Seaport Throughput Improvement Project

Port of Olympia

Port Infrastructure Development Program

May 16, 2022

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I. Project Description

Name of Applicant: Port of Olympia
Is the applicant applying as a lead applicant with any private entity partners or joint applicants? No
Project Name: Seaport Throughput Improvement Project
Project Description: This grant application will provide funding for paving, maintenance facility upgrade, and berth improvements.
Is this a planning project? No
Is this a project at a coastal, Great Lakes, or inland river port? Coastal
GIS Coordinates: 47.0493° N, 122.9032° W
Is this project in an urban or rural area? Urban
Project Zip Code: 98501
Is the project located in a Historically Disadvantaged Community or a Community Development Zone? Yes, Urbanized Area 65242 and Opportunity Zones 53045961300 and 53067010100
Has the same project been previously submitted for PIDP funding? Yes
Is the applicant applying for other discretionary grant programs in 2022 for the same work or related scopes of work? No
Has the applicant previously received TIGER, BUILD, RAISE, FASTLANE, INFRA, or PIDP funding? No
PIDP Grant Amount Requested: $9,270,918
Total Future Eligible Project Costs: $12,361,224
Total Project Cost: $12,361,224
Total Federal Funding: $9,270,918
Total Non-Federal Funding: $3,090,306
Will RRIF or TIFIA funds be used as part of the project financing? No

The Port of Olympia (Port) is requesting $9,270,918 in discretionary PIDP grant funding for paving, maintenance facility upgrade, and berth improvements for the Seaport Throughput Improvement Project. Private funding in the amount of $3,090,306 in cash will be provided by the Port. This $12,361,224 million project will result in an increase in vessel calls by 226, an increase in log cargo volume by 1,240,800,000 board feet, increase the number of jobs at the port to 15,131 annually, and result in an operational cost savings of $4,148,217 over twenty years. This is a small, coastal seaport project.

Lead Applicant – Port of Olympia

The Port is in a densely populated urban area and can be seen from the Washington State Capitol less than one mile away. Owned and operated by the Port, the 66-acre marine terminal is situated on Budd Inlet at the head of Puget Sound and centrally located to serve Puget Sound and the Columbia River Basin. Consisting of three deep water berths, the terminal readily provides access to local, regional, and international markets with a complete cargo facility focused on breakbulk, bulk and roll-on/roll-off (ro-ro) goods. Rail service is provided by Union Pacific and Burlington Northern Santa Fe (BNSF) with an on-dock rail loop and switching provided by the Olympia and Belmore Railroad. The port owns heavy machinery consisting of a conveyor system, a heavy-lift

mobile harbor crane, new log loaders, and truck scales. A U.S. Customs bonded warehouse is on site with easy access to Interstate 5 and midway between Vancouver, Canada and Portland, Oregon. There are no other project partners associated with this project.

Figure 1 Port of Olympia

Background and Existing Conditions

Berth 1

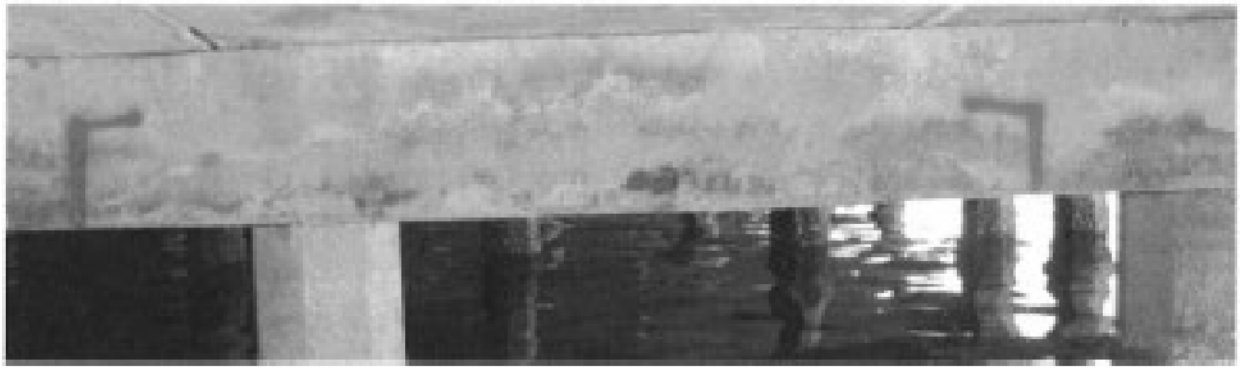


Figure 2 Bent cap - sample of extension deterioration to Berth 1

In July 2017, Berth 1 was visually inspected on the underside of the dock structure. The purpose of the inspection was to identify repair locations where visibly large longitudinal splitting cracks were observed on the bent cap beams. These crack locations were generally accompanied with several rust discolorations indicating corrosion of the reinforcement beneath the surface of the bent cap as discussed in previous dock inspection reports generated in the summers of 2014 and 2015 (see Appendix section of application). Every bay on Berth 1 was visually inspected and any sign of distress was identified, photographed, and recorded as either a repair or a new crack with visible

rust spots that are not in need of repair at this time. The repair areas were marked with orange spray paint.

Figure 3 Spall in the inverted beam

In the Appendix section of this application are plan views identifying both the repair locations and minor distress locations. Based on the 2017 inspection, seventy-three repair locations have been identified along with thirteen locations where small cracks and rust were observed that may need repair in the future. Previous inspections only identified twenty-eight locations. Not only has the number of observed distressed locations significantly increased, many of the previously identified cracks have grown in length based on the latest observations. Estimated dimensions at each repair location have been provided in the Appendix section. For example, provided dimensions for repair 5 are 15'-3"x8"x12". The first dimension provided in feet is the length of the splitting crack running along the bent cap, the second dimension is along the vertical face of the bent cap from the bottom, and the third dimension is along the bottom face of the bent cap.

Paving

The Port is situated on mudflats, which has caused current paving to settle and develop alligators. This area includes twenty-one acres of laydown area for logs, cattle, and project cargo. The 2019

OAC Services Facility Assessment indicated the Marine Terminal's most in-need maintenance item was its paving plan[1]:

Figure 5 There is cracking around utilities and storm drainage grates as well as broken underground drainage pipe and storm vault on the northwest side of the site

Figure 4 Localized depressions are present mostly in areas where there is constant heavy machinery traffic, including the train tracks and areas where log holders were placed

[1] https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:7996481e-8bfb-33b0-83ba-5d97f9ff171d page 44

Figure 6 Ponding and localized alligator cracking is also found throughout the site

Figure 7 The patchwork done along the border between the Marine Terminal Site and the Berthing has created a raised platform that can cause damage to heavy machinery while transporting logs

Maintenance Facility Upgrade

This building is a 4,000 square foot building used for maintenance storage and tooling for the marine terminal. An excerpt about the current conditions of the facility is found in the OAC Services Facility Assessment[2]:

- The vertical poles of the structure supporting the roof are completely rotted out at the bottom.
- The walls are clad with T1-11 manufactured wood siding with vertical routed reveals.
- There is significant decay of the T1-11 siding, especially on the south elevation.
- The aluminum windows are at the end of their life.
- The roof of the accessory/office building is asphalt roll roofing through which unsealed and rusted nail heads are protruding through the roofing.
- The roofing has pulled through the nail heads along the eave.
- There is not obvious venting of the roof assembly.
- There is decay in the eave framing on the north side of the roof.
- The paint has failed on fascia and soffits, and some soffits are falling.
- The ceiling tiles are heavily stained with numerous tiles falling.
- Any gaskets or rubber washers between nails and siding appear to have rotted away leaving gaps through which water can pass.
- The metal siding on the south elevation is characterized by heavy rust which typically coincided with the vertical panel joints.
- The bottom of these panels at the joints is rusted through the panels.

Figure 8 Maintenance Facility Exterior View

[2] https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:7996481e-8bfb-33b0-83ba-5d97f9ff171d page 35

Figure 9 Maintenance Facility Exterior View

Figure 10 Maintenance Facility Exterior View

Figure 11 Interior Ceiling of Maintenance Facility

Figure 12 Maintenance Facility Interior View

Scope of Work

Figure 13 Ariel view of intended work sites

Component A – Terminal Pavement Repair Areas - $4,705,590

Component B – Terminal Pavement Replacement Areas - $2,599,606

Component C – Berth 1 Repairs - $1,431,421

Component D – Maintenance Building - $1,429,035

Terminal Pavement Repair Areas (Area A)

- Sawcut and remove existing pavement
- Planing & Sealing edges
- New asphalt surfacing entire areas

Terminal Pavement Replacement Areas (Area B)

- Sawcut and remove existing pavement and subgrade
- Planing & Sealing edges
- New subgrade and asphalt entire areas

Berth 1 Repairs (Area C)

- Berth 1 Repairs based on TY Lin 2016/2017 condition assessment
- Verification will be needed prior to implementing design
- Concrete Spalling Repairs
- Reinforcing Steel Repairs
- Anodes maintenance

Pile Cap Crack Repairs

Concrete Spalling Repairs

PIDP Grant Work Summary – Maintenance Building (Area D)

- Demolish Existing Building Structures
- Install new industrial structure type building with multiple large doors
- Size ~40’ x 100’ (4,000 SF), with additional ~40’ x 25’ (1,000 SF) Office Space
- Pile supported, reinforced concrete pile cap with tie beam
- 12” thick reinforced concrete floor slab
- Small overhead crane with rail
- Building elevated to address SLR to correspond with City/Port SLR mitigation plan in 2050

Estimated Costs

- Based on 2021 costs
- Quantities pulled from condition assessment reports by TY Lin
- Paving: 15.8 acres main yard; 6.7 acres south yard; includes 5 acres of heavy use areas with subgrade replacement
- Updated condition assessment not available; additional deterioration may have occurred on structures and yard pavement areas.
- No environmental mitigation for pier repairs.

PORT OF OLYMPIA - MARINE TERMINAL, MAINTENANCE BUILDING AND PAVING REPAIRS

PIDP GRANT - CONSTRUCTION COST SUMMARY WORKSHEET

5/11/2022

Item	Area		Total
Construction: Pavement Resurfacing	A	$	4,705,590.67
Construction: Pavement Replacement	B	$	2,599,606.09
Construction: Berth 1 Repairs	C	$	1,431,421.49
Construction: Maintenance Building	D	$	1,429,034.77
SUB TOTAL		$	10,165,653.02
Washington State Sales Tax (Olympia)		$	955,571.38
SUB TOTAL		$	11,121,224.40
Port Project Management		$	150,000.00
Data Collection/ASCE Repair Level Condition Assess		$	40,000.00
Environmental/Permitting		$	150,000.00
Engineering Design		$	600,000.00
Construction Support		$	300,000.00
TOTAL		$	12,361,224.40

Total Soft Costs $ 1,240,000.00

Addressing Transportation Challenges

The two largest transportation challenges at the Port are limitations resulting from storage and berth constraints. Log demand and vessels not accommodated at the Port must use alternative ports. This project will alleviate the above challenges by providing berth and storage improvements and providing additional log capacity. This will result in additional local log demand being accommodated at the Port instead of alternative ports.

Previously Completed Components

In 2016 an engineering report identified the ash content in concrete developed and laid out for structural support when the berth was built in 1980 was inadequate. This improper ash content has left Berth 1 susceptible to corrosion and rust-build-up on rebar supporting the berth. This corrosion is expected to develop spalls, or break away fractures, in the dock support.

In 2019, Port-contracted engineering firm OAC confirmed the status of Berth 1 and made recommendations for repair work.

In early 2021 the Port finalized all engineering for this project. Much of this is reconfirming the 2016 study, which was reconfirmed by engineers as part of a 2019 budget assessment. Paving has taken place at various times over the past several years; however, engineers have confirmed the most vulnerable area and greatest need of paving is at the marine terminal.

This project will take the above findings and make the necessary upgrades through the holistic approach of an impressed current cathodic protection increasing the expected estimate life of the dock by twenty-five years or more.

Leveraging Other Projects/Initiatives/Investments

The Port has substantial history managing Federal grants and completing capital projects, resulting in increased investment from both Federal and non-Federal sources.

