

Port of Richmond Point Potrero Marine Terminal Assessment

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Presentation Outline

- › Port Statement
- › Project Background
- › Project Purpose
- › Inspection Summary
- › Whirley Crane
- › Proposed Projects
- › Project Costs



Port: Why Condition Assessment?

Drivers for Assessment

- › **Safety & Compliance** – structural safety standards and environmental regulations
- › **Operational Continuity** – Ensuring operations remain uninterrupted by costly infrastructure failures
- › **Economic Competitiveness** – Maintain ability to attract tenants, shipping lines, and investment partners
- › **Environmental Stewardship** – Repairs and upgrades to reduce emissions and support sustainability initiatives
- › **Asset Value Preservation** – Protecting City-owned maritime and industrial capital assets

Key Outcomes of Assessment

- › A **prioritized list of maintenance and improvement projects** by urgency, operational impact, and cost
- › **Immediate needs** focused on structural repairs to wharf piles, decking, and fendering systems
- › **Medium-term projects** addressing stormwater drainage upgrades, pavement rehabilitation, and infrastructure improvements
- › **Long-term priorities** including facilities modernization, seismic upgrades, and developing a consistent cadence of Maintenance and Repair

Port: Funding Pathways

- › **Public-Private Partnerships (P3s) and Tenant Funded Improvements**

- › Leveraging long-term tenant leases and development agreements to finance shared infrastructure and incentivize capital investment.

- › **State & Federal Grants**

- › Pursuing programs such as the USDOT Port Infrastructure Development Program (PIDP), California Trade Corridor Enhancement Program (TCEP) grant funding.

- › **Bond Funding**

- › Evaluating the issuance of revenue bonds or other municipal financing tools.

PPMT Before 2009-2011 Investment

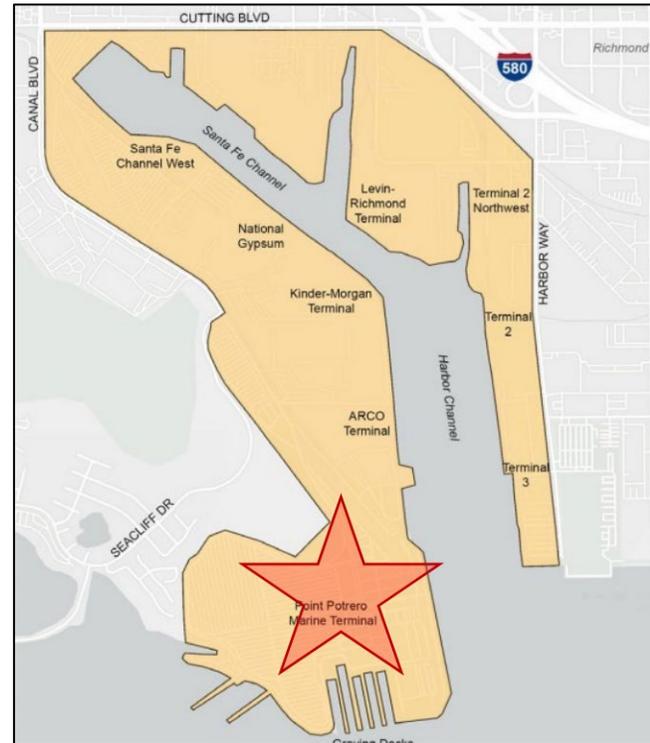


PPMT After AWC Tenant Funded Improvements



Project Background

- › Henry J. Kaiser developed four shipyards in Richmond during World War II
- › In 2009, Shipyard No. 3 was rehabilitated into a state-of-the-art Roll On/ Roll Off (RoRo) terminal for the import of automobiles
- › Facility is now called the Point Potrero Marine Terminal (PPMT)



