



Overview of Removal Action Workplan for OU-E

May 23, 2016

Introduction

- Glenn S. Young, PG
 - Senior PM at TRC
 - Ongoing Peer Review for various environmental services
 - Regular participant in DTSC's Stakeholder Meetings
 - Attended Dec 14, 2015 City Council meeting to describe the OU-C&D RAP

Background

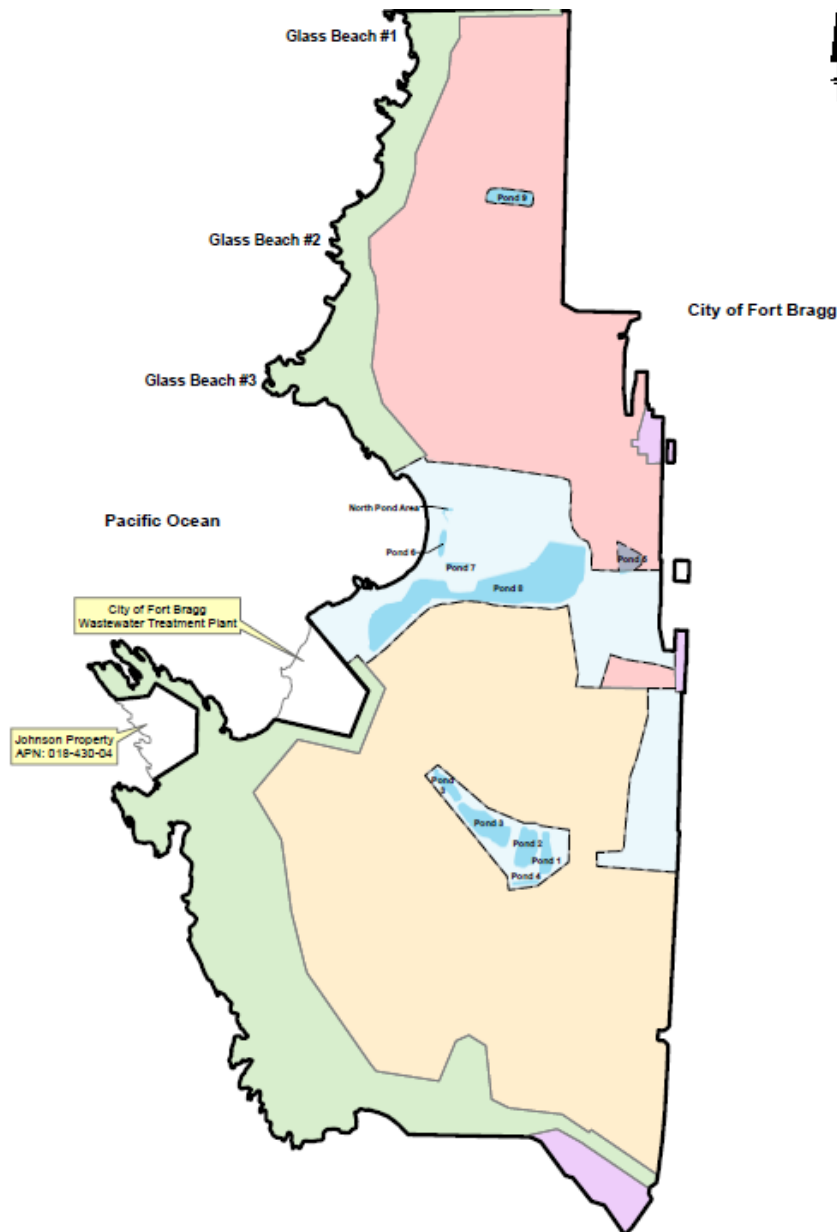
- OU-C & D RAP approved Dec. 17, 2015
 - Remedial action planned for 2016
- February Stakeholder meeting
 - discussed City's schedule for Central Coast Trail
 - Grant monies
 - completion of trail in Sept 2017
- **GP proposed an accelerated cleanup for OU-E**

Background (cont'd)