Grant ID Number	Grant Identifier / Project Name	Date of Award	Date Funds Released	Federal Share	Port Match	Grant Project Total
2006-GB-T6-0070	Infrastructure Protection Program	NA	NA	$ 327,010	$ 109,003	$ 436,013
2009-PU-R1-0182 ARRA	Security Enhancement	NA	NA	$ 488,630	$ -	$ 488,630
2009-PU-T0-K044-8	Security Equipment & Infrastructure	Aug 2009	Jan 2012	$ 1,460,502	$ 486,834	$ 1,947,336
2010-PU-T0-K033-8	Telescopic Boom Lift	Aug 2010	Sep 2011	$ 259,003	$ -	$ 259,003
2010-PU-T0-K033-9	Mobile Lighting Unit	Aug 2010	Sep 2011	$ 139,442	$ -	$ 139,442
2010-PU-T0-K033-10	Mobile Command Vehicle	Aug 2010	Sep 2011	$ 43,305	$ -	$ 43,305
2010-PU-T0-K033-7	Perimeter Lights & Cameras	Aug 2010	Sep 2011	$ 1,866,643	$ -	$ 1,866,643
EMW-2011-PU-K00268-S01-15	Port Security Boat	Apr 2012	Jun 2012	$ 437,666	$ -	$ 437,666
EMW-2012-PU-APP-00454-S01	IT Improvements	Aug 2012	Oct 2012	$ 122,937	$ 40,979	$ 163,916
EMW-2012-PU-APP-00454-S01	Secure Access Improvements	Aug 2012	Oct 2012	$ 176,092	$ 58,697	$ 234,789
EMW-2013-PU-APP-00397	Maintenance & Repair of Sec System	Sep 2013	Oct 2013	$ 68,874	$ 22,958	$ 91,832
EMW-2014-PU-00350-S01	Tow Boat Renovation	Sep 2014	Sep 2014	$ 60,900	$ 20,300	$ 81,200
EMW-2017-PU-00445	Maintenance & Repair of Sec System	Sep 2017	Sep 2017	$ 140,683	$ 46,894	$ 187,578
			Totals	**5,591,687**	**785,665**	**6,377,353**

Table 1 Port Marine Terminal Grant History

II. Project Location

Port of Olympia

The Port of Olympia, located as the southernmost deep water public port in Puget Sound in Washington state, houses a 66-acre marine terminal with three deep water berths with a total of 1,750 lineal feet, a 140 MT Gottwald mobile harbor crane, an on-dock, open beam warehouse, and on-dock rail service. Centrally located to serve Puget Sound and the Columbia River Basin, the Port provides ready access to local, regional, and international markets. Only one-mile from Interstate 5, ten-miles from the Olympia Regional Airport, and sixty-miles from the Seattle-Tacoma International Airport, make this Port an ideal location to handle any breakbulk shipping needs.

The Port of Olympia is located within the Washington state capital of Olympia. Lying on the mouth of the Deschutes River at the south end of Puget Sound, the Port of Olympia is about 70 kilometers southwest of the Port of Seattle and the same distance east-northeast of the Port of Grays Harbor in Washington. The Port's on-dock 76,000 square foot, open beam construction warehouse facility features eight truck doors with self-leveling ramps, six drive-in doors with spans up to 78 feet wide, and rail siding with a built-in fall arrest system with capacity to handle multiple cars. The mission of the Port of Olympia is to create economic opportunities by connecting Thurston County to the world by air, land, and sea. The Port of Olympia has a proud history in Thurston County. It serves the community in a wide variety of ways, leading the way for many of the area's economic development efforts. From the commercial center at NewMarket Industrial Campus and the diversified specialty Marine Terminal to the vibrant Swantown Marina and Boatworks and the strategically located Olympia Regional Airport, the Port of Olympia is committed to fostering economic growth of the South Puget Sound region and serving the needs of global customers.

The Port of Olympia houses a large industrial complex for seaborne bulk and breakbulk cargoes. The local economy depends on the port and on log-related business as well as oyster farms, dairies, breweries, and other light industries.

Area Description

The population of Olympia is 52,882 with 17.9 percent being of non-white origin. 15.7% of the residents in Olympia are below the poverty level.[3] Olympia is in urbanized area 65242.[4]

The city of Olympia, Washington has 2 designated Opportunity Zones. In total these Opportunity Zones have a population of approximately 6,700. That represents 13% of the city's total population of 52,000. The median household income for Olympia Opportunity Zones ranges from approximately $32,000 to $60,000. The followoing map shows all Opportunity Zones in Olympia.

[3] U.S. Census Bureau QuickFacts: Olympia city, Washington
[4] Urbanized Areas and Urban Clusters: 2010 (census.gov)

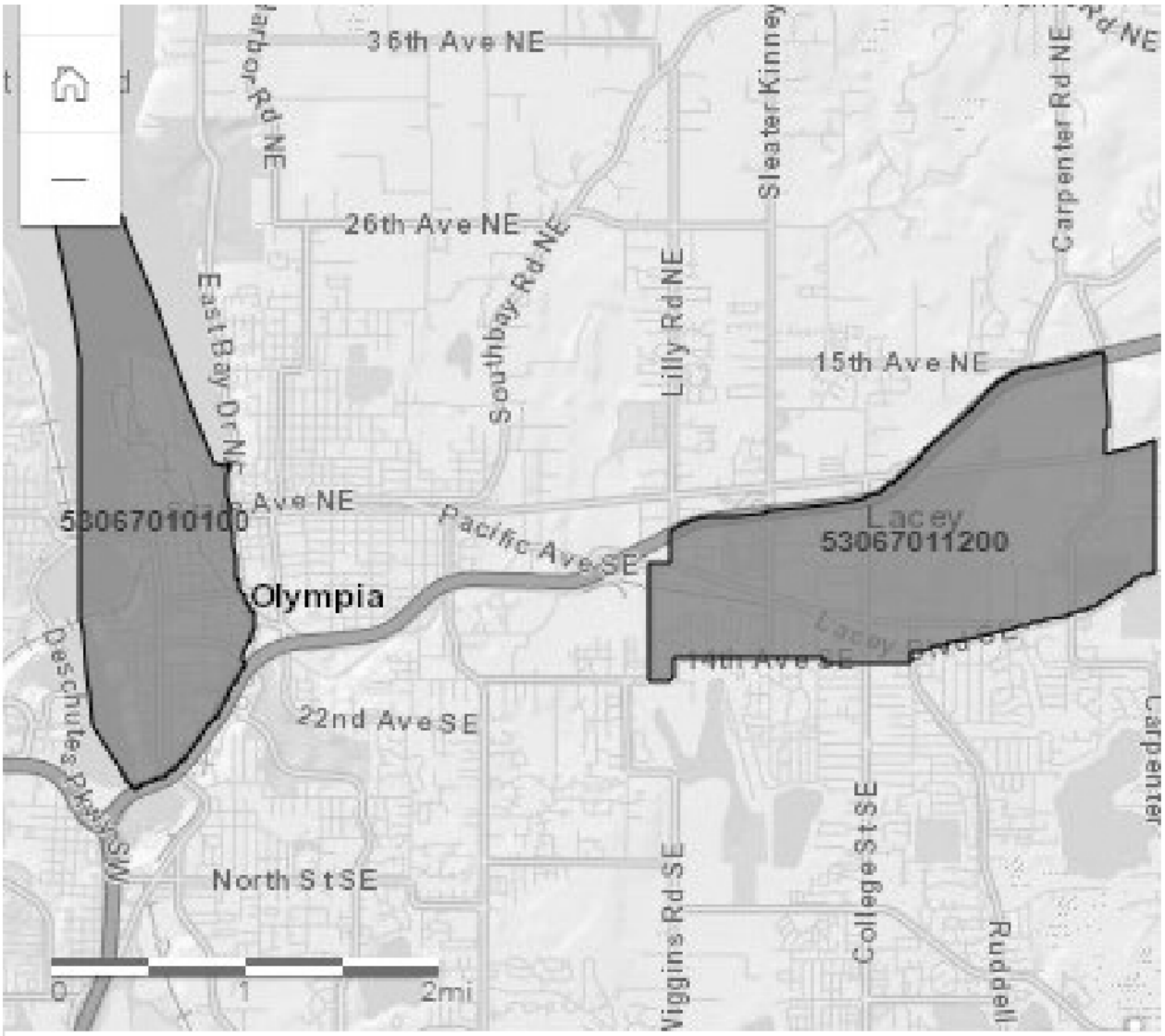


Figure 14 Olympia Opportunity Zones

The following table below lists all two Opportunity Zones in Olympia. The first two rows reflect average values for the state of Washington, and the Opportunity Zones in the state.[5]

Name	County	Median Household Income	Below Poverty Line	Median Home Value	Edu High School	Median Age
WA State	N/A	$79,000	10%	$388,000	92%	38
WA Ozone Average	N/A	$46,000	14%	$315,000	93%	44

[5] List of Olympia, Washington Opportunity Zones & OZ Funds - OpportunityDb

Name	County	Median Household Income	Below Poverty Line	Median Home Value	Edu High School	Median Age
53045961300	Mason	$60,000	11%	$247,000	89%	48
53067010100	Thurston	$32,000	17%	$383,000	96%	40

Table 2 Olympia list of Opportunity Zones

Geospatial Data

The Project is located at 47.0493° N, 122.9032° W on the mouth of the Deschutes River at the south end of Puget Sound. The address is 915 Washington Street NE, Olympia, WA 98501. This project is a Coastal Seaport project.

Connections to Existing Infrastructure

Figure 15 Port of Olympia connecting infrastructure

The Port is one mile from Interstate 5, ten miles from the Olympia Regional Airport, and sixty miles from the Seattle-Tacoma International Airport. Rail service is provided by Union Pacific and BNSF with an on-dock rail loop and switching provided by the Olympia and Belmore Railroad.

III. Grant Funds, Sources, and Uses of Project Funds

Project Costs

Item	Quantity	Unit Price	Cost
Pavement Resurfacing Area C	1	$ 4,578,964	$ 4,578,964
Pavement Replacement Area C	1	$ 2,542,839	$ 2,542,839
New Paving Area A	1	$ 183,393	$ 183,393
Terminal Spall Repairs Area B	1	$ 1,431,421	$ 1,431,421
Maintenance Building Area D	1	$ 1,429,035	$ 1,429,035
Washington State Sales Tax	1	$ 955,571	$ 955,571
Port Project Management	1	$ 150,000	$ 150,000
Data Collection/ASCE Repair Level Condition Assessment	1	$ 40,000	$ 40,000
Environmental/Permitting	1	$ 150,000.00	$ 150,000
Engineering Design	1	$ 600,000.00	$ 600,000
Construction Support	1	$ 300,000.00	$ 300,000
TOTAL PROJECT COST			**$ 12,361,224**

Table 3 Project Budget

Sources and Amount of Funds

Description	Amount	Percentage of Project Cost
PIDP Funding	**$ 9,270,918**	**75%**
Other Federal Funding	$ -	0%
State Funding	$ -	0%
Port Funding	$ 3,090,306	25%
Total Non-Federal Funding	**$ 3,090,306**	**25%**
Total Project Cost	**$12,361,224**	**100%**

Table 4 Funding Source Breakdown

Non-Federal Matching Fund Sources

The Port will fund the $3,090,306 portion of this project through private capital. The match commitment letter is in the Appendix section of this application.

Source Fund Spending Breakdown

Item	PIDP Funds	Other Fed Funds	State Funds	Private Funds
Pavement Resurfacing Area C	$ 3,434,223	$ -	$ -	$ 1,144,741
Pavement Replacement Area C	$ 1,907,130	$ -	$ -	$ 635,710
New Paving Area A	$ 137,545	$ -	$ -	$ 45,848
Terminal Spall Repairs Area B	$ 1,073,566	$ -	$ -	$ 357,855
Maintenance Building Area D	$ 1,071,776	$ -	$ -	$ 357,259
Washington State Sales Tax	$ 716,679	$ -	$ -	$ 238,893
Port Project Management	$ 112,500	$ -	$ -	$ 37,500
Data Collection/ASCE Repair Level Condition Assessment	$ 30,000	$ -	$ -	$ 10,000
Environmental/Permitting	$ 112,500	$ -	$ -	$ 37,500
Engineering Design	$ 450,000	$ -	$ -	$ 150,000
Construction Support	$ 225,000	$ -	$ -	$ 75,000
TOTAL PROJECT COST	**$ 9,270,918**	**$ -**	**$ -**	**$ 3,090,306**

Table 5 Source Fund Spending Breakdown

There are no funding restrictions related to aspects of this project. All pricing was obtained from engineering firm Moffatt & Nichol.

IV. Merit Criteria

Effect on the Movement of Goods

This project will have the following effects on the movement of goods at the Port of Olympia over twenty years:

Safety

1. Decrease loaded log truck trips at alternative ports by 270,720.
2. Decrease truck vehicle miles traveled to alternative ports by 32,486,400.
    a. Total fatal crashed avoided – .3
    b. Total injury crashes avoided – 9.4
    c. Total non-injury crashed avoided – 25.7
3. Net decrease in truck VMT by 18,950,400.
4. Net decrease in truck VHT by 421,120.
5. Result in a crash savings of $2,868,737.

Cargo Volume

1. Increase vessel calls by 226.
2. Increase log cargo volume by 1,240,800,000 board feet.
3. Increase loaded log truck trips out of the Port by 270,720.

Efficiency

1. Result in avoided truck time and cost of $15,297,184.
2. Result in an operational cost savings of $4,148,217.

It is important to note port shifting effects the treatment of induced traffic. The project results in an increase in capacity and throughput for the Port of Olympia; in the absence of the project, the same throughput would be handled at alternative ports. The additional throughput therefore represents "induced traffic."

Supporting Economic Vitality at the National and Regional Level

Regional Critical Infrastructure

Berth 1 is expected to handle any heavy lift cargo requirements and emergency planning such as earthquake support. The Port's mobile harbor crane was purchased to work cargo on Berth 1. A benefit of this project is the Port will be able to use its heavy lift crane, thereby serving as a critical asset in the case of an emergency. Recent regional earthquake exercises, including Cascadia Rising, determined bridges, roads, and rail would be seriously impacted by an earthquake and that waterways may be the most significant pathway to transport food, water, medicine, and other critical supplies. As such, having a serviceable berth with significant lifting capacity is essential to the Capital of Washington State.