Port of Richmond's Point Potrero Marine Terminal



Port of Richmond's Point Potrero Marine Terminal, 1945

Project Background

- › Berths 5 & 6
 - › Limited use over the last 40 years, primarily as lay berthing
- › Berths 7 & 8:
 - › Active area, currently leased to Auto Warehousing Company for import of vehicles from Korea and Japan
- › Graving Basins and Finger Piers
 - › Used for berthing of vessels such as Red Oak Victory ship and other operating commercial vessels
 - › Piers on West side of facility constructed in the 1940s and have been updated by Port and tenants over the years



Outline of Areas to be Studied

Project Purpose

- › Assess general condition of all structures
- › Evaluate potential alternative use options in the future
- › Provide costs to design and construct improvements to continue and enhance operations
- › Develop prioritized list of projects ranging from immediate / priority to long-term
- › Provide input on sequencing of repairs and upgrades in terms of highest need and accommodation of current operational activities and variables



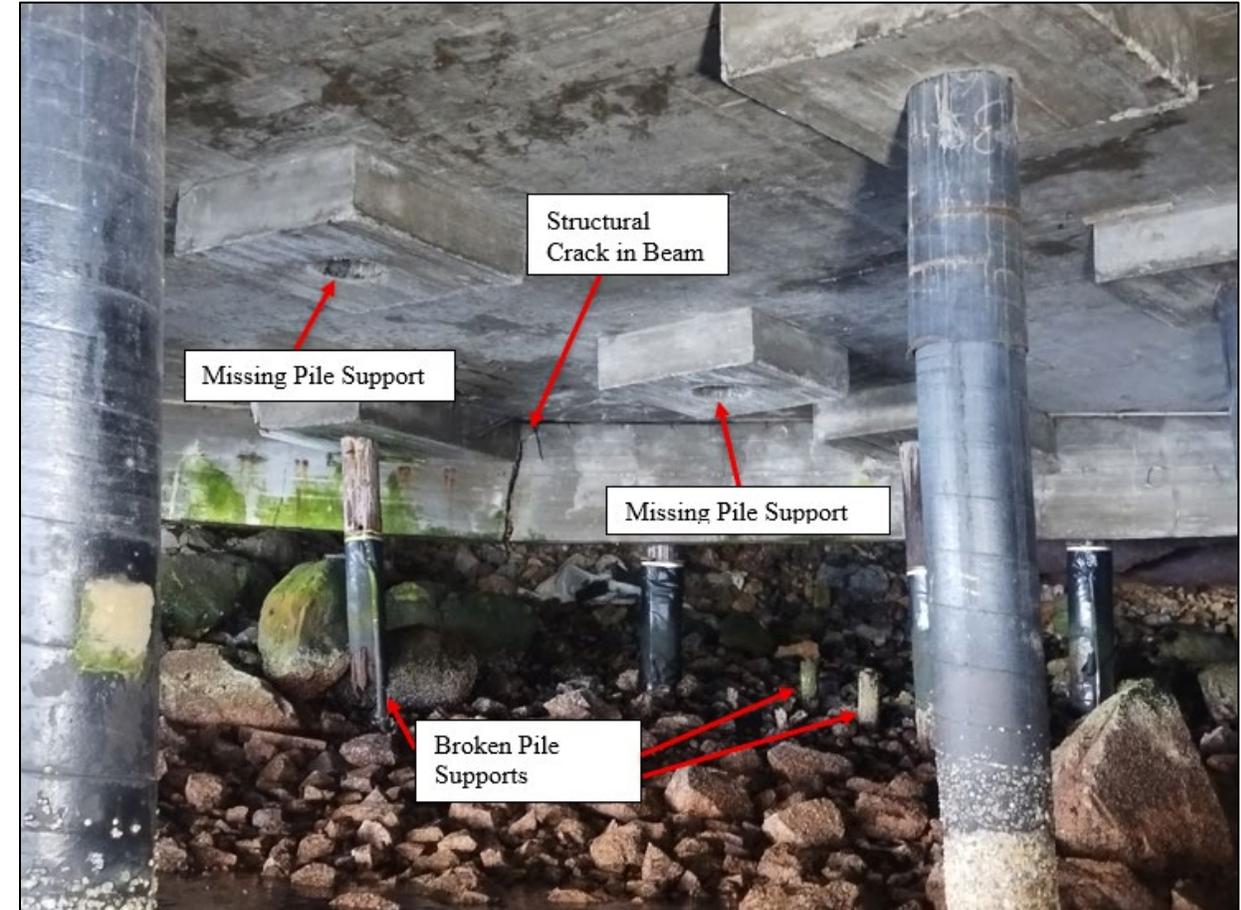
Primary Use for Berths 7 and 8, Roll on/off Cargo, Winter 2024

