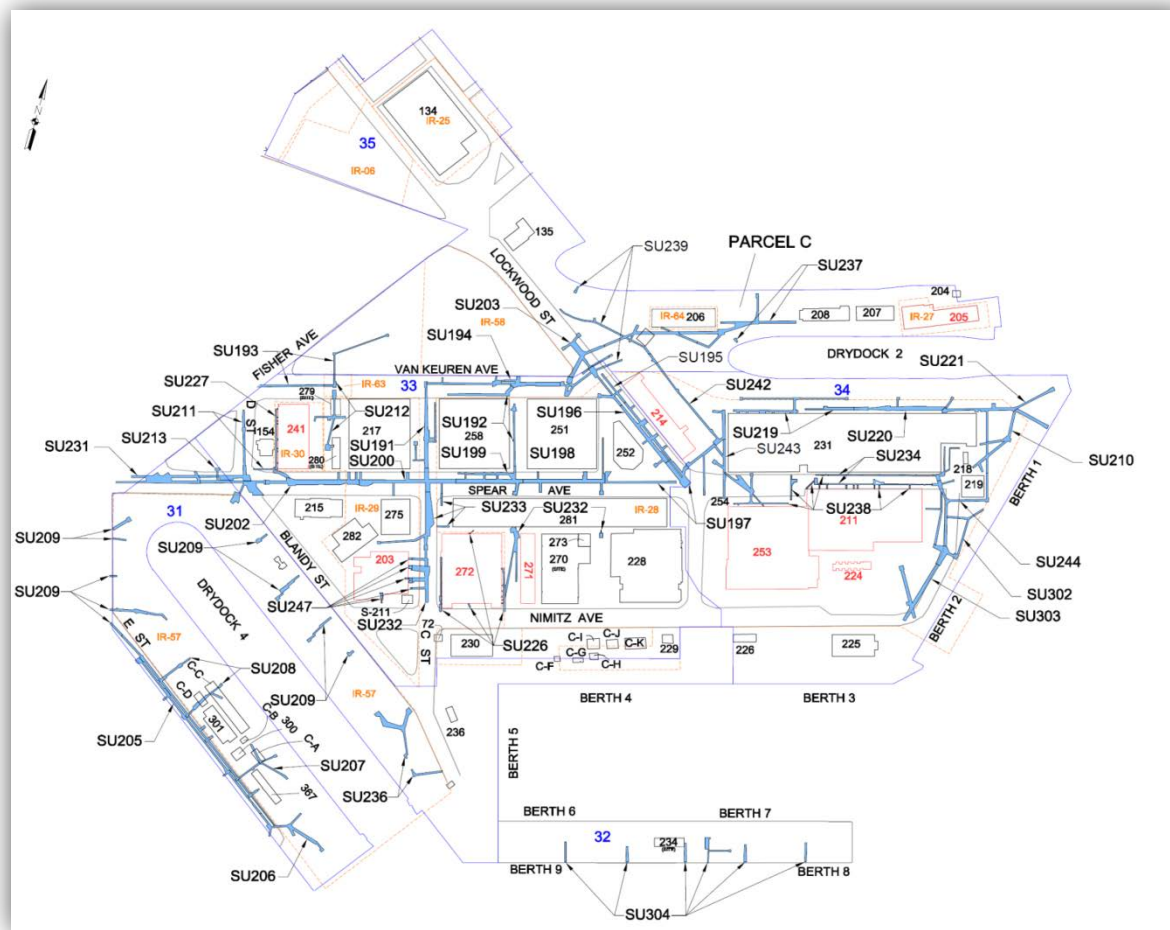


Parcel C: Radiological Work Phase I: Storm Drain & Sewer Removals



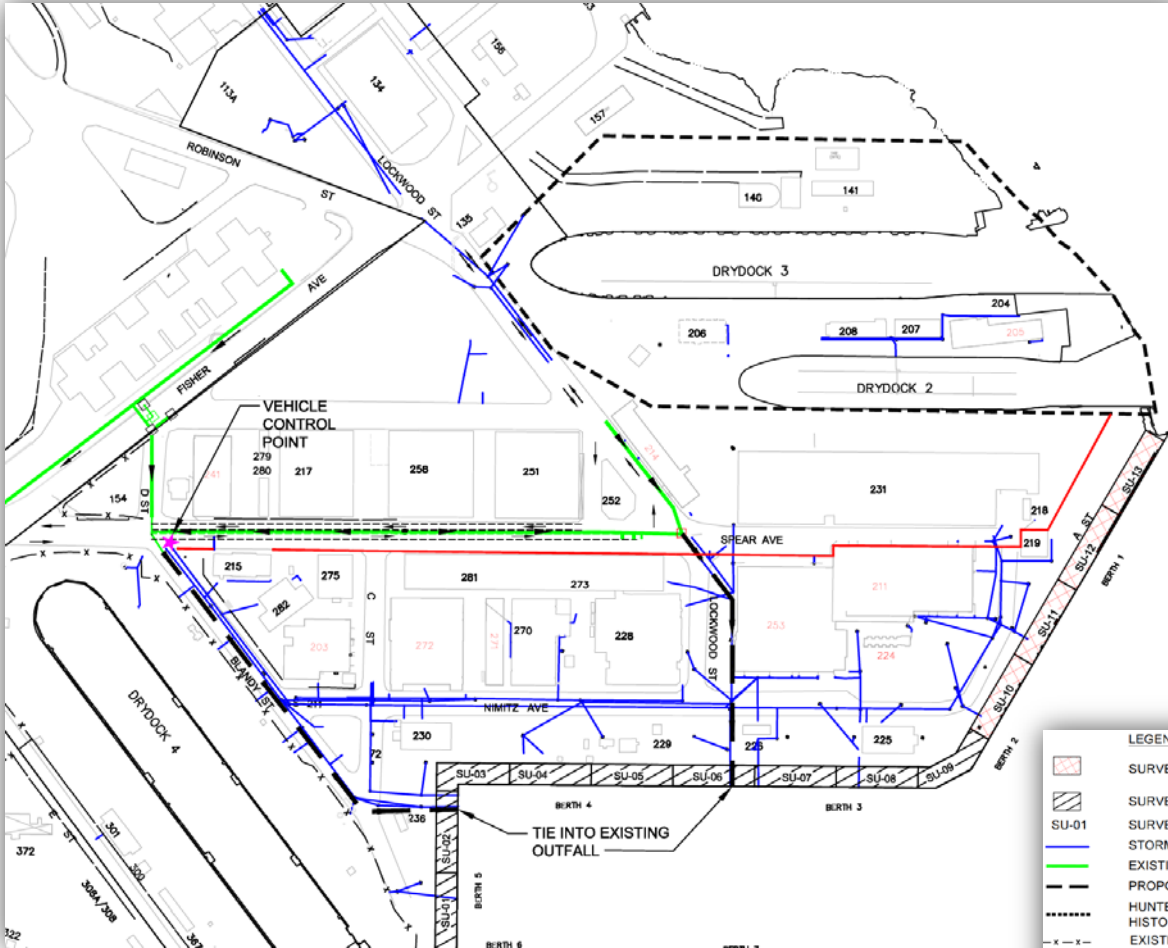
Phase I complete

- Removal, survey, and backfill of 22,907 linear feet of storm drains & sewer lines
- Stormwater swales installed





Parcel C: Radiological Work Phase II



- Parcel C Phase II scope includes:
 - Removal of the remaining 14,300 linear feet of lines
 - Installation of storm water swales
 - Survey of Ships Berths 1 through 5

LEGEND	
	SURVEY UNIT (CANTILEVERED)
	SURVEY UNIT (TERRESTRIAL)
	SURVEY UNIT ID
	STORM DRAIN AND SANITARY SEWER LINES
	EXISTING SWALES
	PROPOSED SWALES
	HUNTERS POINT COMMERCIAL DRY DOCK HISTORIC DISTRICT
	EXISTING FENCE
	RCA BOUNDARY
	VEHICLE CONTROL POINT



Parcel C: Schedule



- Soil and Groundwater Work Plans
 - 2 Drafts currently under review
 - Final planned for January 2013
- Radiological program to follow basewide Rad schedule and plans
- Schedule
 - Soil and groundwater field work begins February 2013 and ends August 2013
 - Radiological program is ongoing and will be complete in summer 2014
- Long-lasting covers to be put in place after completion of field work





Additional Information



- Information Repositories contain project-related documents

San Francisco Main Library

Government Information Center, 5th Floor
100 Larkin Street
San Francisco, CA 94102 (415) 557-4500

Hunters Point Naval Shipyard Office Trailer

690 Hudson Street
San Francisco, CA 94124