Economic Impacts

Each vessel calling the Port employs approximately thirty-five longshoremen per day and takes six days to load. Anchor client, Weyerhaeuser, has twenty-two ships call the Port annually. This project will increase the number of Weyerhaeuser vessels from twenty-two to thirty. Weyerhaeuser employs thirty full-time employees at the Port. This project will increase their employees to forty-one. Additionally, approximately one hundred trucks per day, five days per week, call the Port and deliver forest products for export, equally 26,000 trucks annually. This project will increase truck visits by 35,100 annually, resulting in an additional 9,100 potential truck driver jobs.

1. Increase the number of annual longshore jobs by 1,680.
2. Increase the number of annual longshore hours by 13,440.
3. Increase the number of annual Weyerhaeuser full-time jobs by 11.
4. Increase the number of potential annual truck driver jobs by 9,100.

There are also several induced jobs in connection with the increase in workers and drivers associated with the log business, plus the revenue produced from additional ship crew going ashore.

Figure 16 Log Ship alongside at the Port of Olympia

Addressing Climate Change and Environmental Justice Impacts

Olympia Sea Level Rise Response Plan

The Port is a contributing partner to a long-term response plan to address sea level rise (SLR) risks and port infrastructure vulnerability in Budd Inlet. SLR estimates by City are estimated at 13" by 2050. City is planning for flood protection measures to be implemented by 2050 that would protect flooding beyond that level.[6]

The Port is a part of the Green Marine certification program, which is a voluntary third-party verification program requiring participating port authorities to establish baseline performance indicators in multiple facets of marine terminal operations and then demonstrate tangible year-over-year improvements to maintain certification. In June 2021 the Port was recertified as a Green Marine port authority.[7]

[6] SLR-Plan-Complete.pdf (revize.com)
[7] Port of Olympia re-certified as Green Marine port authority (mailerlite.com)

Community Engagement Activities

The process of developing the SLR Response Plan included significant engagement between stakeholders and the public. The Project Partner's public involvement and communication goals were to: 1) inform community members about flood risks associated with sea level rise and its various implications to our downtown area, and 2) involve and gather community input on potential adaptation actions and priorities through an iterative plan development process. A Communication Plan was developed to guide outreach and involvement at each stage of the planning process. The Communication Plan identified key questions for each task and created outreach materials and strategies to help answer those questions.

Environmental Public Benefits

This project will have the following environmental justice impacts on the Port of Olympia:

1. Decrease CO_2 emissions by 27,024 metric tons (MT).
2. Decrease $PM_{2.5}$ emissions by 2 MT.
3. Decrease NO_X emissions by 55 MT.
4. Result in emissions savings of $2,253,115.
5. Reduces over the road congestion at alternative ports and encourages a port shift by transferring cargo movement from alternative ports to the Port of Olympia.

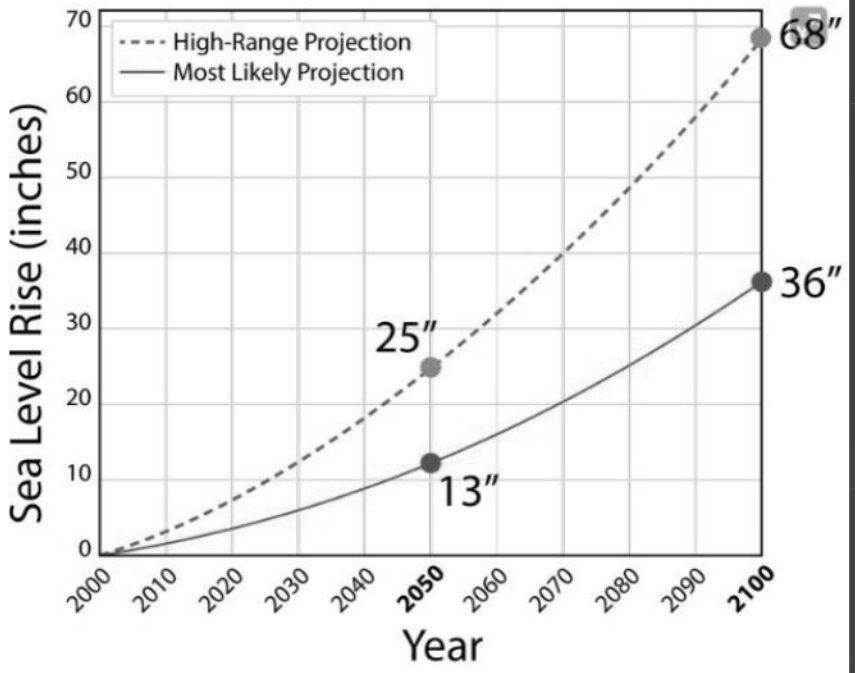
EPA EJSCREEN Tool

Utilizing the EPA's EJSCREEN tool, it was determined the Port is in the 13th percentile for state $PM_{2.5}$ emissions. The EPA EJSCREEN $PM_{2.5}$ graphic is in the Appendix Section of this application.

Sea Level Rise Considerations

- Port a contributing partner to a long-term response plan to address SLR risks and port infrastructure vulnerability in Budd Inlet
- SLR estimates by City are estimated at 13” by 2050. City is planning for flood protection measures to be implemented by 2050 that would protect flooding beyond that level.
- Building finished elevation estimated to require increase by at least 1 ft above current levels to be resilient to SLR within the City planned SLR adaptation plan

LOTT Clean Water Alliance · Olympia · PORT of OLYMPIA



Advancing Racial Equity and Reducing Barriers to Opportunity

Representatives from the City of Olympia, LOTT Clean Water Alliance, Center for Sustainable Infrastructure, South Puget Sound Community College Foundation and Port of Olympia have discussed in recent months the need and opportunity for training space and facilities in the downtown area. The Parties share an interest in fostering education, trade training, workforce development, economic development, and environmental sustainability and wish to explore the concept of creating a multi-purpose training center.

LOTT depends on employees with highly specialized technical and trade training and operates a state-of-the-art wastewater treatment facility with advanced and unique treatment capabilities. As water quality standards require more nitrogen removal, LOTT believes that their technical training will be more in demand. The City of Olympia has designated a tech/trade district in the area and has interest in advancing a cross-functional space such as a training center and believes other organizations and community groups may also wish to participate. Other potential partners such as the New Market Skills Center have expressed the need for additional trade and vocational training space. The Port owns property located in the North Point and East Bay districts that could potentially serve this purpose, and the Port has interest in advancing training opportunities including for maritime careers.

Development of a multi-purpose training center could serve as a hub to advance these shared interests and would be a vital community asset. The Parties intend to conduct a joint scoping exercise to explore a possible collaborative project and define a pathway toward implementation. The scoping exercise will identify and prioritize goals for the project, considering opportunities for physical infrastructure as well as related training/programming. Additional information is in the Appendix.

The Port has a long-standing history of diverse hiring practices, which will be applied to this project. The Port strives to hire individuals who belong to underserved communities that have been denied fair, just, and impartial treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.

The Port Policy on Affirmative Action/Equal Employment Opportunities and EPA EJSCREEN graphic and Summary Report are in the Appendix Section of this application.

Leveraging Federal Funding to Attract Non-Federal Sources of Infrastructure Investment

See Section III for pertinent information.

V. Project Readiness

Technical Capacity

Project Schedule

Activity	2022		2023				2024				2025				2026			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Grant Award and Negotiation																		
SEPA/Permitting																		
Planning																		
Engineering																		
Paving																		
Berth 1																		
Maintenance Facility																		
Completion/Close Out																		

Table 6 Project Schedule

Assessment of Project Readiness Risks and Mitigation Strategies

The Port and Marine Terminal have a long history of managing and successfully completing various types of projects, including capital projects, funded by Federal grants. See the Leveraging Other Projects/Initiatives/Investments section of this application.

There are no apparent risks to completing this project within five years of fund obligation. There is no property acquisition associated with this project.

Environmental Risk

NEPA/Environmental Permits and Reviews/State and Local Approvals

Federal regulation directs Washington State Department of Ecology to run a SEPA process for capital projects. The Port of Olympia would be the lead agent for the SEPA process and would likely issue a determination of non-significance.

This project does not require approval and permits from other agencies, nor is it dependent upon US Army Corps of Engineers investments or planned activities and will not be delayed by the local construction permitting timeline.

VI. Domestic Preference

Per Port Policy 1004, contract provisions specify Buy American requirements for Federally funded projects. This policy is in the Appendix section of the application.

VII. Determinations

Project Determination	Guidance
The project improves safety, efficiency, or reliability of the movement of goods through a port or intermodal connection to the port.	See Section IV of this application.
The project is cost effective.	See Section III of this application.
The eligible applicant has the authority to carry out this project.	See Section I of this application.
The eligible applicant has sufficient funding available to meet the matching requirements.	See Appendix I of this application.
The project will be completed without unreasonable delay.	See Section V of this application.

Appendix I

Port of Olympia Match Commitment Letter

PORT of OLYMPIA
Serving All of Thurston County

606 Columbia St NW, Suite 300 | Olympia, WA 98501
360.528.8000 | F: 360.528.8090 | portolympia.com

May 11, 2022

Honorable Pete Buttigieg
Secretary of Transportation
US Department of Transportation
1200 New Jersey Avenue SE
Washington, DC 20590

Email to: DOTExecSec@dot.gov

Dear Secretary Buttigieg:

On behalf of the Board of Commissioners, I am submitting this letter to convey the Port of Olympia's commitment to providing a cash match in support of our Seaport Throughput Improvement Project that is being submitted for consideration during the Port Infrastructure Development Program grant cycle for 2022. At the regular public meeting held on May 9, 2022 the Port of Olympia Board of Commissioners voted unanimously in support of the below motion,

> *"[M]ove to authorize the Executive Director to submit the Port of Olympia 2022 Port Infrastructure Development Program grant application, with a total project cost of $12,361,225 and including a 25% Port-funded match in the amount of $3,090,306, to the USDOT Maritime Administration, as presented."*

This project will be a significant contributor to strengthening the American supply chain, creating a resilient port and intermodal system that ensures continued movement of goods into and out of our community, region and Washington State.

Thank you for your consideration.

Respectfully,

Sam Gibboney
Executive Director

Appendix II

Benefit Cost Analysis

MERIT CRITERIA AND BENEFIT-COST ANALYSIS CALCULATIONS

Seaport Throughput Improvement Project

Submitted by:

The Port of Olympia, WA

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL INFRASTRUCTURE INVESTMENTS
2021 TRANSPORTATION DISCRETIONARY GRANTS

THIS DOCUMENT REPRESENTS CONFIDENTIAL BUSINESS INFORMATION (CBI)

Prepared by:
WSP USA Inc.

CONTENTS

EXHIBITS

1 Introduction

In support of application for 2021 transportation discretionary grant funds, WSP Inc. worked with the Port of Olympia, WA to identify, quantify, and calculate Merit Criteria relevant to USDOT's evaluation of proposed improvements to its marine cargo terminal facility. WSP prepared a formal Benefit Cost Analysis (BCA) spreadsheet model and this BCA Appendix document for inclusion in the project application.

The Port of Olympia is a municipal corporation organized under state law, responsible for a diverse set of operations including: a 66-acre marine terminal with three berths, primarily handling logs; a marina; boatworks; the regional airport; and commercial real estate. The Port is planning marine terminal berth and storage improvements to expand its log-handling capacity. These improvements will provide local log exporters with greater capacity through the nearest port, reducing the need to truck longer distances to alternative ports. Reduced truck VMT will, in turn, produce national transportation benefits in the form of reduced truck operating costs, reduced truck-involved crashes, and reduced truck-generated emissions.

Because the analysis assumes gains in port-wide volume ("induced traffic"), all associated benefits are discounted by 50 percent to reflect uncertainty in the market forecast. The Port has a well-established customer base and believes there is strong market justification for the investment, but the 50 percent reduction ensures the resulting benefit estimates are conservative. The analysis assumes no changes in modal utilization (or "mode shifting") -- waterborne exports remain on water, and drayage to ports remains on truck – the key difference is whether exporters have access to Olympia as the closest port (with project), or are required to use alternative ports due to capacity constraints at Olympia (without project).

This BCA Appendix is intended to provide supporting details for the structure, assumptions, input data, factors, calculation steps, and outputs of the BCA model. It functions as a User Guide for the BCA model, which is an unlocked, self-contained spreadsheet, where every cell is accessible. We want to emphasize there were no "black boxes" involved in the modeling process. All inputs, conversion and valuation factors, calculation steps, and results are shown, for every year of the analysis, in the model itself; and these can be viewed and modified as appropriate.

This document is organized by the following sections:

- This Introduction
- BCA Process and Summary
- Spreadsheet Model Details (a line-and-column level discussion of the different BCA model worksheet tabs and inputs, factors, calculations, and outputs)

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Appendix III

Dock Inspection and Structural Evaluations

T·Y·LIN INTERNATIONAL

engineers | planners | scientists

To:	William Helbig, PE Director of Engineering Port of Olympia Olympia, WA	**From:**	Norm Smit, PE SE Senior Associate T.Y. Lin International Olympia, WA
Re:	Dock Inspection Report	**Date:**	July 24, 2014

On July 17, 2014, the Port of Olympia dock structures were visually inspected. Observed signs of distress are summarized in this report. The structural impacts of the aging described in this report will be included in the structural assessment of the dock structure for the loads of a Gottwald HMK-7608 crane or similar.