Inspection Summary

Berths 5-8

- › Slab sagging caused by localized beam failure below
- › Many damaged and missing timber piles
- › Pavement failure caused by soil erosion
- › Exposed reinforcing and corrosion damage below deck
- › Repaired piles in good condition; non-repaired piles are getting worse

Structure	Condition Rating	Allowable Live Load	Action Required
Berths 5-6	Poor	Not Evaluated	Pavement failure repair, general concrete wharf repairs
Berths 7-8	Poor to Serious	50 psf except for at ramp loading areas: (200 psf Inner Wharf, 390 psf Outer Wharf)* AASHTO HS20-44 Vehicle Load	Critical repairs include restoring beam at Berth 7 to original position and strength, tie beam repair, and pavement failure repair



Broken Beam at Berth 7

Inspection Summary

Graving Basins + Finger Piers

- › Graving Basins
 - › Exterior columns typically exhibit moderate to major damage
 - › Cracks, exposed reinforcing steel, delaminations on outside face of basins
- › Finger Piers
 - › Major or severe damage at (2) piles likely due to impact
 - › Deep beams are typically delaminated and spalled with exposed reinforcing

Structure	Condition Rating	Allowable Live Load	Action Required
Graving Basins	Fair	550 psf without load spreading (deck capacity controls) 2000 psf with load spreading that puts load directly into columns	Address potential safety hazards, develop mooring/fender system, restrict loading at columns with severe condition
Finger Piers	Fair to Poor	500 psf†	Restore edge beams to prevent further structural deterioration and decrease in capacity, upgrade fender systems depending on projected use

