COMMISSION AGENDA

Item No: 9E

Meeting: 3/18/21

DATE: March 3, 2021

TO: Port Commission

FROM: Eric D. Johnson, Executive Director

Sponsor: Jason Jordan, Director, Environmental and Planning Services

Project Managers: Sarah Weeks, Environmental Project Manager I, and Elly Bulega, Engineering Project Manager II

SUBJECT: Project Authorization for work associated with the Parcel 40 Building 600 Vapor Intrusion Mitigation

A. ACTION REQUESTED

As referenced in Resolution No. 2020-11-PT, Exhibit A, Delegation of Authority Master Policy, Paragraph IV.B.(2), states project costs exceeding $300,000 require approval from Port Commission.

Request project authorization in the amount $316,000 for a total authorized amount of $604,000, for work associated with the Parcel 40 Building 600 Vapor Intrusion Mitigation, Master Identification Nos. 101486.01 and 101486.02.

B. SYNOPSIS

Based on an assessment of indoor air quality in West Sitcum Terminal Building 600, it appears that petroleum hydrocarbons in soil and groundwater beneath the building are impacting indoor air quality. Building 600 is currently occupied by SSA Marine and is used for marine terminal equipment maintenance. Contaminant concentrations in indoor air, although below OSHA standards, are above acceptable risk levels prescribed by State cleanup law (MTCA[1]). Vapor mitigation is necessary to reduce indoor air concentrations to below the acceptable risk levels. The installation of a vapor mitigation system beneath Building 600 will reverse or mitigate the upward migration of vapors and prevent vapors from entering the building. Because this is characterized as legacy contamination, the costs are the responsibility of the Port of Tacoma, per Charter at Section 3.2.

C. BACKGROUND

Petroleum contamination in soil and groundwater was first identified by the Port during property development in the 1980s. Some investigation and cleanup work was conducted in

[1] Model Toxics Control Act

the late 1990s and early 2000s. At that time, risk State cleanup law did not require vapor intrusion assessments as the risk of vapor intrusion (VI) from subsurface contamination was still an emerging issue. The State drafted VI guidance in 2009.

In 2019, the Port sampled the monitoring well network installed in the late 1990s as part of a risk assessment of the last two active Port-owned underground storage tanks (USTs). The USTs are located approximately 70 feet from the east end of the building. The assessment found an exceedance of groundwater vapor intrusion screening criteria that appeared to be from the known historical release. Per State VI guidance, follow-up sampling of indoor air and outdoor ambient air was conducted. Indoor air in Building 600 is impacted above acceptable risk levels prescribed by MTCA. Vapor mitigation is required to reduce indoor air concentrations to below the acceptable risk levels.

Installation of a sub-slab vapor depressurization system that extracts vapors beneath the slab of Building 600 will reverse or mitigate the upward migration of vapors and prevent vapors from entering the building. The building foundation is slab on grade with a steel frame structure and sheet metal walls and roof. The building has single-level open bays on its east and west ends, with a two-level office/storage area between. The maintenance garage is surrounded by paved road and parking area. The vapor mitigation system will include approximately 16 vapor mitigation points installed through the slab of the building and connect to a vertical piping system that connects to a single blower location where the vapors will be treated before being vented to the roof.

The tenant, SSA Marine, has been kept abreast of sampling results and project development. Following the recommendation of the Port's environmental consultant, environmental staff has encouraged SSA Marine to keep bay doors open to dilute indoor air with fresh air as much as possible and to use portable fans to increase circulation between indoor and outdoor spaces. SSA Marine representatives confirmed that the garage shops are equipped with overhead ventilation systems that can be operated during working hours as well as a large portable floor fan and that it is common practice that several roll-up doors are left open throughout the year. SSA Marine responded that they are confident the building has adequate ventilation in the shops and that no further interim measures are needed until the permanent vapor mitigation system is installed.

The site is currently listed by Washington State Department of Ecology. The site is not under an Order or enrolled in the Voluntary Cleanup Program (VCP). The Port plans to conduct this work as an Independent Action. Potential sources of petroleum contamination include a 1.25 million diesel aboveground storage tank (AST) located on the property from 1927 to 1981, a 3,000-gallon waste oil tank active from 1984 to 1998, and abandoned product pipelines.

D. PROJECT DETAILS

Scope of Work

The scope of work will include designing and installing a sub-slab depressurization system that will always maintain a negative pressure in the sub-slab, thus minimizing vapor intrusion into the building. The work included in this request is for design and construction of the depressurization system. This includes:

1. Assessment of the subsurface conditions and the indoor air quality (completed).
2. Extraction point sump installation and detailed building evaluation and inspection regarding subsurface characteristics (completed).
3. Completion of slab vapor extraction system design.
4. Installation of the vapor extraction system, which includes:
    - Installing and connecting PVC pipes to vapor extraction sump points.
    - Installation of an exhaust blower that will provide the suction to the sumps, providing the required negative pressure.
    - Installation of monitoring ports and vacuum gauges to the system.
5. Vapor extraction system startup.

