

Item: 6D

Date: 8/15/23

Arkema Manufacturing Area Feasibility Study and Interim Action Project Authorization

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Brett Ozolin, Project Manager II, Engineering

Port of Tacoma Commission Meeting

August 15, 2023



Port staff are working with Ecology to advance the cleanup at Arkema, including:

- Capping less contaminated portions of the property for redevelopment
- Building a vertical low permeability wall around the Penite Pits to contain remnant arsenic
- Completion of the Feasibility Study in parallel with the interim actions

This action supports the Port of Tacoma's 2021-2026 Strategic Plan's Foundational Goal of Environmental Leadership:

Environmental Leadership

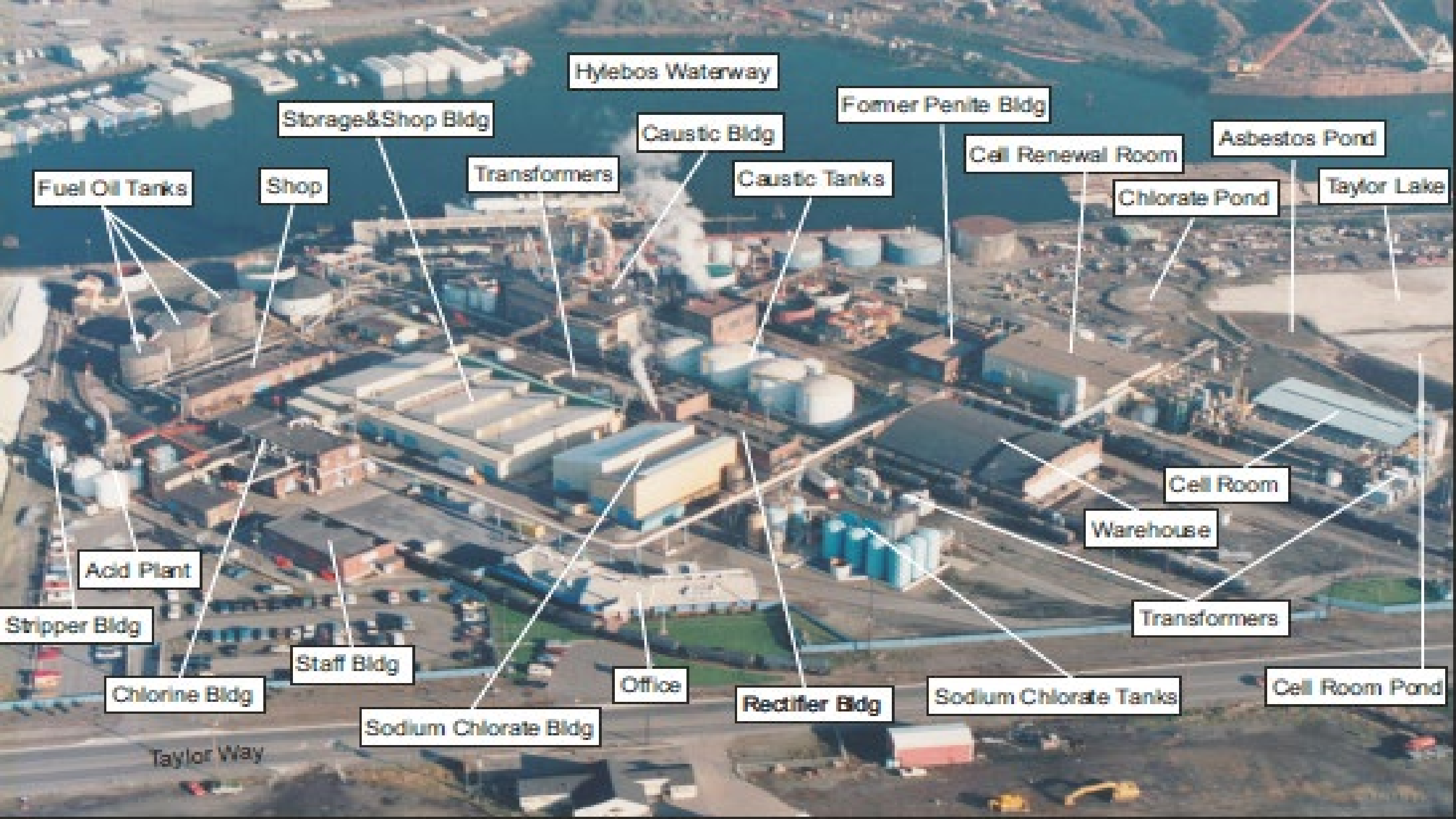


Remediate contaminated Port properties in a manner that ensures protection of human health and the environment while enabling economic development.