† Per United States Army Corps of Engineers (USACE) Port Series No. 31



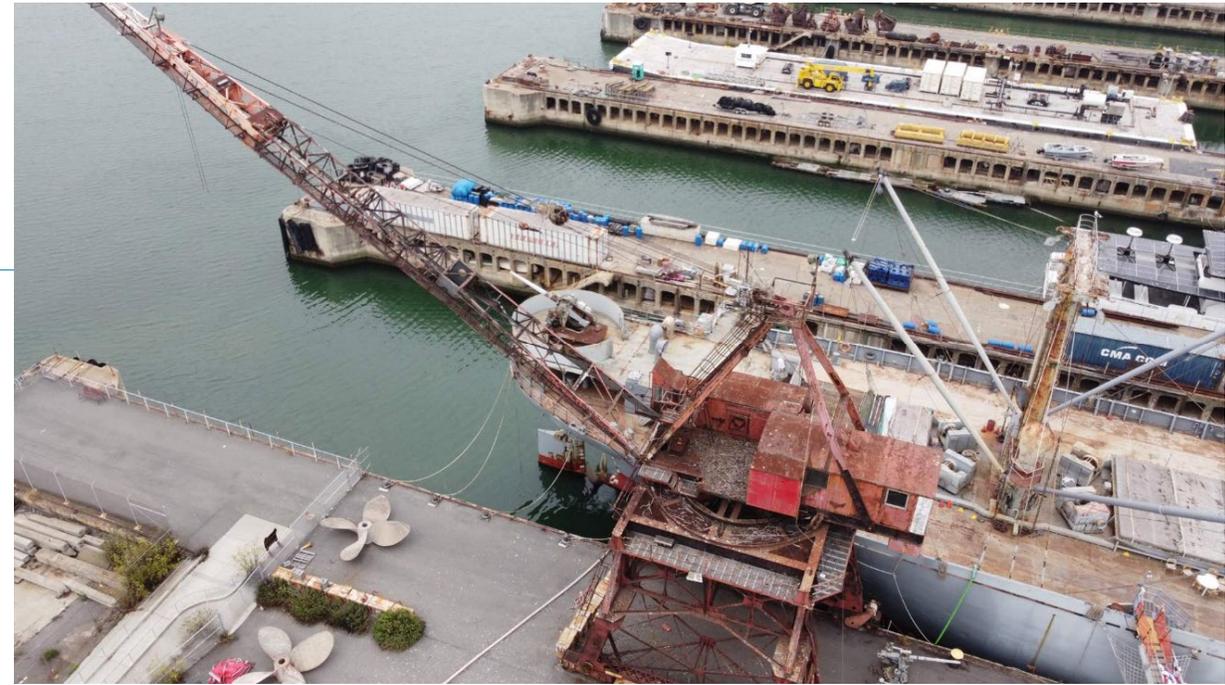
Columns in Serious condition at Graving Basin (above)
Severely damaged pile at Finger Pier 1 (below)



Inspection Summary

Whirley Crane

- › Extensive coating system failure and corrosion damage
- › Secondary structures (ladders, railings, and gratings) have major or severe corrosion damage
 - › Hazards for access and falling
 - › **Access on or under the crane to be restricted for safety**



*Whirley Crane position near edge of Graving Basin 6 (above)
Structural element with corrosion damage (below)*