The day of the inspection was clear and warm. The inspection took place from approximately 1:20pm to 2:50pm, on a falling tide. The tide was between approximately 7 ft and 3 ft. The inspection vessel was piloted under the dock from the west, between bent caps. In areas with higher distress, every opening was visited. In areas with little or no distress, every other opening was visited.

Attached to this document are plan views of each berth, with the locations of observed distress indicated. This document provides an overview of the types of distress and an overall evaluation of the structures.

Types of Distress

Two major types of distress were observed on the underside of the dock: longitudinal splitting cracks and small spalls, both in the inverted-T (IT) bent cap beams.

The splitting cracks were often discolored by rust, indicating corrosion beneath the surface of the concrete. Two photos of distressed bent caps are provided in Figure 1: the first with a "typical" level of distress, and the second with "significant" distress. During the inspection, the soundness of the concrete could not be tested. It was expected that at some locations, a hammer strike would spall the nearby concrete, revealing corroding reinforcing bars in the IT beams.

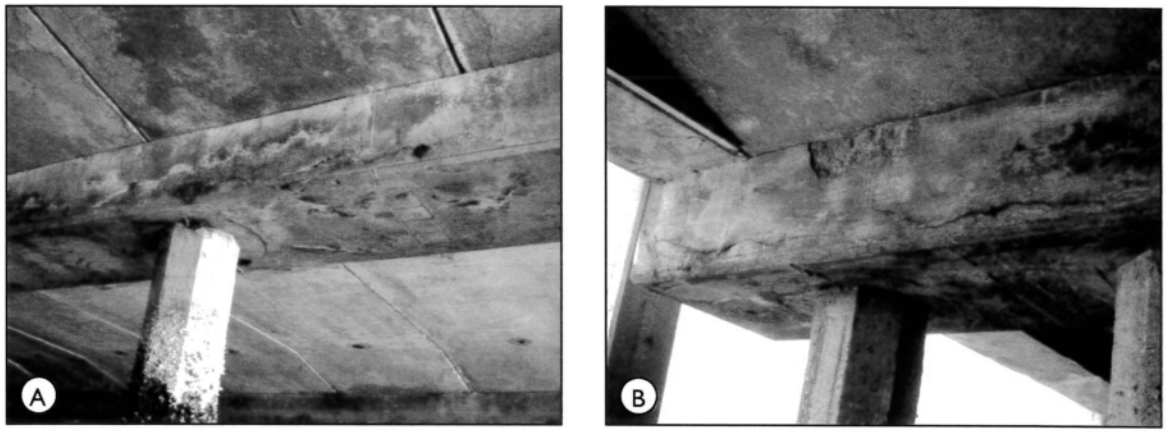


Figure 1: (A) Typical discoloration and cracking on bent cap; (B) significant cracking on bent cap.

The observed splitting cracks were regularly located between columns C and D, and between columns G and H. The dock plans do not indicate regular significant loads above these locations. Additionally, excessive flexural loads would result in vertical cracks, while the observed cracks were longitudinally oriented.

An example of the observed spalling concrete in the IT beams can be seen in Figure 2. The damage was thought to have occurred during construction, as the precast panels were placed on the inverted Ts. While impacting the concrete would likely cause the concrete to fully break off, it is not expected that exposed or corroded rebar would be found behind the spall.

Figure 2: Spall in an inverted-T beam.

Other Structural Members

Along the length of the dock, the prestressed concrete panels spanning between the inverted-T bent caps were in excellent condition. No cracking, spalling, or other distress was observed. At many locations, water was seeping between panels, but this seepage is unlikely to cause any structural issues to the panels. In the areas with cracking in the inverted-Ts, minimizing water contact will reduce the amount of corrosion. However, given the location of the ITs above the waters of Budd Inlet, a high level of ambient moisture is inevitable. In the north section of Berth 3, some panels were coated. The underside of a panel line in Berth 3 can be seen in Figure 3. The condition of the panel concrete was typical.

Figure 3: Bottom of deck panels in Berth 3.

Along the length of the dock, the piers and pier-to-beam connections were in good condition. Above the typical water line, the concrete was sound and free from cracking, spalling, or other distress. In a few places, the marine life below the water line was removed as part of the inspection, exposing similarly good-quality concrete. Inconsistencies in the concrete were typically due to as-built modifications including column splices and cast-in-place caps, each built to extend the column from its driven location

to the required height. In some locations, the inverted-T shape was modified to match the as-built pile location. A typical modification is shown in Figure 4; the concrete quality of the pile and connection at this location was typical along the structure.

Figure 4: Pier-to-beam connection (with beam modification for as-built pier location)

Summary of Observations by Berth

The observed distress varied significantly in each of the five berths. A summary is given in Table 1. Both sections of Berth 3 were in good condition. Berth 1-2 was also free from distress. The distress seen in Berth 2 was typically minor and should not impact the use of the berth.

Table 1: Summary of observations by berth

Berth	Year of Construction	Pile Lines	Splitting Cracks	Spalling	Overall Condition
Berth 1	1981	16-37	Significant	Occasional	Poor
Berth 1-2	1985	37-49	None	None	Good
Berth 2	1973	49-69	Occasional	None	Fair
Berth 3 South	1998	69-82	None	None	Good
Berth 3 North	1989	82-101	Very minor	None	Good

Summary and Recommendations

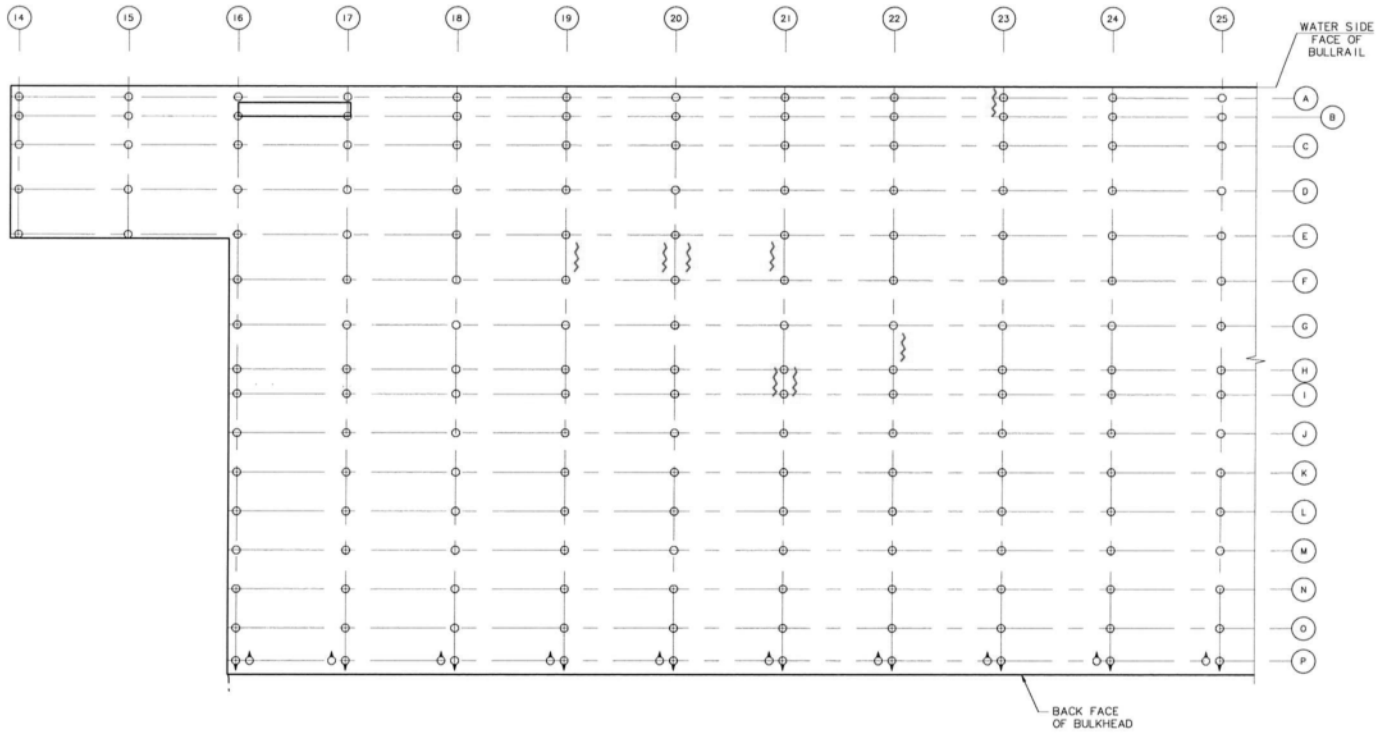
- The systematic distress observed in the inverted-T beams in Berth 1 should be studied further, at closer range than was available during this inspection. Structural repair may be needed for typical Port operations if corroded reinforcing bars are found. Without action, the corrosion will continue, reducing the capacity of the beams to carry load. At a minimum, it is recommended that the existing condition be thoroughly documented and follow-up annual inspections be scheduled to evaluate the change through time.

- It is not recommended that Berth 1 be used for the mobile harbor crane under consideration unless further investigation and repairs occur. An appropriate reduction in capacity due to the distress should be assumed to account for the condition of the structure.

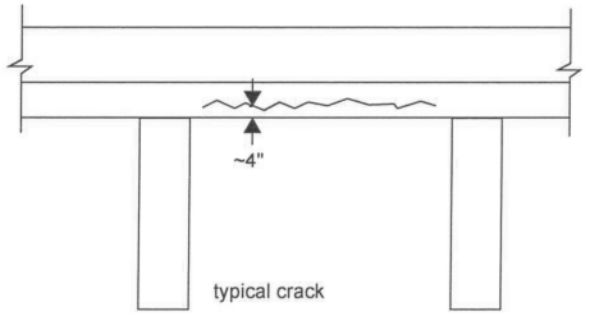
- The piles and prestressed panels are in good structural condition. Using their full design load is acceptable given the as-built condition.

splitting crack (see sketch, pg 1)

spall



PLAN – BERTH 1
SCALE: NTS



LEGEND

- 16" SQUARE CONCRETE FENDER PILE
- HP 12x63
- 24" SOLID OCTAGONAL PILE
- 24" HOLLOW OCTAGONAL PILE
- 16½" OCTAGONAL PILE
- 16½" OCTAGONAL PILE – BATTERED
- PZ27 SHEET PILE

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BERTH 1 (1 OF 2)

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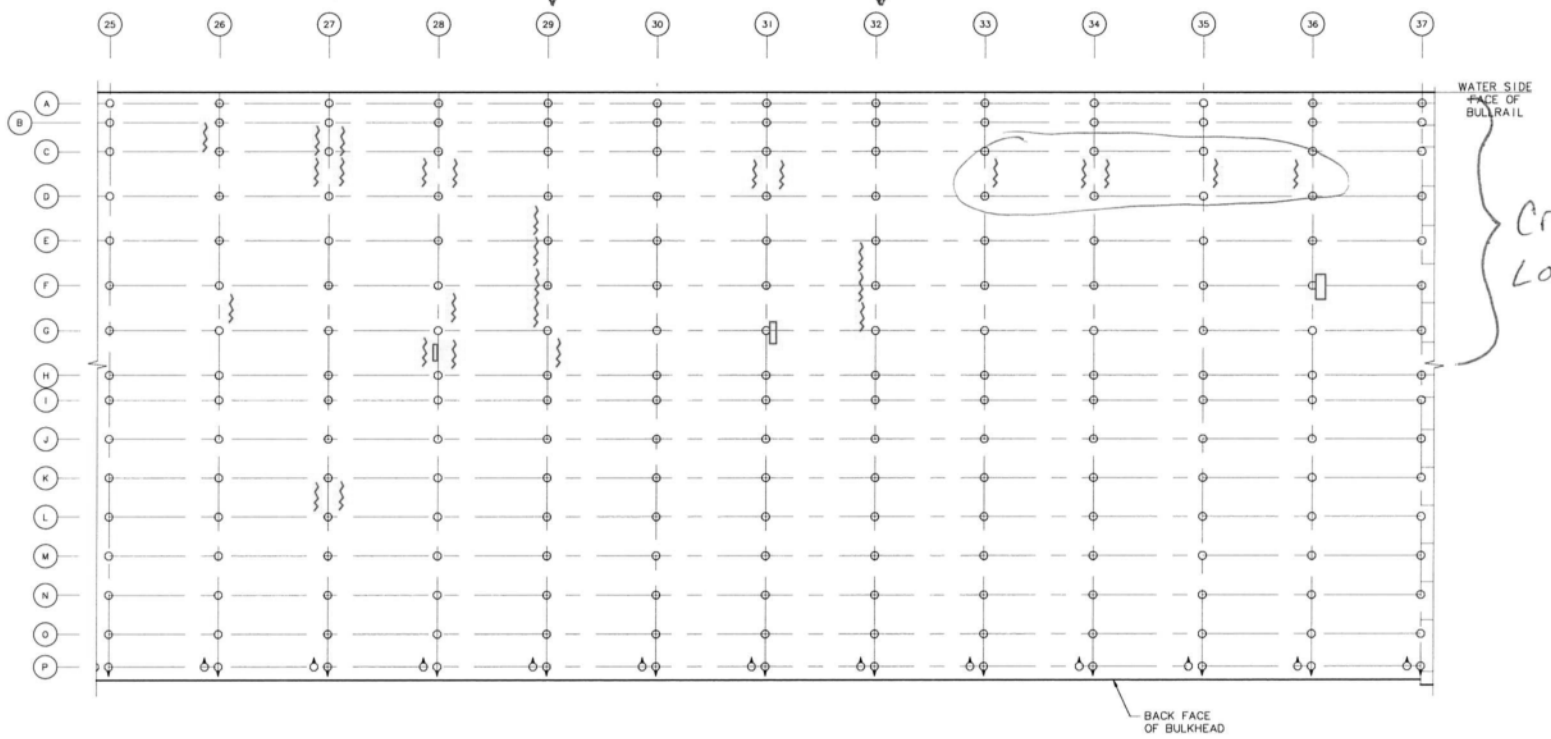
splitting crack (see sketch, pg 1)

spall



PLAN – BERTH 1
SCALE: NTS

LEGEND

- ■ 16" SQUARE CONCRETE FENDER PILE
- H HP 12x63
- ● 24" SOLID OCTAGONAL PILE
- H○ 24" HOLLOW OCTAGONAL PILE
- ○ 16½" OCTAGONAL PILE
- ♀ 16½" OCTAGONAL PILE – BATTERED
- PZ27 SHEET PILE