- DTSC agreeable to Removal Action WorkPlan (RAW)
 - Not an emergency response
 - Similar to work previously conducted at the Mill Site
 - Involves excavation and removal of impacted soil and sediment
 - Support the schedule for the Central Coastal Trail construction
 - Can be implemented concurrent with remedial action for OU C&D
 - Costs < \$2 million, meets State H&S Code requirements for RAW
 - DTSC letter (Feb 24, 2016)
 - Requested detailed engineering Workplan
 - Remedial goals, alternatives analysis, public comment, confirmation sampling
 - DTSC completed a Public Workshop - April 21, 2016

Background (cont'd)

- Draft RAW currently available for review
- 30-day public comment period May 12 – June 13
- DTSC's Second Public Workshop - June 2, 2016
- DTSC will prepare Response to Comments
- Goal
 - Provide significant risk reduction
 - Implementation of RAW for OU-E concurrent with OU-C&D remedial action in August/Sept of 2016
 - Results of RAW will be used as part of OU-E Feasibility Study and OU-E Remedial Action Plan



Former Georgia-Pacific Mill Site Operable Units

OU – A: Cleanup 2009 and now Coastal Trail Park

OU- B – No Action Necessary 2006

OU – C and OU – D: Remedial Action Plan 2015 with implementation to begin in 2016

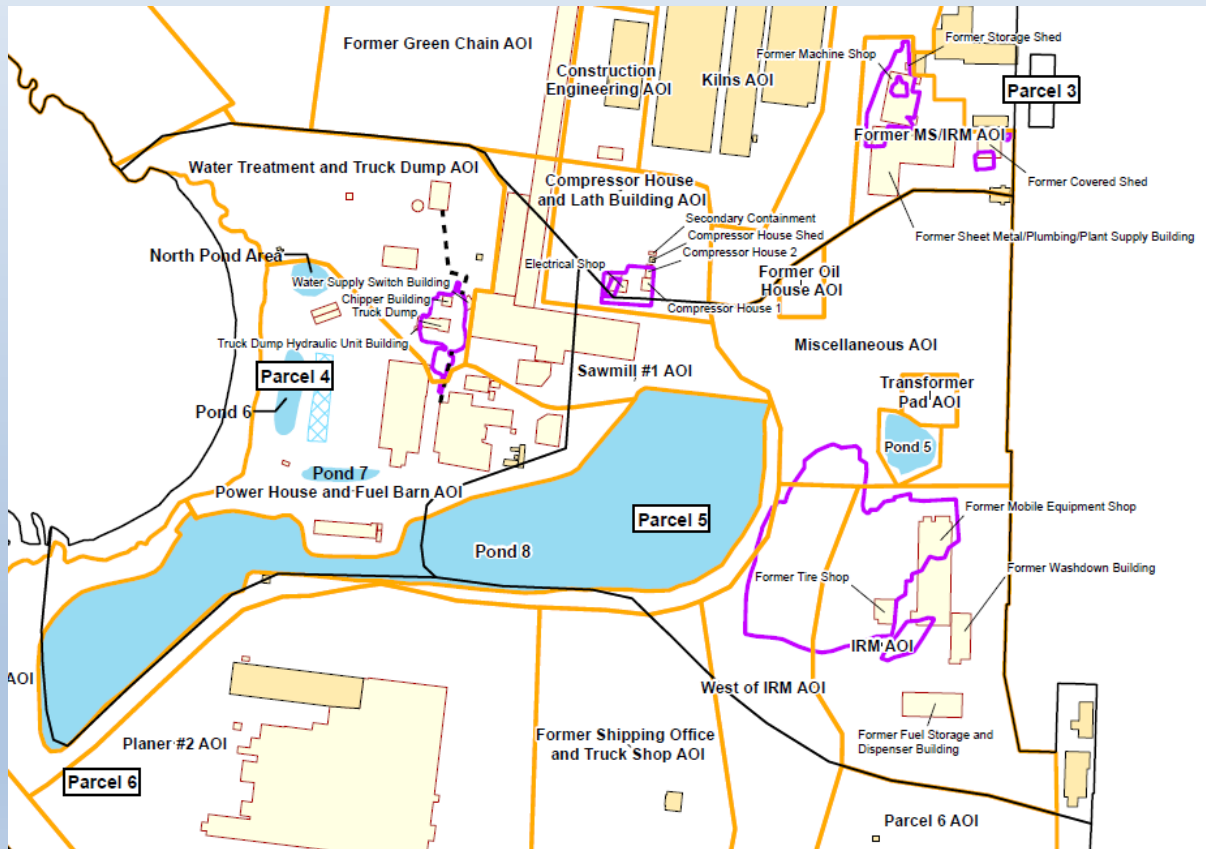
OU- E includes terrestrial lowland and aquatic Areas