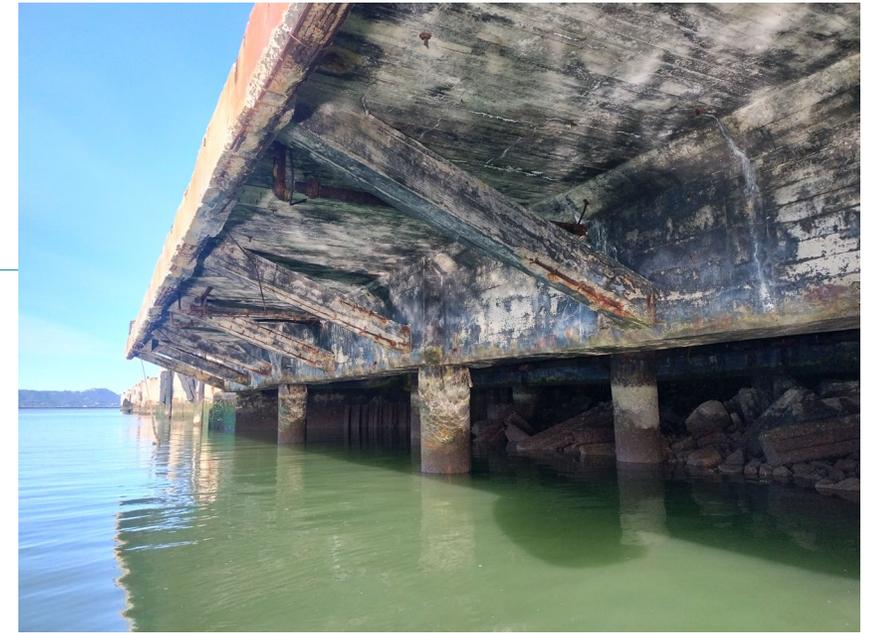


#	Recommendation	Cost Estimate	Comments
1	Immediate and Near-Term Risk Mitigation	\$ 200,000	Falling object hazards; boom rope inspection, redundancy design, installation; crane restraint against motion.
2	Preservation On-Site with Wind and Seismic Reinforcing	\$ 2,500,000	Seismic & wind analyses; corrosion abatement including permitting, rust removal, painting; allowance for unknowns. Included in cost is \$1M structural reinforcing required for seismic and wind adequacy.
3	Museum Preservation Off-Site of Select Components	\$ 1,400,000	Partial demolition & rigging design; site dismantling; scrap majority; abate & preserve some components; transport to museum; allowance for unknowns.
4	Demolition	\$ 700,000	Demolition design & permitting; contractor dismantles using cranes; transit via barge and scrap.

Proposed Projects

Priority Number	Location	Description	Schedule
1	Berth 7	Broken Beam Retrofit	Immediate / Priority
2	Berths 5-6	Pavement Settlement Repair at Wharf Interface	Immediate / Priority
3	Graving Basins	Safety Improvements Project	Near-term
4	Berths 7-8	Seismic Tie Beam Support Stabilization	Near-term
5	Berths 7-8	Pavement Settlement Repair at Wharf Interface	Near-term
6	Graving Basins	Mooring and Fender System Upgrades	Mid-term
7	Berths 7-8	Wharf Repairs	Long-term
8	Finger Piers	Fender System Upgrades	Long-term
9	Finger Piers	Concrete Repairs	Long-term
10	Graving Basins	Concrete Repairs	Long-term
11	Berths 5-6	Wharf Repairs	Long-term

Immediate/Priority (within 1 year)
 Near-term (within 2 years)
 Mid-term (within 3-6 years)
 Long-term (within 6-10 years)



*Berths 5-6 from under deck (above)
 Interior columns at Graving Basin 1 (below)*



Project Costs (Berths 5-8)

Location	Description	Schedule	Cost Total
Berths 5-6	Priority #2 Pavement Settlement Repair at Wharf Interface	Immediate / Priority (1 year)	\$1,600,000
	Priority #11 Wharf Repairs	Long-term (6-10 years)	\$66,400,000
Berths 5-6 Subtotal			\$68,000,000
Berths 7-8	Priority #1 Broken Beam Retrofit	Immediate / Priority (1 year)	\$1,200,000 (repair) or \$5,000,000 (rebuild)
	Priority #4 Seismic Tie Beam Support Stabilization	Near-term (2 years)	\$4,600,000
	Priority #5 Pavement Settlement at Wharf Interface	Near-term (2 years)	\$1,100,000
	Priority #7 Wharf Repairs	Long-term (6-10 years)	\$130,000,000
Berths 7-8 Subtotal			\$136,900,000
Total Costs			\$204,900,000

*Total cost assumes repair for broken beam retrofit, not rebuild



Aerial View of Berths 5-8

Project Costs

(Graving Basins and Finger Piers)

Location	Description	Schedule	Cost Total
Graving Basins	Priority #3 Safety Improvements Project	Near Term (2 years)	\$250,000
	Priority #6 Mooring and Fender System Upgrades	Mid-term (3-6 years)	\$4,500,000
	Priority #10 Concrete Repairs	Long-term (6-10 years)	\$4,750,000
Graving Basins Subtotal			\$9,500,000
Finger Piers	Priority #8 Fender System Upgrades	Long-term (6-10 years)	\$3,100,000
	Priority #9 Concrete Repairs	Long-term (6-10 years)	\$10,240,000
Finger Piers Subtotal			\$13,340,000
Total Costs			\$22,840,000

¹Total cost assumes repair for broken beam retrofit, not rebuild



View of Finger Pier



View of Graving Basin 1

Overall Project Costs

Location	Construction Cost Total
Berths 5-6	\$68,000,000
Berths 7-8	\$136,900,000
Graving Basins	\$9,500,000
Finger Piers	\$13,340,000
Total	\$227,740,000



Source: Port of Richmond

Thank you