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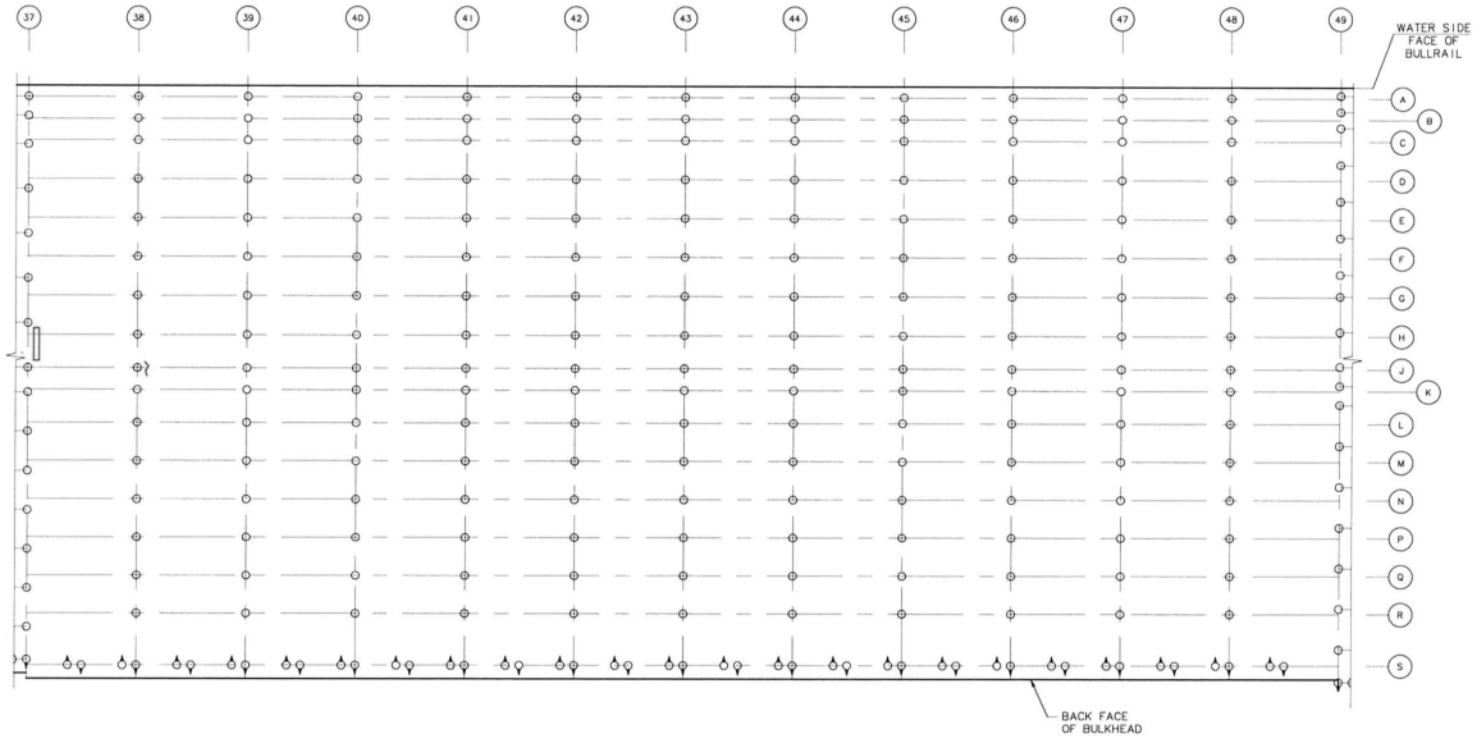
splitting crack (see sketch, pg 1)

spall



PLAN – BERTH 1–2
SCALE: NTS

LEGEND

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- H HP 12x63
- ● 24" SOLID OCTAGONAL PILE
- HO 24" HOLLOW OCTAGONAL PILE
- O 16½" OCTAGONAL PILE
- O 16½" OCTAGONAL PILE – BATTERED
- PZ27 SHEET PILE

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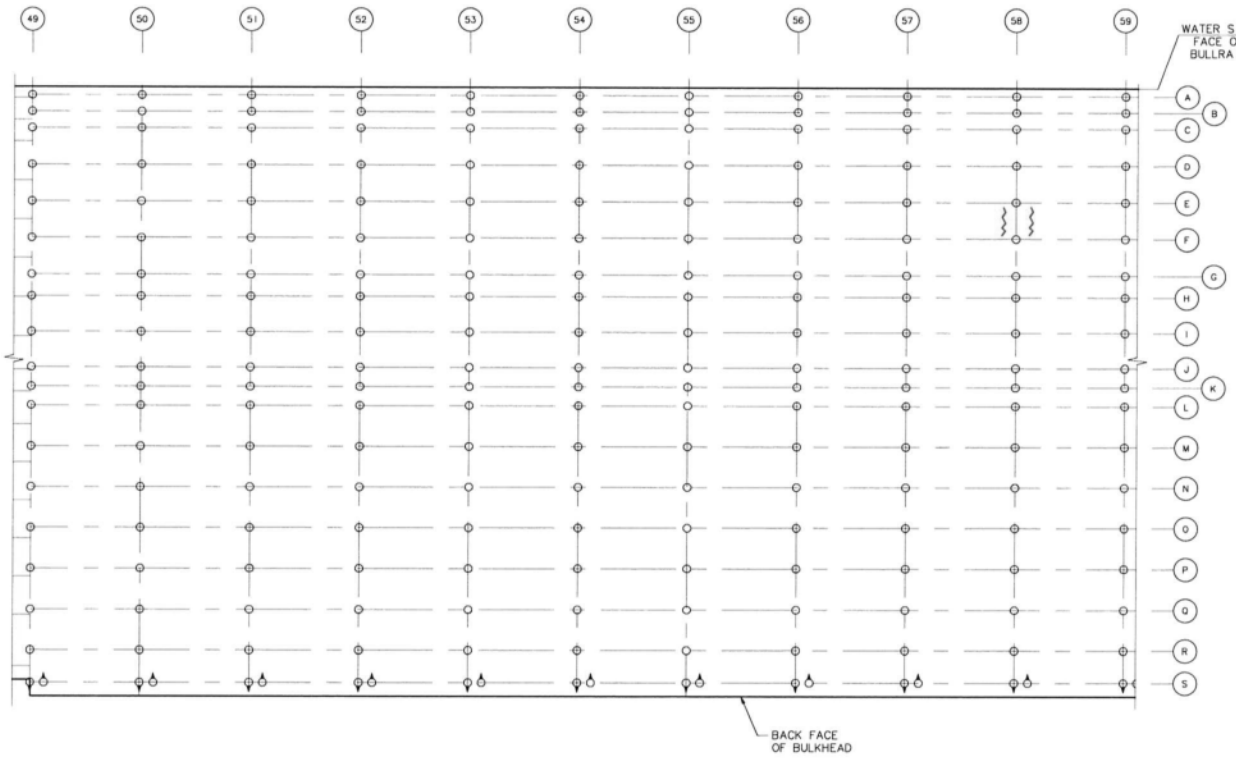
splitting crack (see sketch, pg 1)

spall



PLAN – BERTH 2
SCALE: NTS

LEGEND

- ■ 16" SQUARE CONCRETE FENDER PILE
- H HP 12x63
- ● 24" SOLID OCTAGONAL PILE
- H○ 24" HOLLOW OCTAGONAL PILE
- ○ 16½" OCTAGONAL PILE
- ♀ 16½" OCTAGONAL PILE – BATTERED
- PZ27 SHEET PILE

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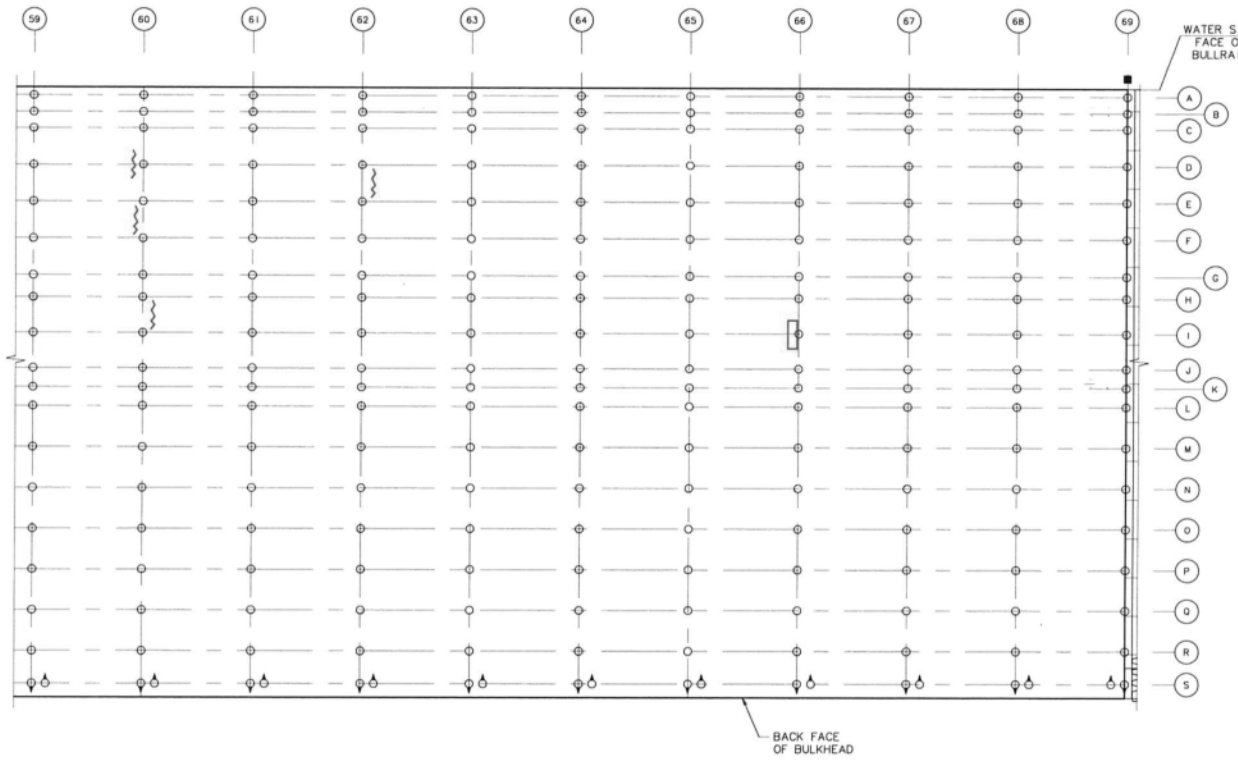
splitting crack (see sketch, pg 1)

spall



PLAN – BERTH 2
SCALE: NTS

LEGEND

- ■ 16" SQUARE CONCRETE FENDER PILE
- H HP 12x63
- ● 24" SOLID OCTAGONAL PILE
- H○ 24" HOLLOW OCTAGONAL PILE
- ○ 16½" OCTAGONAL PILE
- ♀ 16½" OCTAGONAL PILE – BATTERED
- PZ27 SHEET PILE