- former Sawmill and Powerhouse operations
- South Ponds (1 through 4)
- Ponds 5 through 8
- Riparian Area

- Operable Unit E

Completed Interim Cleanups

- Fuel Oil Pipeline & Soil Removal 2007
- Interim Remedial Measures 2009



RAW Implementation Activities

- Coastal Development Permit (CDP)
- DTSC Initial Study and Mitigated Negative Declaration for CEQA
- Army COE Section 404 Permit
- RWQCB Section 401 Water Quality Certification
- Cal Fish and Wildlife Streambed Alteration Agreement
- Biological monitoring
- Cultural resources
- Dust Control, Erosion Control, SWPPP
- Standard earthmoving equipment
- HAZWOPER personnel
- Off-site Disposal

RAW Goals for Terrestrial Lowlands

- Remove Soil Hot Spots
- Not to exceed values for lead, dioxin, B(a)P, and Petroleum
- Risk reduction
 - Confirmation sampling may demonstrate risk reduction that meets recreational or even residential standards (risk-based target levels; RBTLs)
 - Significant because residential standards are equivalent to unrestricted

Terrestrial Lowland Soil Removal Action Goals

Constituent	Recreational Human Health RBTL	Ecological RBTL	Selected RBTL	Not-To-Exceed Value
B(a)P TEQ	0.3 mg/kg	Not applicable	0.3 mg/kg	0.9 mg/kg
Dioxin TEQ	53 pg/g	1,920 pg/g	53 pg/g	160 pg/g
Lead	320 mg/kg	127 mg/kg	127 mg/kg	320 mg/kg

Draft RAW – Proposed Soil Removal

- Terrestrial Lowland - Nine Areas (Figures 2.8 through 2- 11)
 - Lead (up to 3,800 ppm)
 - Dioxin (up to 2,729 ppt)
 - Benzo(a)Pyrene (up to 7.5 ppm)
 - Petroleum (diesel up to 12,634 ppm)
- Excavation depths range to 10 feet
- ~ 1500 cubic yards for offsite disposal
- Confirmation soil samples
- Backfill with clean soil

Aquatic Removal Action Goal (sediment)