Schedule

Commission Authorization	March 2021
Design Completion	April 2021
Contract Award to Contractor and Maintenance	June 2021
Substantial Completion	September 2021

E. FINANCIAL SUMMARY

Estimated Cost for This Request

The total project investigation, design and construction costs are estimated at $604,000. If the cost of this estimate is anticipated to exceed the authorized amount, additional Commission authorization will be requested.

Cost Details

Phase	MID	This Request	Total Previous Requests	Total Request to Date	Cost to Date	Remaining Cost
Investigation	101486.01	$0	$160,000	$160,000	$123,026	$36,974
Design	101486.02	$27,000	$128,000	$155,000	$65,472	$89,528
Construction	101486.02	$289,000	$0	$289,000	$0	$289,000
TOTAL		$316,000	$288,000	$604,000	$188,498	$415,502

Source of Funds

The current Capital Investment Plan (CIP) allocates $670,000 for this project.

Financial Impact

Project costs will be expensed as incurred and are included in the 2021 operating budget.

F. ECONOMIC INVESTMENT/JOB CREATION

No permanent jobs will be created.

G. ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS

Alternative 1) Do Nothing. SSA Marine personnel occupying Building 600 will continue working in an environment where air-phase petroleum hydrocarbons exceed the regulatory criteria. Doing nothing would violate State cleanup law.

Alternative 2) Proceed with design and construction of a sub-slab depressurization system that will minimize vapor intrusion inside Building 600.

Staff recommends Alternative 2.

H. ENVIRONMENTAL IMPACTS/REVIEW

Permitting:

The required mechanical permit has been applied for and will be attained prior to awarding contract.

Remediation:

Additional investigation and cleanup work are required to address petroleum impacts in soil and groundwater. Port staff will return to Commission later in the year to request additional investigation authorization.

Stormwater:

No water quality impacts are anticipated.

Air Quality:

Air will be monitored due to the presence of air-phase petroleum hydrocarbons.

I. PREVIOUS ACTIONS OR BRIEFINGS

Date	Action	Amount
March 16, 2020	Environmental Investigation Work Plan Development Executive Authorization	$30,000
May 21, 2020	Environmental Investigation Work Plan Implementation Executive Authorization	$130,000
October 5, 2020	Mitigation System Design Executive Authorization	$128,000
TOTAL		**$288,000**

J. ATTACHMENTS TO THIS REQUEST

- Computer slide presentation.

K. NEXT STEPS

Complete design by April 2021 and construction by September 2021.

Item No.: 9E
Date of Meeting: March 18, 2021

Project Authorization for Parcel 40 Building 600 Vapor Intrusion Mitigation

Elly Bulega, Engineering Project Manager II, and

Sarah Weeks, Environmental Project Manager

Port of Tacoma

People. Partnership. Performance.

Project Authorization
Parcel 40 Building 600 Mitigation

As referenced in Resolution No. 2020-11-PT, Exhibit A, Delegation of Authority Master Policy, Paragraph IV.B.(2), states project costs exceeding $300,000 require approval from Port Commission.

Request project authorization in the amount $316,000, for a total authorized amount of $604,000, for the Parcel 40 Building 600 Vapor Intrusion Mitigation, Master Identification Nos. 101486.01 and 101486.02.