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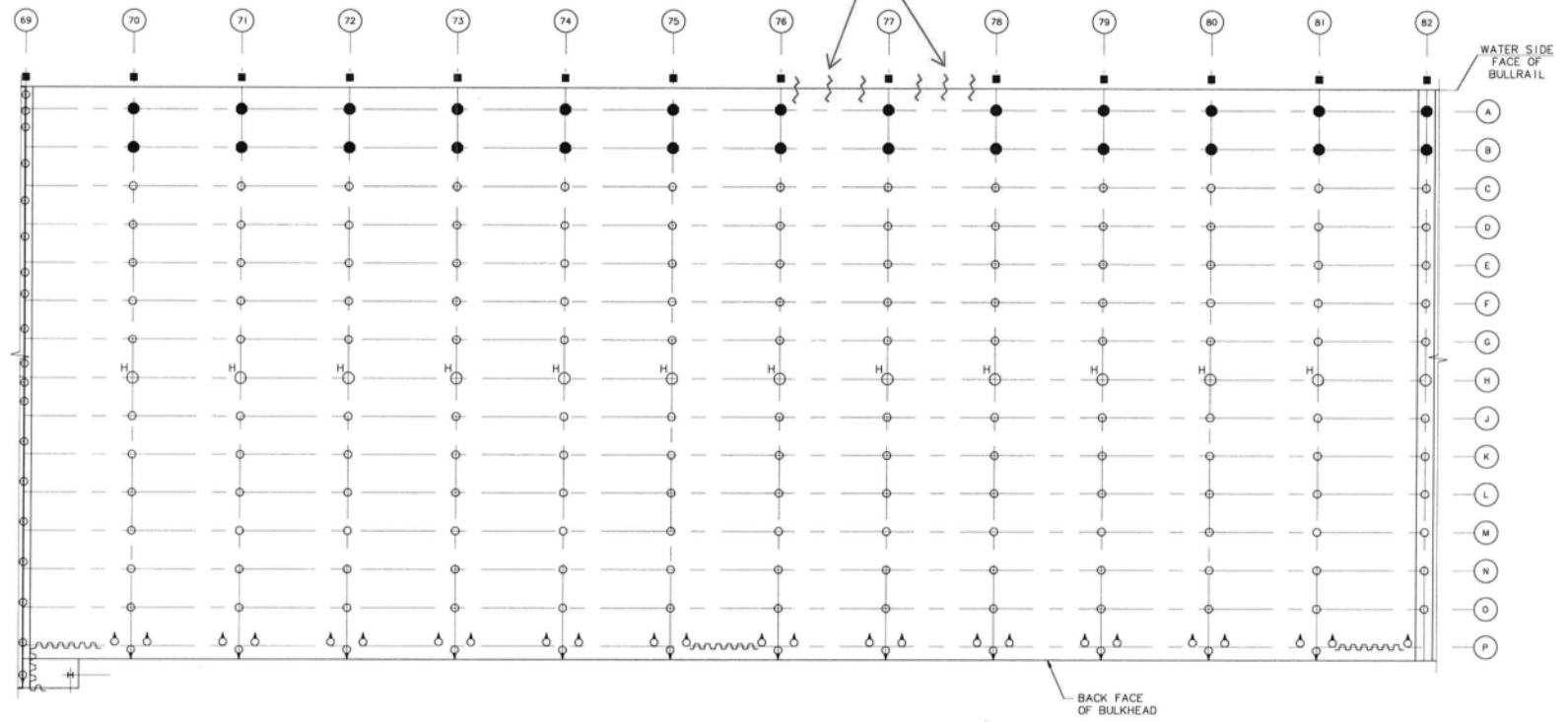
splitting crack (see sketch, pg 1)

spall



PLAN – BERTH 3 SOUTH
SCALE: NTS

LEGEND

- ■ 16" SQUARE CONCRETE FENDER PILE
- H HP 12x63
- ● 24" SOLID OCTAGONAL PILE
- H○ 24" HOLLOW OCTAGONAL PILE
- ○ 16½" OCTAGONAL PILE
- ○ 16½" OCTAGONAL PILE – BATTERED
- PZ27 SHEET PILE

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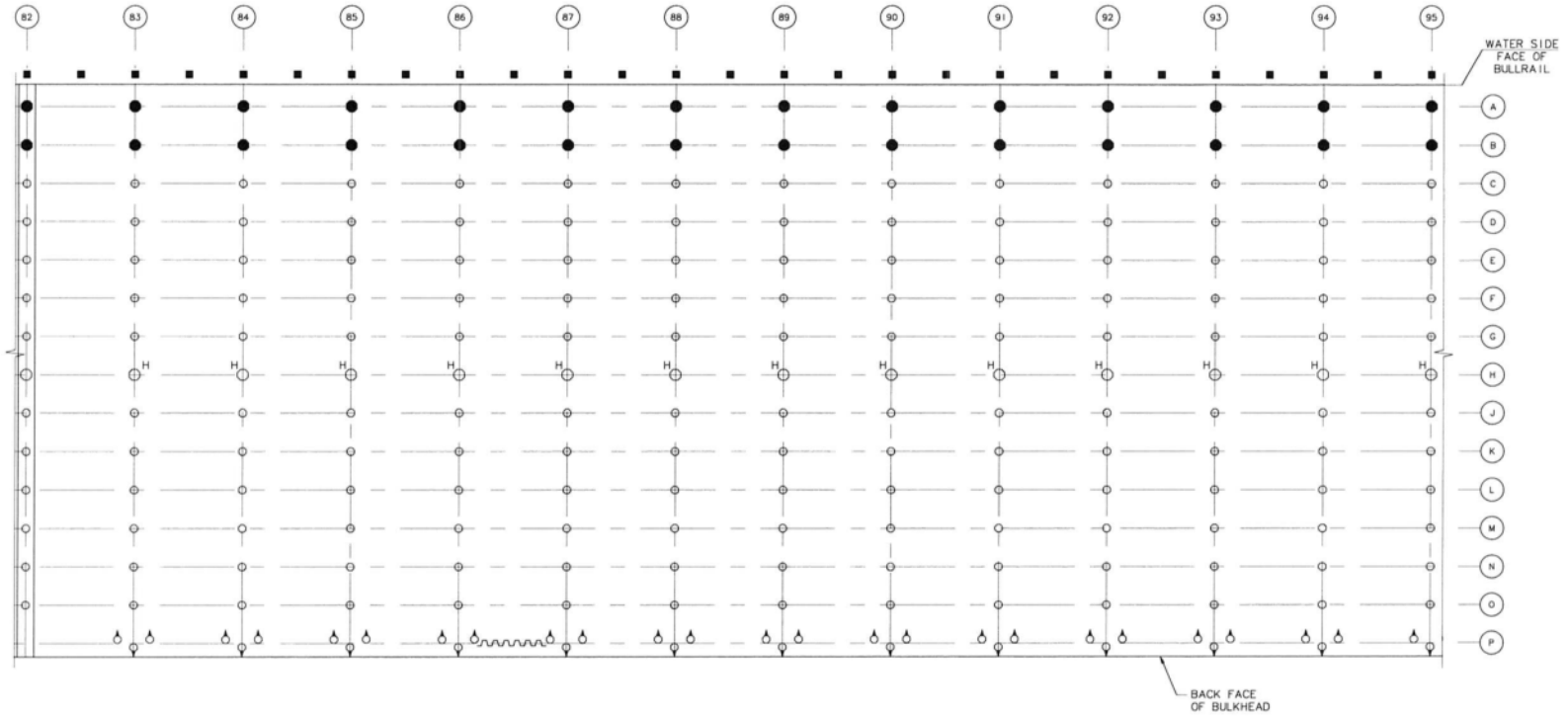
splitting crack (see sketch, pg 1)

spall



PLAN – BERTH 3 NORTH
SCALE: NTS

LEGEND

- ■ 16" SQUARE CONCRETE FENDER PILE
- H HP 12x63
- ● 24" SOLID OCTAGONAL PILE
- H○ 24" HOLLOW OCTAGONAL PILE
- ○ 16½" OCTAGONAL PILE
- ○ 16½" OCTAGONAL PILE – BATTERED
- PZ27 SHEET PILE

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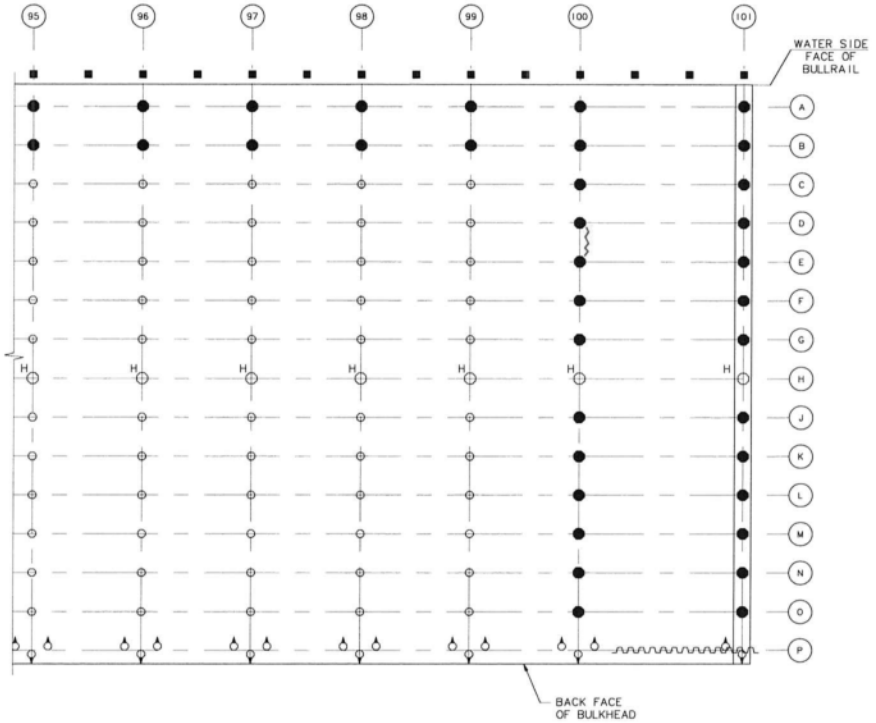
splitting crack (see sketch, pg 1)

spall



PLAN – BERTH 3 NORTH
SCALE: NTS

LEGEND

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- H HP 12x63
- ● 24" SOLID OCTAGONAL PILE
- H○ 24" HOLLOW OCTAGONAL PILE
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To:	John Thompson Project Manager Port of Olympia, Engineering Dept. Olympia, WA	From:	Norm Smit, PE SE Senior Associate T.Y. Lin International Olympia, WA
Re:	Berth 1 Dock Inspection Report	**Date:**	August 7, 2017

On the July 10th, 11th, and 14th, 2017, the Port of Olympia Berth 1 was visually inspected on the underside of the dock structure. The purpose of the inspection was to identify repair locations where visibly large longitudinal splitting cracks were observed on the bent cap beams. These crack locations were generally accompanied with several rust discolorations indicating corrosion of the reinforcement beneath the surface of the bent cap as discussed in previous dock inspection reports generated in the summer of 2014 [1] and 2015 [2]. Every bay on Berth 1 was visually inspected and any sign of distress was identified, photographed, and recorded as either a repair or a new crack with visible rust spots that are not in need of repair at this time. The repair areas were marked with orange spray paint (see Figure 1). A few bays of the adjacent Berth 2 were visually inspected with no signs of visible rust.

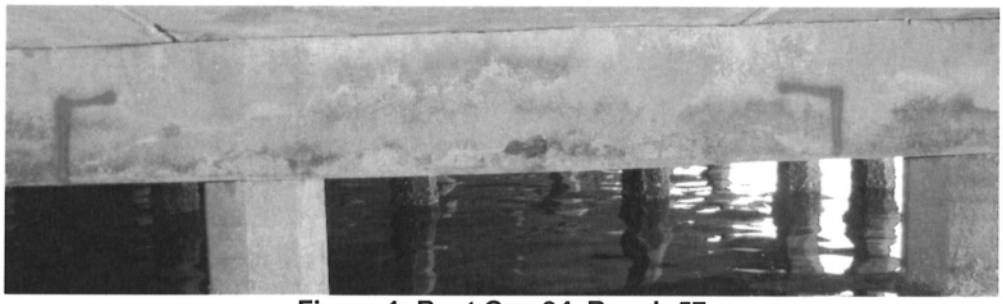


Figure 1: Bent Cap 34, Repair 57

Attached to this document are plan views identifying both the repair locations and minor distress locations. Based on this latest inspection, 73 repair locations have been identified along with 13 locations where small cracks and rust were observed that may need repair in the near future. Previous inspections [1,2] completed 2 and 3 years ago only identified 28 locations. Not only has the number of observed distressed locations significantly increased, many of the previously identified cracks have grown in length based on the latest observations. Estimated dimensions at each repair location have been provided. For example, provided dimensions for repair 5 are 15'-3"x8"x12". The first dimension provided in feet is the length of the splitting crack running along the bent cap, the second dimension is along the vertical face of the bent cap from the bottom, and the third dimension is along the bottom face of the bent cap.

Also attached to this document is an updated repair procedure that includes removal and repair of the concrete, removal of the bond inhibiting corrosion of the reinforcement, and install a cathodic anode protection system. We will not be able to complete the repair procedure until Tinnea and Associates budget is approved, and they can complete the cathodic protection design. It should be noted that with the proposed local protection, the dock will continue to deteriorate at an increasing pace. It is recommended that the Port reconsider the impressed current cathodic protection discussed in the Tinnea & Associates technical memorandum dated, July 18, 2016 [3].