Action Requested

Action 1: Request project authorization increase in the amount of \$1,750,000, for a total authorized amount of \$7,513,794 for the Arkema Manufacturing Area Feasibility Study and engineering design testing, Master Identification No. 096201.

Action 2: Request project authorization increase in the amount of \$1,007,000 for a total authorized amount of \$1,327,000, for the Arkema Manufacturing Area Interim Action, Master Identification No. 101585.01. This effort is a portion of the Arkema Remediation program (MID 096201 and 101585.01).



Hylebos Waterway

Storage & Shop Bldg

Former Penite Bldg

Asbestos Pond

Fuel Oil Tanks

Shop

Transformers

Caustic Bldg

Caustic Tanks

Cell Renewal Room

Chlorate Pond

Taylor Lake

Acid Plant

Cell Room

Warehouse

Transformers

Stripper Bldg

Staff Bldg

Office

Chlorine Bldg

Rectifier Bldg

Sodium Chlorate Tanks

Cell Room Pond

Sodium Chlorate Bldg

Taylor Way



HYLEBOS WATERWAY

Manufacturing Area
2901 Taylor Way

Mound Area
3009 Taylor Way

Wypenn
2920 Taylor Way

2006

- The Port submitted a draft FS in April 2021
- The FS evaluated seven remedial alternatives with estimated future costs ranging from \$11M to \$196M
- The restoration timeframe for each alternative is very long
- Ecology did not approve the recommended \$26M remedy
- Ecology has requested an additional alternative that removes, treats or contains more arsenic

Ecology's concerns with the recommended remedy:

- Arsenic concentrations in the Penite Pit area.
- Potential migration through the sheet pile wall.
- Potential arsenic in the "wedge" seaward of the sheet pile wall.
- Potential arsenic in surface water.