Project Location
Parcel 40 Building 600 Mitigation

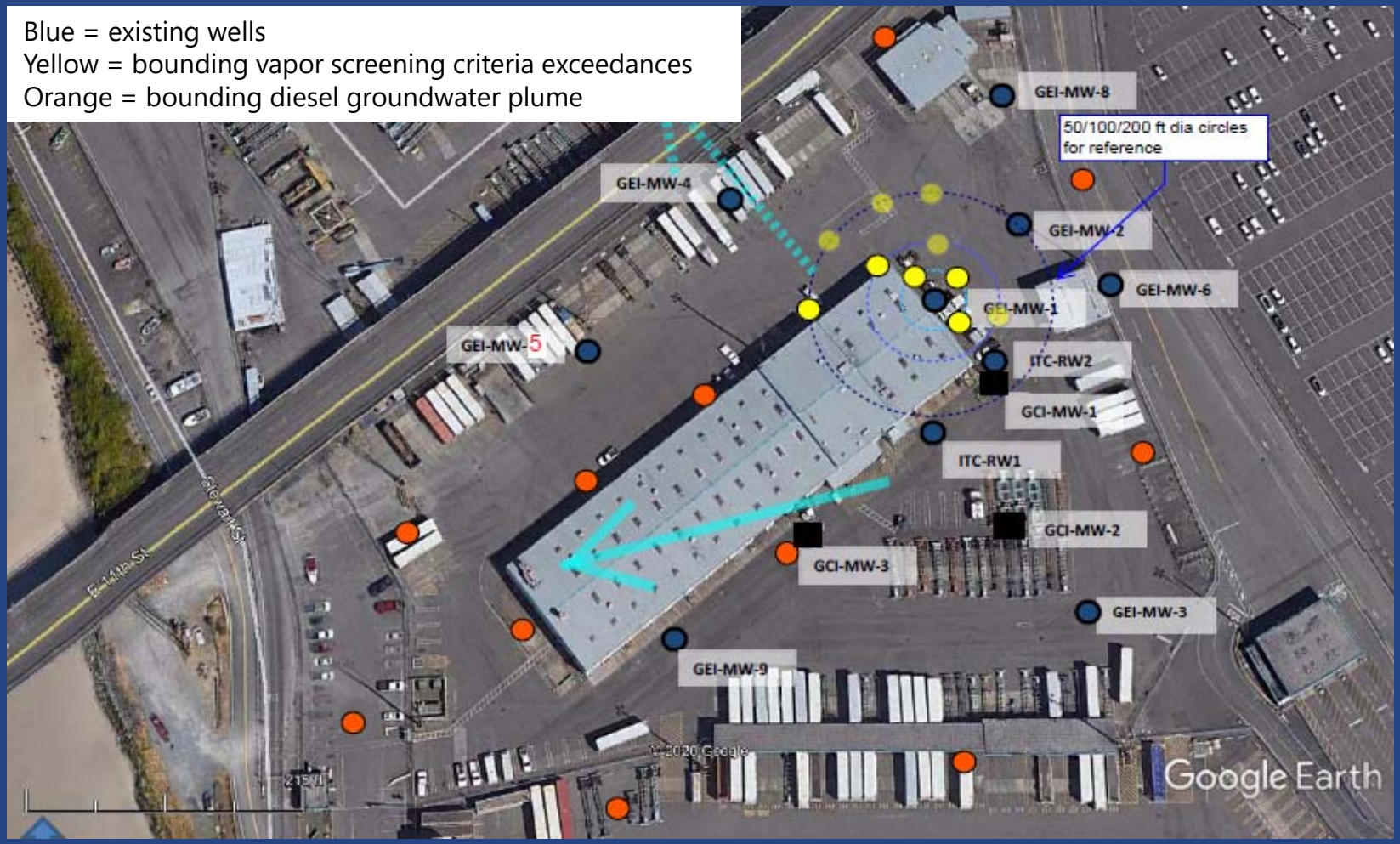
Synopsis
Parcel 40 Building 600 Mitigation

- Petroleum hydrocarbons in soil and groundwater beneath Building 600 are impacting indoor air quality.
- Contaminant concentrations in indoor air, although below OSHA standards, are above acceptable risk levels prescribed by State cleanup law (MTCA).
- Vapor mitigation is necessary to reduce indoor air concentrations below the acceptable risk levels.
- Because this is characterized as legacy contamination, the costs are the responsibility of the Port of Tacoma, per Charter at Section 3.2.