References

1. "Dock Inspection Report", T.Y. Lin International to the Port of Olympia, July 24, 2014.
2. "Dock Inspection Report", T.Y. Lin International to the Port of Olympia, June 10, 2015
3. "Port of Olympia Berth 1 Corrosion Basis of Design Memo", Tinnea & Associates, July 18, 2016

PORT OF OLYMPIA

THURSTON COUNTY, WASHINGTON

BERTH 1
STRUCTURAL REPAIRS

PROJECT NO. ####
CONTRACT NO. ####

PORT OFFICIALS

Bill McGregor
Commissioner

George Barner
Commissioner

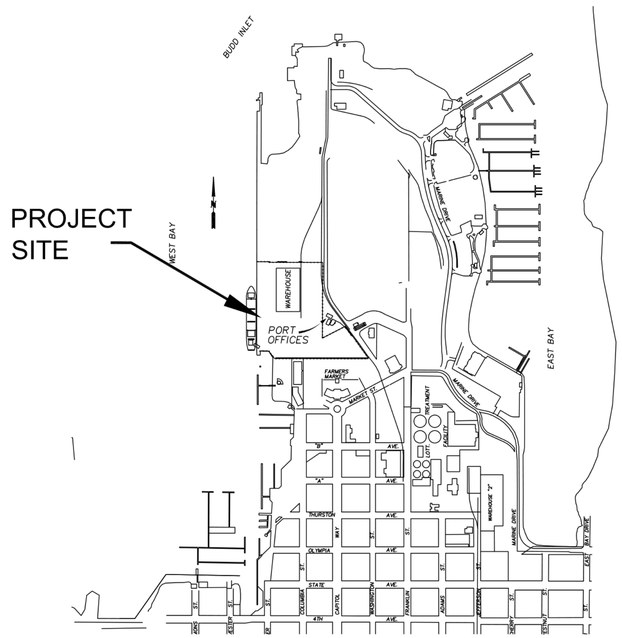
??????
Commisioner

Ed Galligan
Executive Director

William S. Helbig, PE
Engineering Director

Leonard C. Faucher, Jr
Marine Terminal Director

John Thompson
Project Manager



VICINITY MAP
NOT TO SCALE

DRAWING INDEX

BERTH 1 STRUCTURAL REPAIRS, PROJECT NO. #####

Port of Olympia
ENGINEERING DEPARTMENT
606 Columbia Street, NW, Suite 300
Olympia, Washington 98501

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PORT OF OLYMPIA APPROVALS	
THIS PLAN SET, SHEETS 1 to 5, ARE APPROVED FOR CONSTRUCTION BY:	PROJECT NUMBER XXXX
William S. Helbig, PE, Engineering Director _____ DATE: _____	
REVIEWED BY:	CONTRACT NUMBER xxxx
PM Name, Project Manager _____ DATE: _____	
Program Mgr Name, Mgr Title _____ DATE: _____	SHEET 1 OF 5

WATER SYMBOLS

Symbol

Exist.	Prop.	Description
○		GUARD POST
		THRUST BLOCK
⊞		WATER METER
		FIRE HYDRANT 3–NOZZLE
⊠		SPRINKLER VALVE BOX
⋈		GATE/GENERAL VALVE

GAS/POWER/TELEPHONE SYMBOLS

Symbol

Exist.	Prop.	Description
		GAS VALVE
P		POWER VAULT
		UTILITY POLE
		UTILITY POLE ANCHOR
T		TELEPHONE VAULT

SURVEY SYMBOLS

SYMBOL

EXIST.	PROP.	DESCRIPTION
△		ANGLE POINT
		BENCH MARK
○		BLOCK CORNER
○		IRON PIPE
⊕		MONUMENT (IN CASE)
◎		MONUMENT (SURFACE)
		SECTION CORNER MONUMENT
⊘		SOIL BORING
HV7▲		AERIAL MAPPING CONTROL POINT
CTL 125		CONSTRUCTION BASELINE CONTROL POINT
○		ANGLE POINT
282105–9001 or 950090–0490		KING COUNTY PARCEL NUMBER (10 Digit Number)

SANITARY/STORM SEWER SYMBOLS

Symbol

Exist.	Prop.	Description
○		SANITARY SEWER CLEAN OUT
Ⓢ		SANITARY SEWER MANHOLE (As Labeled in the Plans)
□		STORM DRAIN CATCH BASIN
Ⓒ		STORM DRAIN MANHOLE (As Labeled in the Plans)
Ⓣ		TELEPHONE MANHOLE
or		DIRECTION OF FLOW (STORM or SEWER)
		DIRECTION OF SURFACE RUNOFF (GUTTER)

SURFACE FEATURES/LANDSCAPING

Symbol

Exist.	Prop.	Description
		EMBANKMENT
		MAIL BOX
		SHRUB
		ROCKERY
		SIGN
		TREE (CONIFER)
		TREE (DECIDUOUS)
		FENCE POST
		WHEELCHAIR RAMP WITH TRUNCATED DOME
		YARD LIGHT
		HATCH (SYMBOL) FOR CEMENT CONCRETE
		SHADE (SYMBOL) FOR NEW HMA PAVEMENT
		EXISTING BUILDING

SIGNALIZATION SYMBOLS

Symbol

Exist.	Prop.	Description
or		DIPOLE DETECTOR
		QUADRAPOLE DETECTOR
		JUNCTION BOXES (TYPE I, II, III)
		PEDESTRIAN PUSHBUTTON POST W/ PUSHBUTTON
		PEDESTRIAN SIGNAL HEAD
		SIGNAL CONTROLLER
		SIGNAL LOAD CENTER
		STREET LIGHT ASSEMBLY
		TRAFFIC SIGNAL POLE
		TRAFFIC SIGNAL POLE W/ LUMINAIRE
		TRAFFIC SIGNAL SUPPORT POLE
		VEHICLE SIGNAL HEAD
		VEHICLE SIGNAL HEAD W/ ARROW INDICATOR

CHANNELIZATION SYMBOLS

Symbol

Exist.	Prop.	Description
ONLY		ONLY
		STOP BAR
OR		CROSSWALK
		LEFT TURN ARROW
		RIGHT TURN ARROW
		LEFT–STRAIGHT ARROW
		BICYCLE LANE

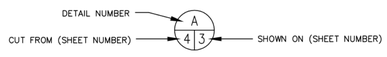
PILE SYMBOLS

Symbol

Exist.	Prop.	Description
●		24" OCTAGONAL PILE (SOLID)
○		16½" OCTAGONAL PILE
		16½" OCTAGONAL BATTERED
		HP 12x63 BATTERED
□		HP 12x63
●		TIMBER FENDER PILE
		PZ27 SHEET PILE
H●		24" HOLLOW OCTAGONAL PILE

DETAIL CALL

THE FOLLOWING DETAIL DESIGNATION SHALL APPLY TO ALL MARINE TERMINAL PLANS



ABBREVIATIONS

AC	ASPHALT CONCRETE
ACP	ASPHALT CONCRETE PAVEMENT
AP	ANGLE POINT
APPROX	APPROXIMATE
ASPH	ASPHALT
ASST	ASSISTANT
ASSY	ASSEMBLY
AUX	AUXILIARY
AVE	AVENUE
BC	BEGINNING OF CURVATURE
BM	BENCH MARK
BND	BEND
BOP	BEGINNING OF PROJECT
BOT	BOTTOM
BOW	BACK OF WALK
BTWN	BETWEEN
CB	CATCH BASIN
CDF	CONTROLLED DENSITY FILL
CEM. CONC.	CEMENT CONCRETE
CL, ℄, C/L.	CLASS, CENTERLINE
CG	CURB & GUTTER
CO	CLEANOUT
CONN	CONNECT
CONST	CONSTRUCT, CONSTRUCTION
CONT	CONTINUED/CONTINUOUS
COR	CORNER
CRV	CURVE
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CTL	BASELINE CONTROL POINT, CONTROL
DBW	DOUBLE BROKEN WHITE
DET	DETAIL, DETECTOR/DETECTION LOOPS
DI	DUCTILE IRON
DIA	DIAMETER
DR	DRIVE
DSW	DOUBLE SOLID WHITE
DSY	DOUBLE SOLID YELLOW
DWG	DRAWING
E	EAST, or DISTANCE BETWEEN PVI & VERTICAL CURVE
EA	EACH
EC	END OF CURVATURE
EL, ELEV	ELEVATION
ENGR.	ENGINEER
EOP	END OF PROJECT, EDGE OF PAVEMENT
EVP	EMERGENCY VEHICLE PREEMPTION
EX, EXIST	EXISTING
FCA	FLANGE COUPLING ADAPTOR
FH	FIRE HYDRANT
FL	FLOW LINE/CURB GUTTER PAN, FLANGE
FO	FIBER OPTIC
FOC	FACE OF CURB
FT	FEET/FOOT
G	GAS LINE
GIS	GEOGRAPHICAL INFORMATION SYSTEMS
GV	GAS VALVE
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HP	HIGH POINT
HT	HEIGHT
HWY.	HIGHWAY
IE	INVERT ELEVATION
IN	INCH/INCHES
INT	INTERSECTION
INTER	INTERCONNECT CABLES
JB, J–BOX	JUNCTION BOX
K	RATE OF VERTICAL CURVE
L	LENGTH OF ARC
LB(S)	POUND, POUNDS
LED	LIGHT EMITTING DIODE
LF	LINEAL FOOT/FEET
LOC	LOCATION
LP	LOW POINT
LT	LEFT
LUMIN	LUMINAIRE
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MON	MONUMENT
MPC	MIDPOINT OF CURVE
NA	NOT APPLICABLE
NAD	NORTH AMERICAN DATUM
NAVD	NORTH AMERICAN VERTICAL DATUM
NO.	NUMBER or NORTH
NST	NO STEEPER THAN
NTS	NOT TO SCALE
NW	NORTHWEST
O.C.	ON CENTER
OH/INT	OVERHEAD INTERCONNECT
P	POWER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.E.	PROFESSIONAL ENGINEER
PED	PEDESTRIAN
P.I.	POINT OF INTERSECTION
PNT	POINT
POC	POINT ON CURB
PPB	PEDESTRIAN PUSH BUTTON
PRC	POINT OF REVERSED CURVATURE
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE STATION
PS	PUMP STATION
PSE	PUGET SOUND ENERGY
PSF	POUNDS PER SQUARE FOOT
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE or POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
R	RADIUS
RD	ROAD
REF	REFERENCE
RPM	RAISED PAVEMENT MARKER
RR	RAILROAD
RT	RIGHT
R/W, ROW	RIGHT OF WAY
S, SO.	SOUTH
D, SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SE	SOUTHEAST
SEC	SECTION
SQ	SQUARE
SHT	SHEET
SIG	SIGNAL
SMH	SANITARY SEWER MANHOLE
SMIC	MONUMENT (IN CASE)
SMON	MONUMENT (SURFACE)
SS/#" S	SANITARY SEWER/SIZE IN INCHES
SST	STAINLESS STEEL
SSW	SINGLE SOLID WHITE
SSY	SINGLE SOLID YELLOW
ST	STREET
STA	STATION
STD	STANDARD
S/W	SIDEWALK
SV	SURVEY
SW	SOUTHWEST
TMH	TELEPHONE MANHOLE
TSPL	TRAFFIC SIGNAL POLE W/ LUMINAIRE
TV	TELEVISION
TYP.	TYPICAL
U/G	UNDERGROUND
UP	UTILITY POLE
UPA	UTILITY POLE ANCHOR
UTIL	UTILITY
VERT	VERTICAL
VEH	VEHICLE
W	WEST, WATER, WATER SERVICE
WA	WASHINGTON
W/	WITH
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WWF	WELDED WIRE FABRIC
WV	WATER VALVE

LINETYPES

Surface Feature

Existing

- EXISTING CURB/PAVEMENT/SIDEWALK
- EXISTING EDGE ASPHALT PAVEMENT
- EXISTING CURB/PAVEMENT/SIDEWALK
- SAW CUT LINE (AS LABELED)
- EXISTING GRAVEL
- RAILROAD
- EXISTING RETAINING WALL
- RIVERBANK/SHORELINE
- VEGETATION LINE

Survey:

- EXISTING CENTERLINE
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY CENTERLINE
- EXISTING RIGHT OF WAY

Utilities:

- G — EXISTING GAS LINE
- P — EXISTING BURIED POWER
- SD — EXISTING STORM DRAIN
- DFM — EXISTING STORM FORCE MAIN
- EXISTING SANITARY SEWER
- T — EXISTING BURIED TELEPHONE
- W — EXISTING WATER LINE
- FO — EXISTING BURIED FIBER OPTIC

PROJECT NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE CITY OF AUBURN'S REQUIREMENTS AND SPECIFICATIONS.
2. STANDARD PLANS SHALL BE THE LATEST EDITION AND SPECIFICATIONS SHALL BE 2008 WSDOT/APWA AS MODIFIED BY THE CITY OF AUBURN, INCLUDING AUBURN'S STANDARD DETAILS. A COPY OF THESE APPROVED PLANS AND APPLICABLE DETAILS SHALL BE ON SITE DURING CONSTRUCTION.
3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL CALL ONE–CALL (1.800.424.5555) FOR UTILITY LOCATIONS.
4. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO CONTROL ON–SITE STORM WATER RUNOFF BY USING TEMPORARY OR PERMANENT DRAINAGE EROSION/ SILTATION CONTROL PROCEDURES.
5. LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE TRUE DEPTHS AND LOCATIONS OF ALL UNDERGROUND UTILITIES.
6. RIGHT OF WAY LINES SHOWN ARE BASED ON CITY OF AUBURN GIS AND ARE CONSIDERED INFORMATION ONLY AND NOT TRUE LOCATION.