Groundwater Treatment System

Penite Pits

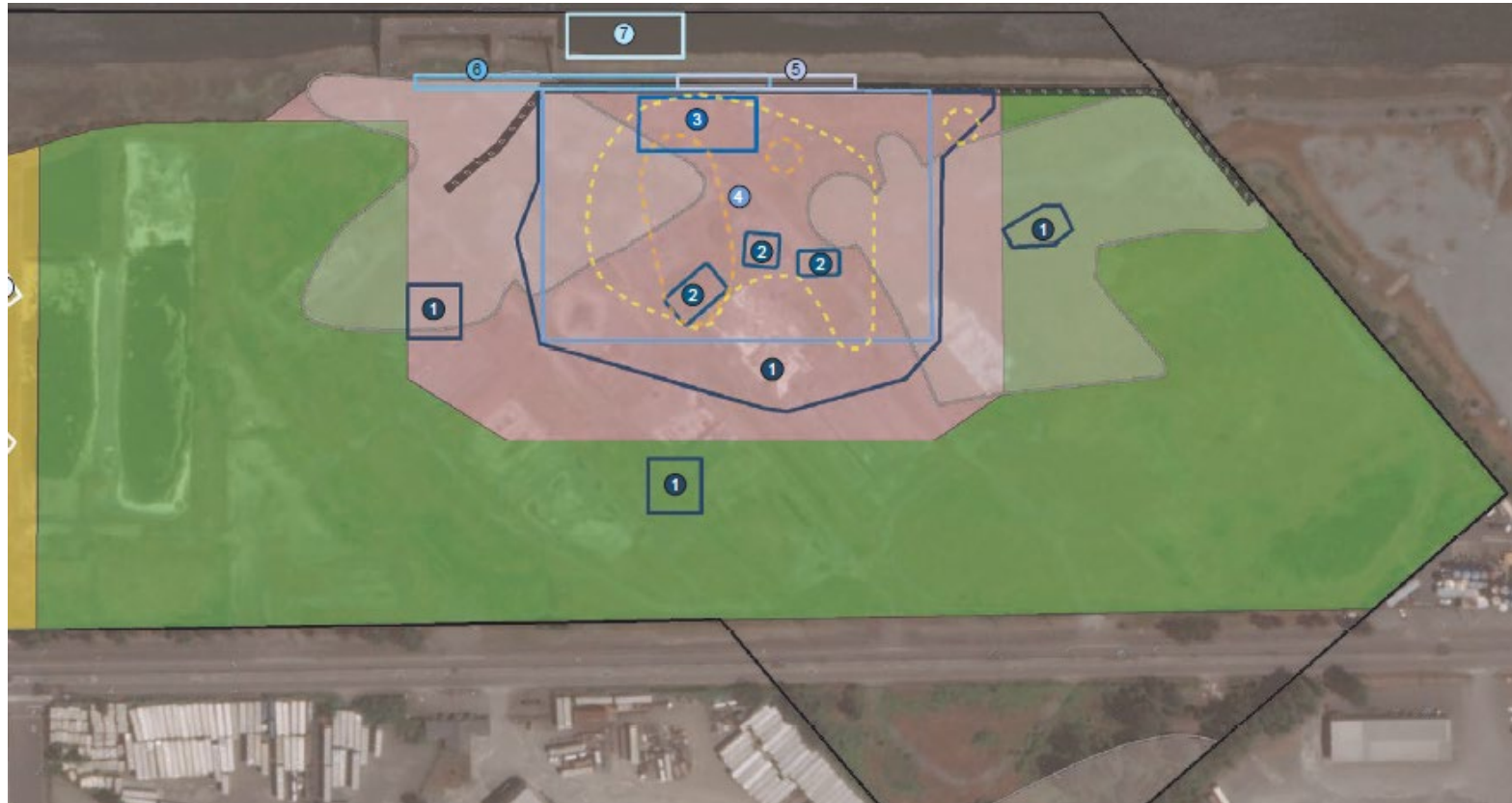
Sheet Pile Wall

Shoreline Capping

Arkema Feasibility Study & Interim Action

Testing and Data Collection to Support Low Permeability Barrier Wall

Phase 1 of Cleanup Implementation – Low Permeability Barrier Wall and 24-Acre Storage Yard with Stormwater System



- Geophysical Survey and hydraulic profiling borings
- Plume core borings and groundwater testing
- Sequential arsenic extraction and pore water sampling in Penite Pit area
- Tidal fluctuation study; surface water, pore water and soil borings in the wedge area
- Trenching along the proposed alignment of the barrier wall; soil borings with arsenic screening, geotechnical analysis and materials compatibility testing

- Barrier Wall Alignment Investigation Report
- Agency Draft Interim Action Work Plan (IAWP)
- Public review draft IAWP
- Final IAWP
- Data gap investigation report

- Low Permeability Wall Final Design
- 24-Acre Capping and Redevelopment 30% Design
 - Final site grading cut and fill quantities
 - Overall storm drainage site concept and design
 - Provisions and estimates for other site utilities
 - Paving/surfacing sections (capping and pavement design)
 - Draft project specifications
 - Phasing plans and draft project drawings that show complete redevelopment layouts and concepts, but not details, elevations or sections

Project Schedule

| Data Gap and Wall Investigation | 3Q23-4Q24 |
|---|------------------|
| Design Contract RFQ | 2Q24 |
| 30% Wall Design Deliverables | 3Q24 |
| Wall Interim Action Public and Ecology Review, Comment and Approval | 3Q24 |
| Final Wall Design Deliverables | 4Q24 |
| 30% Cap/Redevelopment Draft Deliverables | 4Q24 |
| Final Cap/Redevelopment Deliverables | 1Q25 |

- The estimated cost of the design effort for this project is \$1,007,000.
- The estimated budget for this project is \$6,776,000.
 - 30% design of capping and site development (Not Implementation)
 - Preliminary/final design of low permeability wall and implementation
- The current Capital Investment Plan (CIP) allocates \$6,776,000 for this project (MID 101585.01).

Source of Funds

- The estimated cost to complete the engineering design testing and resolve FS data gaps is \$1,750,000.
- The estimated budget for this project is \$7,514,750.
- The current Capital Investment Plan (CIP) allocates \$1,910,000 for this project (MID 096201).

Financial Summary

| Item | | This Request | Total Prev. Requests | Total Request | Estimated Project Cost | Cost to Date | Remaining Cost (Est.) |
|---|--------------------------|--------------|----------------------|---------------|------------------------|--------------|-----------------------|
| Public Works Interim Action (101585.01) | Prelim. Design | \$0 | \$320,000 | \$320,000 | \$265,000 | \$244,000 | \$21,000 |
| | Final Design Cont. Wall | \$257,000 | \$0 | \$257,000 | \$312,000 | \$0 | \$312,000 |
| | Construction (Wall Only) | \$0 | \$0 | \$0 | \$5,450,000 | \$0 | \$5,450,000 |
| | 30% Design (24 acres) | \$750,000 | \$0 | \$750,000 | Not Estimable | \$0 | Not Estimable |
| | Subtotal | \$1,007,000 | \$320,000 | \$1,327,000 | \$6,027,000 | \$244,000 | \$5,783,000 |

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|---|--------------|----------------------|---------------|------------------------|--------------|-----------------------|
| Remedial Investigation / Feasibility Study (096201) | \$1,750,000 | \$5,763,794 | \$7,513,794 | \$7,514,750 | \$5,603,792 | \$1,910,958 |

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Thank You

Questions & Discussion



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