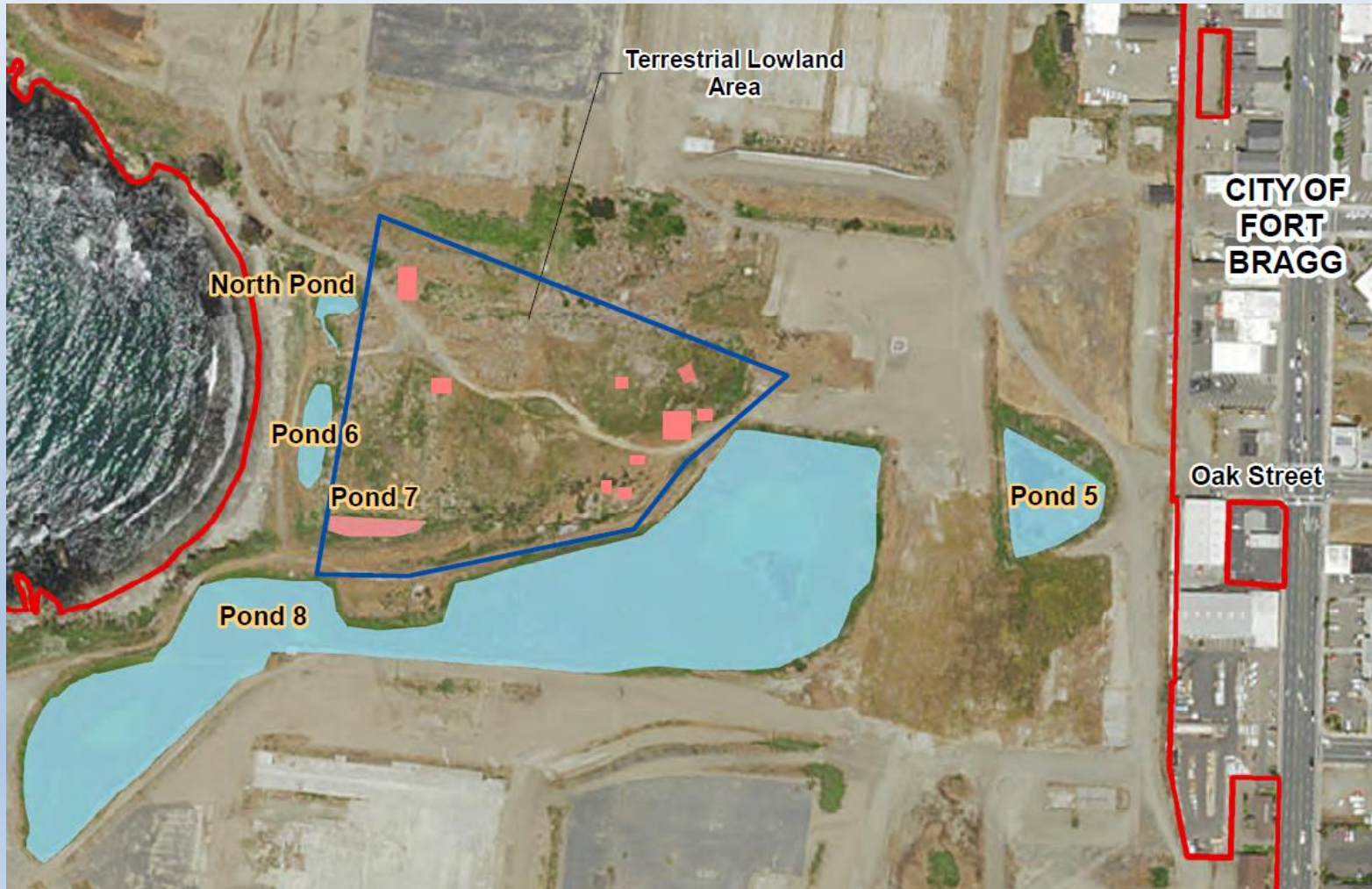
- Recreational visitor – 12 and 50 days/year
 - Exposure to surface sediment
- Chemicals of concern – dioxins, arsenic
- Human Health Risk to pond sediment

Pond(s)	12 days/year	50 days/year
Ponds 1-4	2×10^{-6}	8×10^{-6}
Pond 7	about 5×10^{-6}	2×10^{-5}
Pond 8	about 5×10^{-7}	2×10^{-6}

RAW Sediment Goals

- Pond 7
 - Remove dioxin contaminated sediment
 - With possibility of meeting residential standards
- South Ponds
 - Remove Hot Spots of dioxin and arsenic
 - Dioxin not to exceed 500 picograms/gram
 - With target of meeting Recreational Cleanup Goal
- Riparian Area
 - Remove Hot Spots of dioxin
 - With possibility of meeting residential standards

OU-E RAW Soil Removal Areas



OU E RAW – Proposed Sediment Removal

- Pond 7, excavation to 7.5 feet & 1,200 CY
 - Dioxin (up to 1,848 ppt)
 - Possibility of meeting residential (unrestricted) standards
- South Ponds, excavation to 2 feet & 700 CY
 - Dioxin (up to 1,285 ppt)
 - Arsenic (up to 99 ppm)
 - Possibility of meeting recreation standards
- Riparian Area, excavation to 0.5 feet & 32 CY
 - Dioxin (up to 315 ppt)
 - Possibility of meeting residential (unrestricted) standards
- Remove hotspots with Dioxin > 500 ppt
- Confirmation soil samples