- This presentation can be found on the Internet at **www.bracpmo.navy.mil**



HPNS Bus Tour



Thanks for a successful September bus tour of cleanup activities on HPNS!

- Held on Saturday, September 22nd
- Open to members of the public
- Guided tour with 4 scheduled stops
- Join our email distribution list for future bus tour dates
 - schedules pending for spring/summer 2013





Open House Tables



- Please visit our Open House tables to learn more about the Navy's cleanup on Parcel C or "Meet the Regulators"
- This portion of the meeting is scheduled for 30 minutes; 5 minutes prior to the end of the session, an announcement will be made
- At the end of the Open House Session, a representative from each table will summarize the questions asked/comments received



Open Forum



Questions

- Please **raise your hand** if you have a question.
- Please **wait to be recognized** by presenters before asking your question.
- Please **state your name** and if you are associated with a particular interest group.
- Please **limit yourself to one question** when speaking.
- Please **be respectful** of fellow community members and presenters while they are speaking.



Next Community Meeting



Please join us for our next HPNS Community Meeting

- **Date:** Wednesday, December 5, 2012
- **Time:** 6:00 p.m. – 8:00 p.m.
- **Location:** SECC, Alex L. Pitcher, Jr. Room
1800 Oakdale Avenue
San Francisco, CA 94124
- **Topic:** 2012-A Year in Review



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