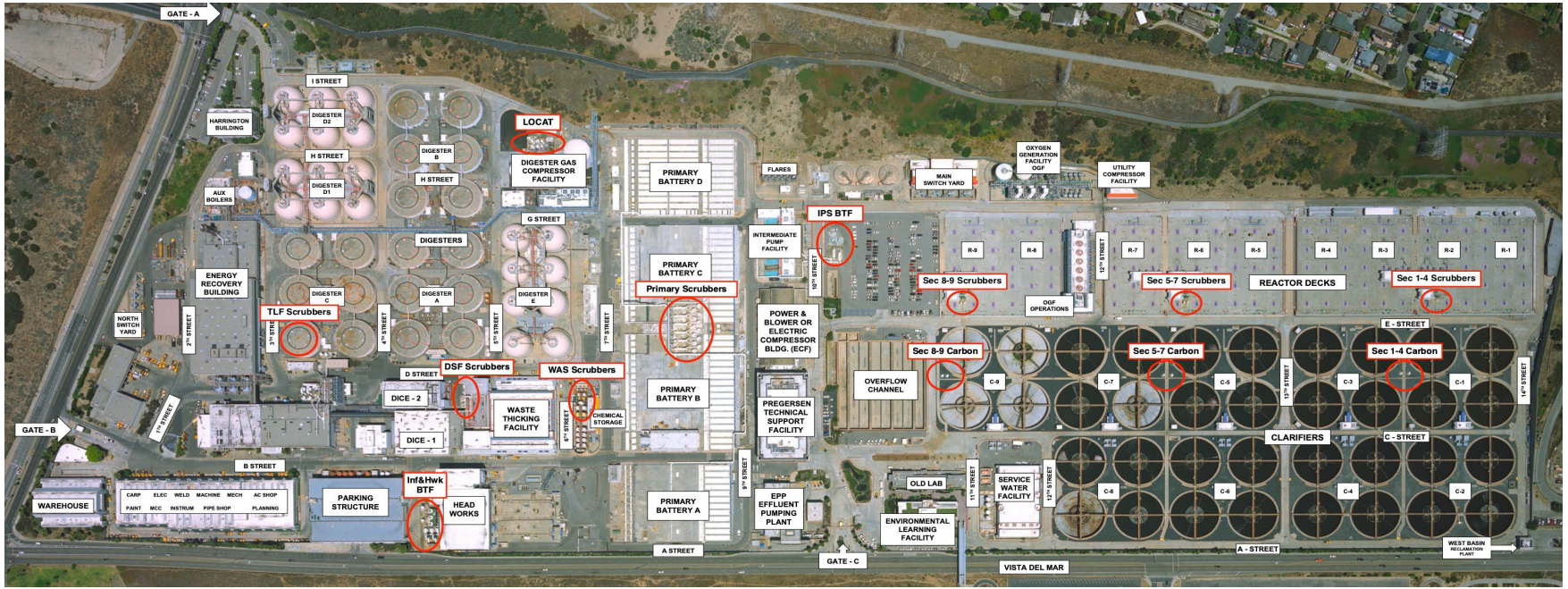
Hyperion Water Reclamation Plant (HWRP)