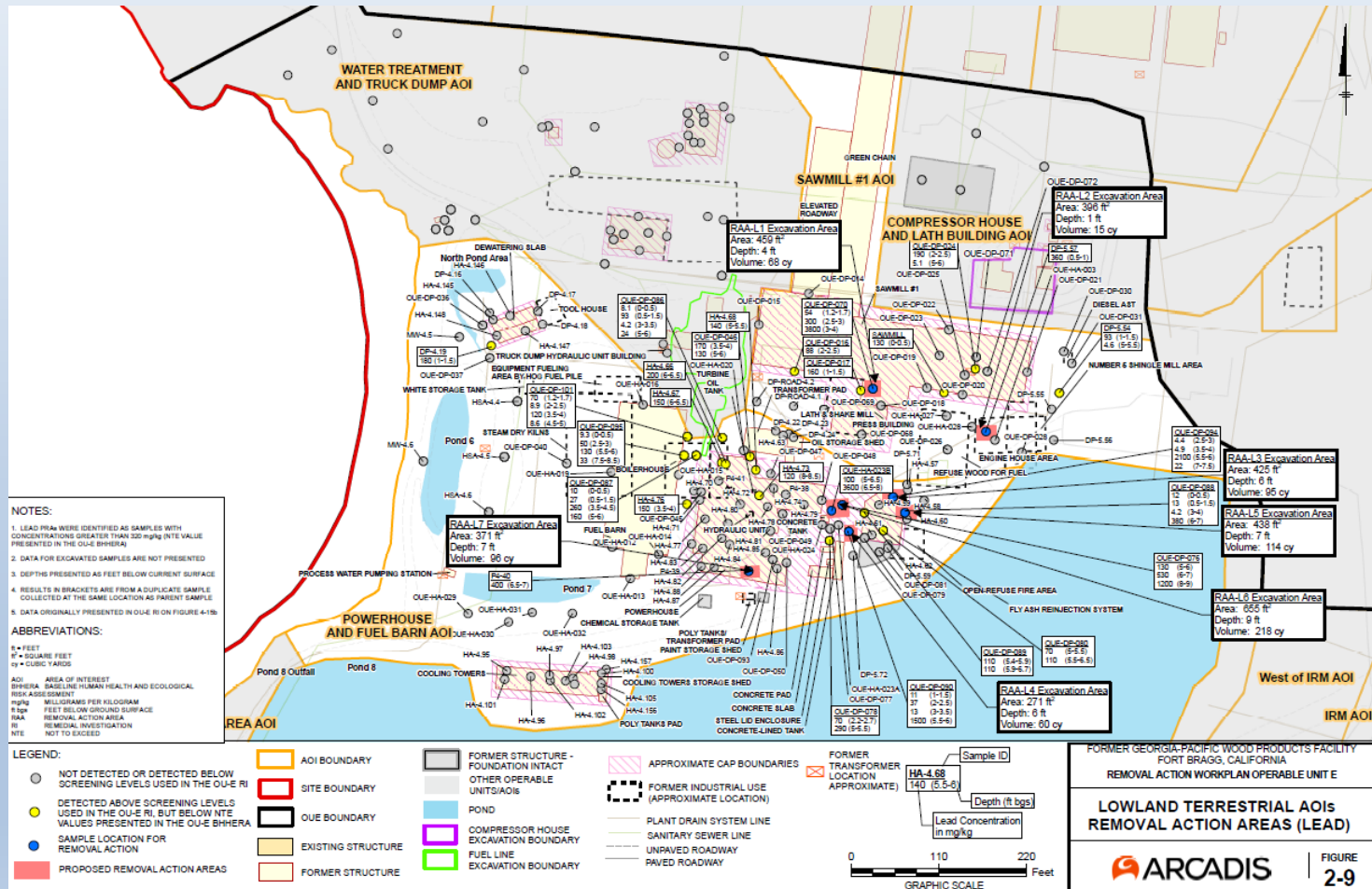
OU-E Removal Action Workplan Areas



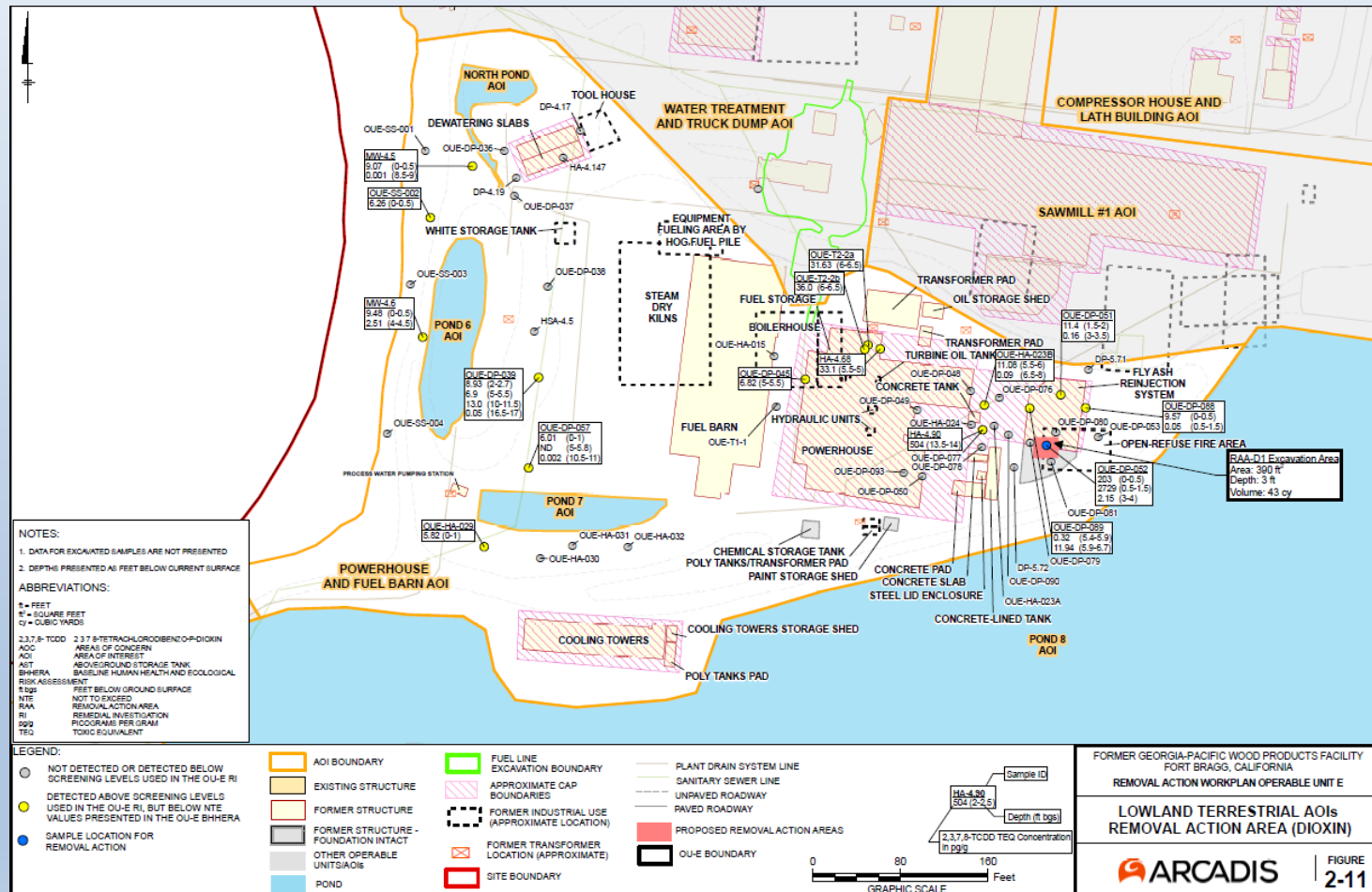
Schedule

- RAW Approval - June/July
- RAW Implementation - August/September
- RAW Completion Report – late 2016
 - Could Identify No Further Action areas
- OU-E Feasibility Study – late 2016
 - Incorporating Results of the RAW
- OU-E Remedial Action Plan – 2017
 - Will incorporate
 - Areas in the RAW
 - Ponds 6, 8, and North Pond
 - Interim Remedial Action Area of Interest
 - West of Interim Remedial Action Area of Interest
 - Evaluate final cleanup options for OUE
 - Land Use Controls and management plans will be considered