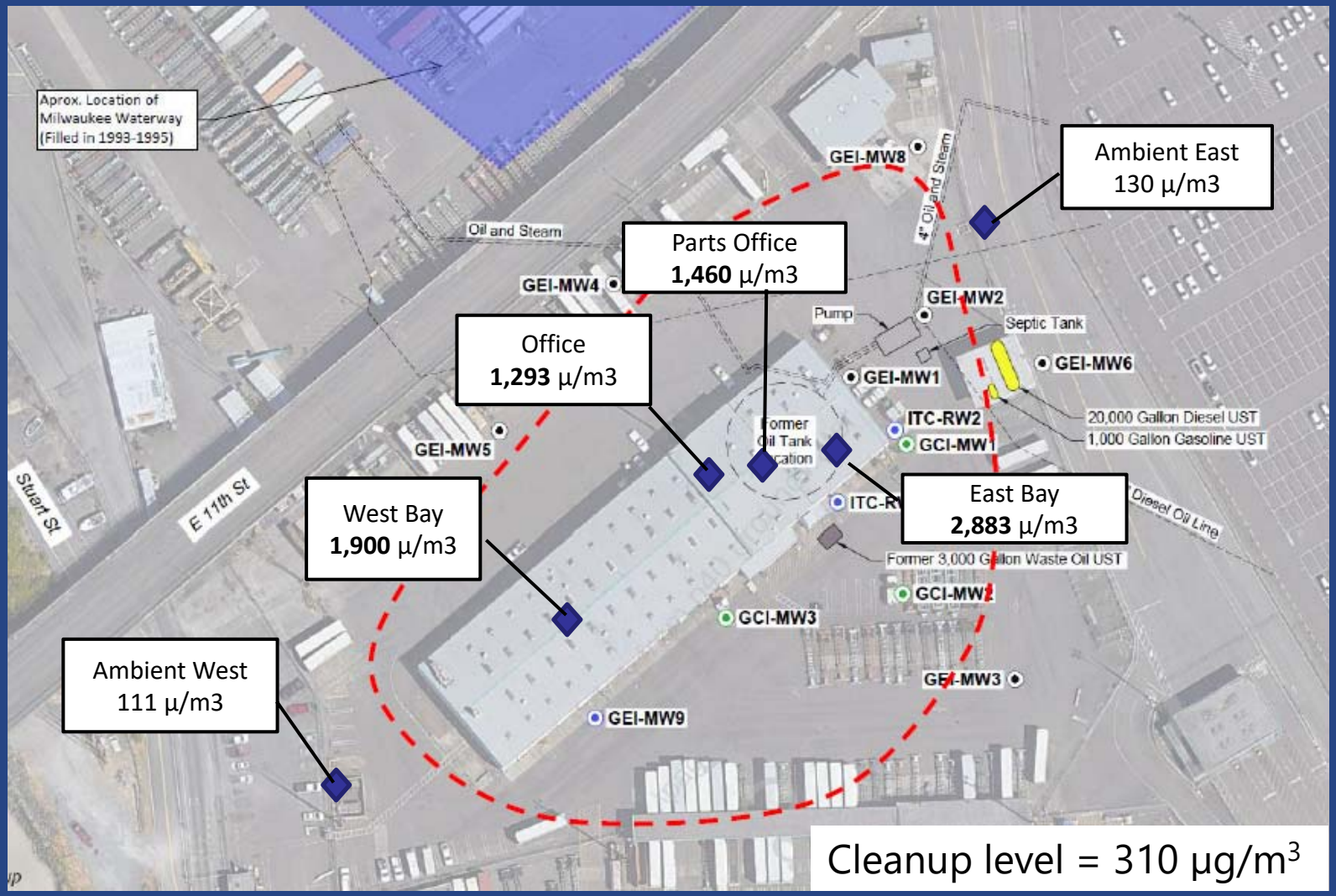
Background
Parcel 40 Building 600 Mitigation

Groundwater sampling
Parcel 40 Building 600 Mitigation

Blue = existing wells
Yellow = bounding vapor screening criteria exceedances
Orange = bounding diesel groundwater plume



Air Sampling
Parcel 40 Building 600 Mitigation



Driver
Parcel 40 Building 600 Mitigation

Vapor intrusion from petroleum contaminated soil and groundwater beneath Building 600 is impacting air quality at concentrations above acceptable risk levels prescribed by State cleanup law (MTCA).

Project Description and Details
Parcel 40 Building 600 Mitigation

Scope of Work:

- Assessment of the subsurface conditions and the indoor air quality. (completed)
- Extraction of point sumps installation and detailed building evaluation and inspection regarding subsurface characteristics. (Completed)
- Designing of a slab vapor extraction system.
- Installation of the vapor extraction system
    - Installing and connecting PVC pipes to vapor extraction sump points.
    - Installation of an exhaust blower that will provide the suction to the sumps, providing the required negative pressure
    - Installation of monitoring ports and vacuum gauges to the system.
- Vapor extraction system startup

Project Schedule
Parcel 40 Building 600 Mitigation

Activity	Timeframe
Commission Authorization	March, 2021
Design Completion	April, 2021
Bid Opening	May, 2021
Contract Award	June, 2021
Substantial Completion	September, 2021

Source of Funds
Parcel 40 Building 600 Mitigation

- The estimated cost for investigation, design and construction for this project is $604,000. The remaining estimated cost for 2021 is $415,502.
- The current Capital Investment Plan (CIP) allocates $670,000 for this project.

Financial Summary
Parcel 40 Building 600 Mitigation

Port of Tacoma

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Environmental Impacts/Review
Parcel 40 Building 600 Mitigation

Permitting: The required mechanical permit has been applied for and will be attained prior to awarding contract

Remediation: Additional investigation and cleanup work are required to address petroleum impacts in soil and groundwater. Port staff will return to Commission later in the year to request additional investigation authorization.

Stormwater: No water quality impacts are anticipated.

Air Quality: Air will be monitored due to the presence of air-phase petroleum hydrocarbons.

Conclusion
Parcel 40 Building 600 Mitigation

Request project authorization in the amount $316,000, for a total authorized amount of $604,000, for the Parcel 40 Building 600 Vapor Intrusion Mitigation, Master Identification Nos. 101486.01 and 101486.02.