Hyperion Citizens Forum

January 19, 2022

Hyperion Odor Control Improvements

Hyperion Odor Control Facilities



Hyperion Odor Control Projects

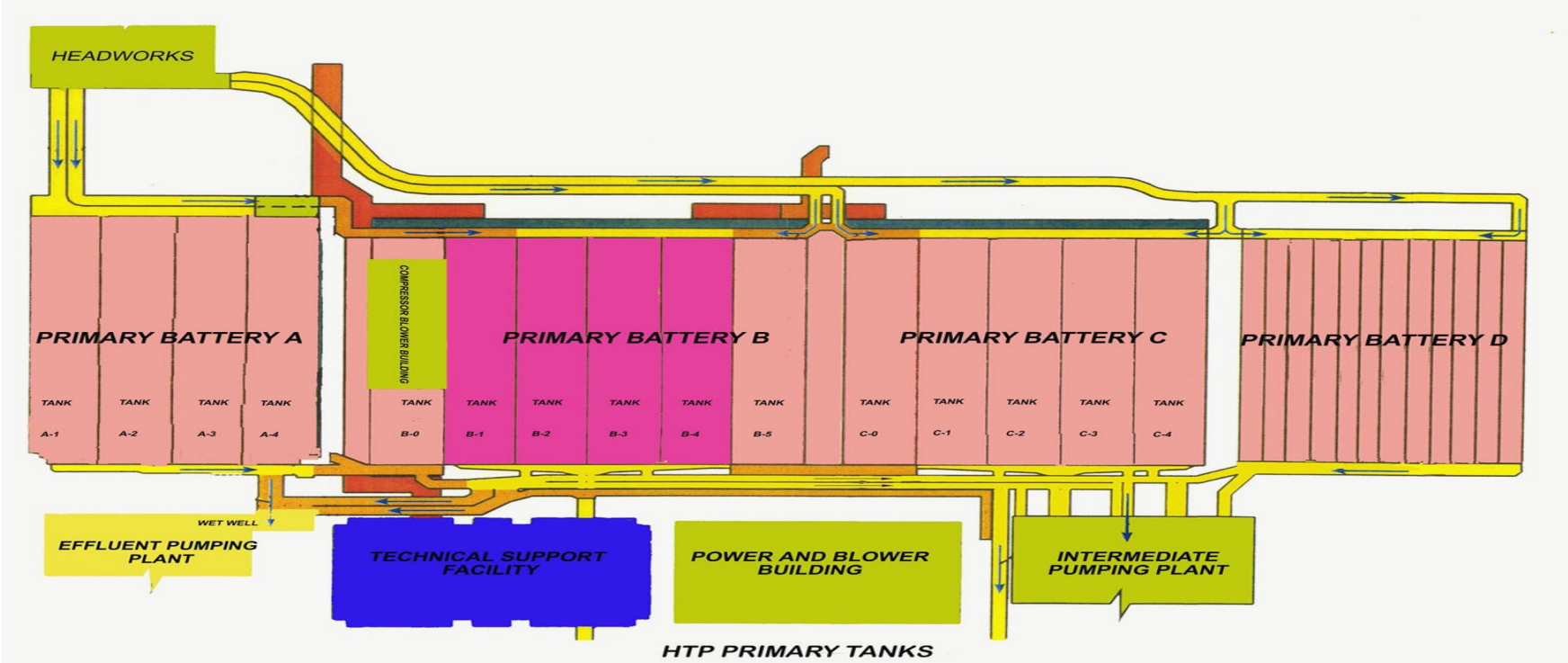
Project	Cost (USD)	Project Completion Date
Headworks Biotrickling Filters (BTF) for Odor Control	$14,000,000	April 2022 (Completed)
Intermediate Pumping Station Biotrickling Filters	$7,500,000	April 2022 (Completed)
Continuous Fence Line Monitoring System	$723,000	December 2022 (Completed)
Truck Loading Facility Odor Control System Project	$7,800,000	December 2022 (Completed)
Primary Treatment Chemical Scrubbers Refurbishment	$4,000,000	September 2023 (Ongoing)
Primary Treatment Sedimentation Tanks Refurbishment	$28,570,000	June 2024 (Ongoing)
Primary Treatment Tanks Cover Replacement	$14,500,000	June 2024 (Ongoing)
Primary Treatment Biotrickling Filters to replace refurbished Primary Treatment Chemical Scrubbers	$37,000,000	June 2026 (Ongoing)
Total Cost	$114,093,000	

Headworks BTF

Intermediate Pumping Station BTF

Primary Sedimentation Tanks System

Primary Battery A Refurbishment was Completed in December 2022



Primary Sedimentation Tanks System

Reasons For Primary Tank Odor Emissions

- Emissions through corroded primary tanks covers are the main source of odors at the plant.

- Shutting down all primary tanks is not an option as the resulting effect is sewage backing into streets and homes or discharge of partially treated sewage into Santa Monica Bay.

- Factors such as wind direction, wind velocity, and temperature impact the dispersion rates of odors into the community.

Primary Tanks Odor Emissions Abatement Plan

- Refurbishing primary tanks centralized foul air treatment system (Chemical Scrubbers) will reduce emissions and improve air quality.
- Cleaning of primary treatment sedimentation tanks will reduce emissions and improve air quality.
- Refurbishing sludge processing equipment inside primary sedimentation tanks will minimize equipment breakdowns, ensure reliable operations, and minimize odors.
- Replacing primary treatment sedimentation tank covers will reduce odor emissions and improve air quality.
- Board of Public Works approved a motion on January 18, 2022 to expedite the refurbishment of Primary Battery B, C, D thereby reducing the schedule by half with a completion date of June 2024.

Primary Tanks Odor Emissions Abatement Plan

- Refurbish primary tanks centralized foul air treatment system (chemical scrubbers)
- Refurbish primary Refurbish Primary Battery A tanks including covers (Completed December 2022)
- Pump out sludge and clean out Primary Battery C
- Tank cover manufacturer will take measurements for fabrication of tank covers
- Refurbish Primary Battery C sludge processing equipment inside primary tanks
- Primary Battery B will be addressed similarly after Primary C
- Primary Battery D will be addressed similarly after Primary B
- Board of Public Works approved a motion on January 18, 2022 to expedite the refurbishment of Primary Battery B, C, D thereby reducing the schedule by half with a completion date of June 2024.