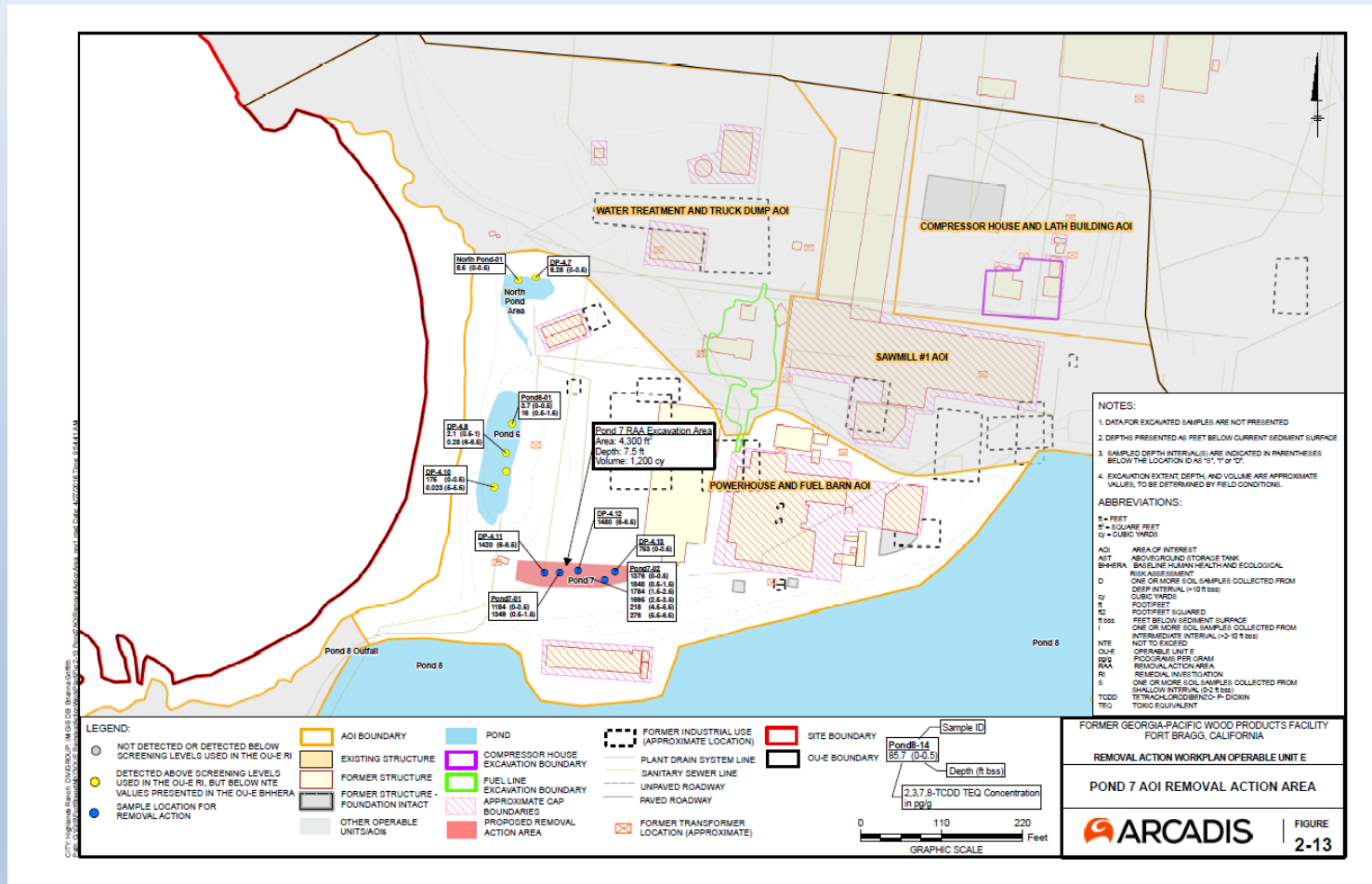
Terrestrial Soil - Lead



Terrestrial Soil - Dioxin



Pond 7 - Dioxin



Southern Ponds – Dioxin & Arsenic