Primary Tanks Odor Emissions Mitigation Measures

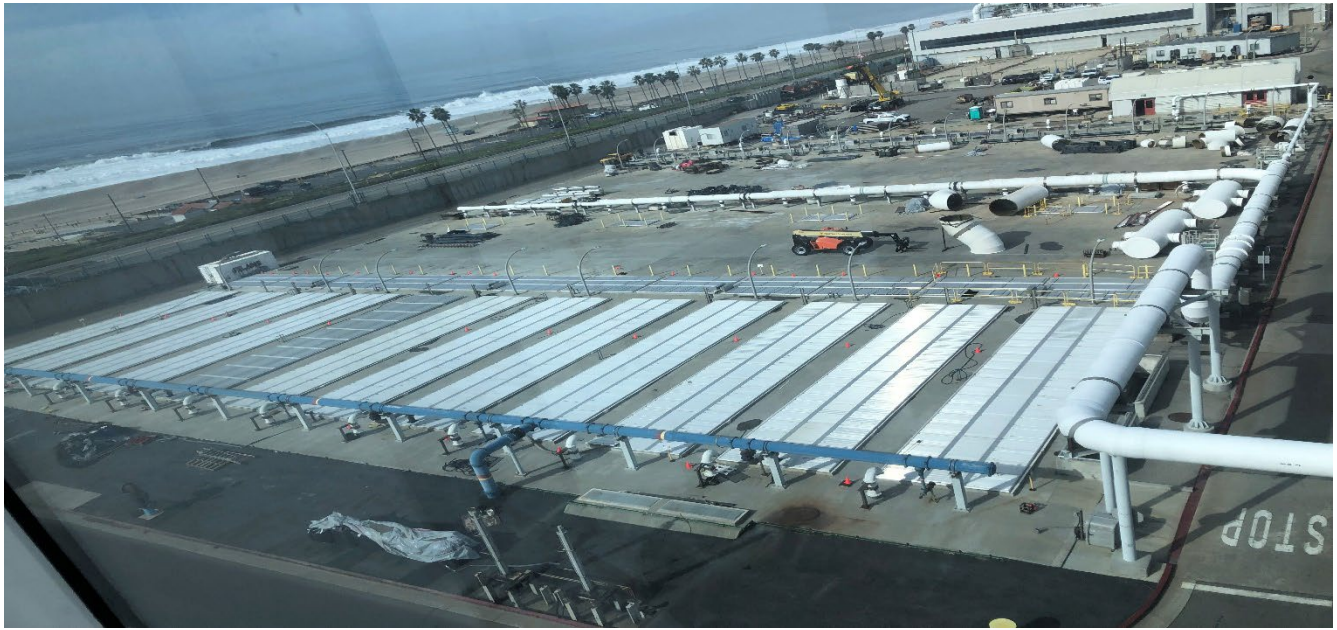
1. Refurbish Six Primary Treatment Foul Air Treatment System (Scrubbers)

PRIMARY TREATMENT CENTRALIZED CHEMICAL SCRUBBERS

- Primary Chemical Scrubbers refurbishment contract (up to $4 million) has been awarded
- Parts are on order and expected by March 2023 if there are no supply chain issues
- Refurbishment work on all 6 primary chemical scrubbers is expected to be completed by the fall of 2023.

Primary Tanks Odor Emissions Mitigation Measures

2. Refurbish Tanks in Primary Battery A (Completed)



REFURBISHED PRIMARY BATTERY A TANKS

Primary Tanks Odor Emissions Mitigation Measures

3. Empty and Clean 57 Primary Sedimentation Tank Bays

PRIMARY SEDIMENTATION TANK BAY

Type	Rectangular Clarifiers
Number	15 Large & 12 Small
Dimensions	300 ft L x 56.5 ft W x 15 ft D 300 ft L x 18.5 ft W x 15 ft D

- Cleaning sludge out of primary tank bays will result in reduced odor emissions
- Each tank bay holds 0.65 million Gallons
- 37 million gallons is enough to fill 57 Olympic Size Swimming Pools
- The cleaning process to remove sludge involves filling each bay with plant effluent water and emptying out water more than 5 times.
- El Segundo will be notified prior to cleaning of Primary Battery C, B, D tanks as tanks will be open during cleaning and odors will most likely increase during cleaning operations.

Primary Tanks Odor Emissions Mitigation Measures

4. Remove and Install New Primary Tank Sludge Handling Equipment

Type	Rectangular Clarifiers
Number	15 Large & 12 Small
Dimensions	300 ft L x 56.5 ft W x 15 ft D 300 ft L x 18.5 ft W x 15 ft D

- Board of Public Works approved a motion on January 18, 2022 to expedite the refurbishment of Primary Battery B, C, D thereby reducing the schedule by half with a completion date of June 2024.

Primary Tanks Odor Emissions Mitigation Measures

5. Install New Covers on 57 Primary Sedimentation Tanks Bays

- Board of Public Works approved a motion on January 18, 2022 to expedite the refurbishment of Primary Battery B, C, D thereby reducing the schedule by half with a completion date of June 2024.

Primary Tanks Odor Emissions Mitigation Measures (Summary)

CLEAN TANKS

REPLACE SLUDGE HANDLING EQUIPMENT

REPLACE TANK COVERS

REFURBISH PRIMARY TREATMENT FOUL AIR SCRUBBERS

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