PROJECT BENCHMARKS

Horizontal Datum: NAD 83-91 (Washington North Zone)
Vertical: NAVD 88

NOTE:

BENCH MARKS AS PROVIDED BY THE CITY

BURIED UTILITIES IN AREA
PLEASE CALL BEFORE YOU DIG
1.800.424.5555

No.	Date	Revision

DRAWN TO SCALE, SCALE MAY BE DISTORTED FROM REPRODUCTION

RECORD DRAWING CERTIFICATION

These drawings conform to the Contractor's construction records.

Drawn By: Date

Project Manager:

	BY	DATE
Drawn		
Reviewed		
Approved		

SCALE: NOT TO SCALE

POPO_002_GENERAL INFORMATION AND DETAILS.DWG

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Port of Olympia

ENGINEERING DEPARTMENT
606 Columbia Street, NW, Suite 300
Olympia, Washington 98501

REVIEWED BY: DATE:

Project Manager

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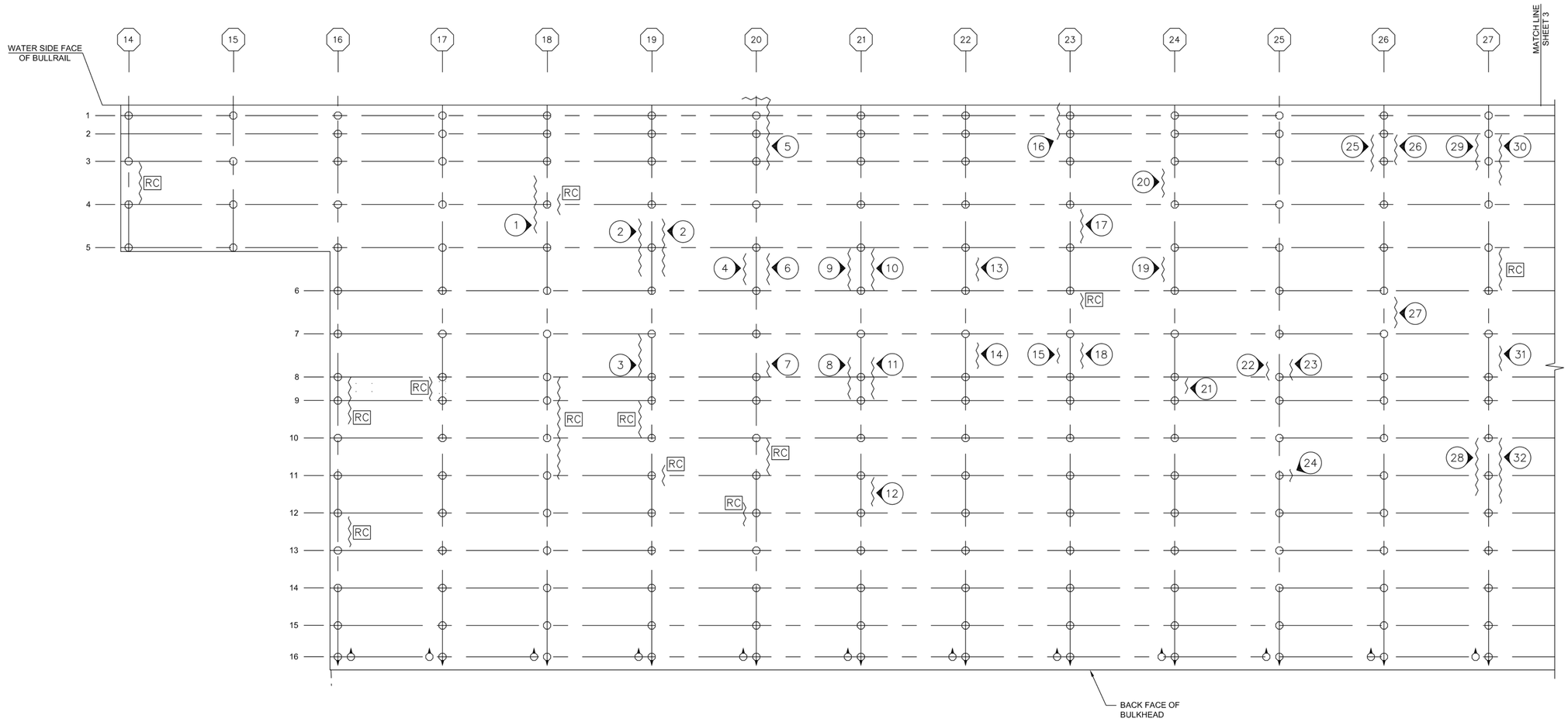
MARINE TERMINAL
BERTH 1 STRUCTURAL REPAIRS
General Information and Details

PROJECT NUMBER ?

CONTRACT NUMBER ?

SHEET 2 OF 5

REPAIR DESIGNATION	ESTIMATED REPAIR SURFACE AREA
1	11'x8"x8"
2	11'x8"x12" (BOTH SIDES)
3	4'x8"x8"
4	6'x8"x12"
5	15'–3"x8"x12"
6	6'x8"x12"
7	3'x8"x8"
8	9'x8"x8"
9	8'x8"x8"
10	8'x8"x8"
11	9'x8"x8"
12	5'–6"x8"x8"
13	4'–6"x8"x8"
14	5'x8"x8"
15	3'x8"x8"
16	8'x10"x10"
17	6'–6"x8"x8"
18	5'x12"x8"
19	4'–9"x8"x8"
20	5'–6"x8"x8"
21	3'x8"x8"
22	3'–6"x8"x8"
23	4'–3"x8"x8"
24	2'–6"x8"x8"
25	7'x8"x8"
26	5'–9"x8"x8"
27	6'x8"x12"
28	11'x8"x8"
29	6'–9"x12"x8"
30	9'x8"x8"
31	4'–9"x8"x8"
32	12'–6"x8"x8"



SPLITTING CRACK ON BENT CAP

(1) = REPAIR DESIGNATION

RC = RUST SHOWING/CRACK STARTED

PLAN - BERTH 1

SCALE: NTS

BURIED UTILITIES IN AREA
PLEASE CALL BEFORE YOU DIG
1.800.424.5555

No.	Date	Revision

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RECORD DRAWING CERTIFICATION

These drawings conform to the Contractor's construction records.

Drawn By: Date

Project Manager:

	BY	DATE
Drawn	JMR	XX/XX/17
Reviewed	KA	XX/XX/17
Approved	NRS	XX/XX/17
SCALE:	NOT TO SCALE	

POPO_003_BERTH 1 REPAIR LOCATIONS_1 OF 2.DWG

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REVIEWED BY: DATE:

Project Manager

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MARINE TERMINAL
BERTH 1 STRUCTURAL REPAIRS

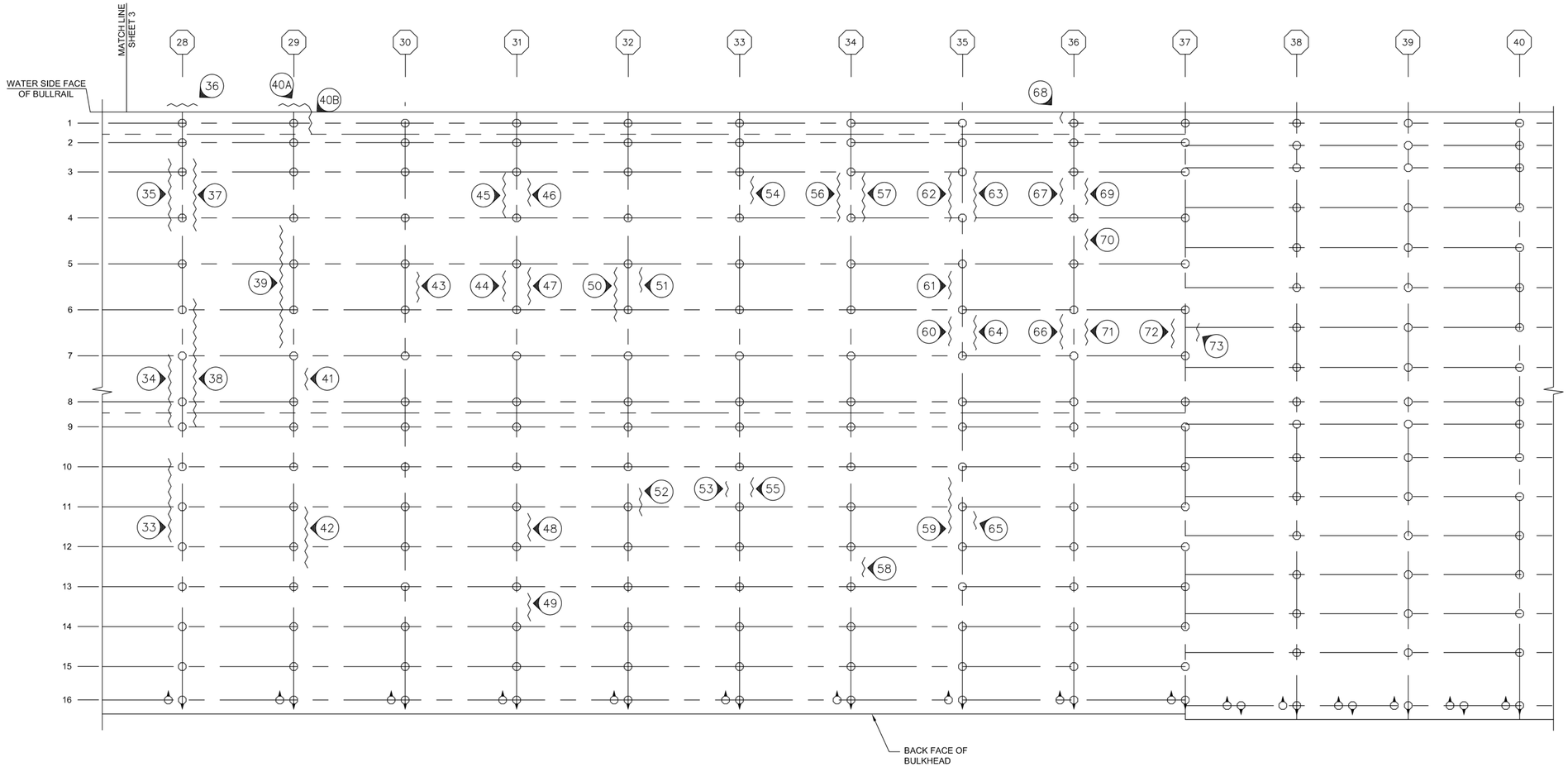
Berth 1
Repair Locations
(1 of 2)

PROJECT NUMBER ?

CONTRACT NUMBER ?

SHEET 3 OF 5

REPAIR DESIGNATION	ESTIMATED REPAIR SURFACE AREA
33	15'x8"x8"
34	13'x8"x8"
35	13'x8"x18"
36	3'x8"x8"
37	13'x8"x18"
38	23'x8"x8"
39	24'–9"x8"x8"
40A	2'x18"x8"
40B	3'x12"x8"
41	4'x8"x8"
42	11'x8"x8"
43	5'–6"x8"x8"
44	5'–6"x8"x8"
45	7'–3"x8"x8"
46	5'x12"x8"
47	6'–9"x8"x8"
48	4'x8"x8"
49	4'x8"x8"
50	9'–9"x8"x8"
51	4'–6"x8"x8"
52	5'x8"x8"
53	2'–9"x8"x8"
54	5'x8"x8"
55	3'–6"x8"x8"
56	8'–9"x8"x8"
57	8'–9"x8"x8"
58	3'–3"x8"x8"
59	10'x6"x8"x8"
60	5'–3"x8"x8"
61	5'x8"x8"
62	7'x8"x8"
63	6'–3"x8"x8"
64	6'–3"x8"x8"
65	2'–3"x8"x8"
66	6'–3"x8"x8"
67	4'–9"x8"x8"
68	1'–6"x18"x8"
69	4'–9"x8"x8"
70	3'–9"x8"x8"
71	4'–9"x8"x8"
72	5'–3"x8"x8"
73	3'–3"x8"x8"



SPLITTING CRACK ON BENT CAP

(1) = REPAIR DESIGNATION

RC = RUST SHOWING/CRACK STARTED

PLAN - BERTH 1

SCALE: NTS

BURIED UTILITIES IN AREA
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No.	Date	Revision

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Project Manager:

	BY	DATE
Drawn	JMR	XX/XX/17
Reviewed	KA	XX/XX/17
Approved	NRS	XX/XX/17
SCALE:	NOT TO SCALE	

POFO_004_BERTH 1 REPAIR LOCATIONS_2 OF 2.DWG

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Project Manager

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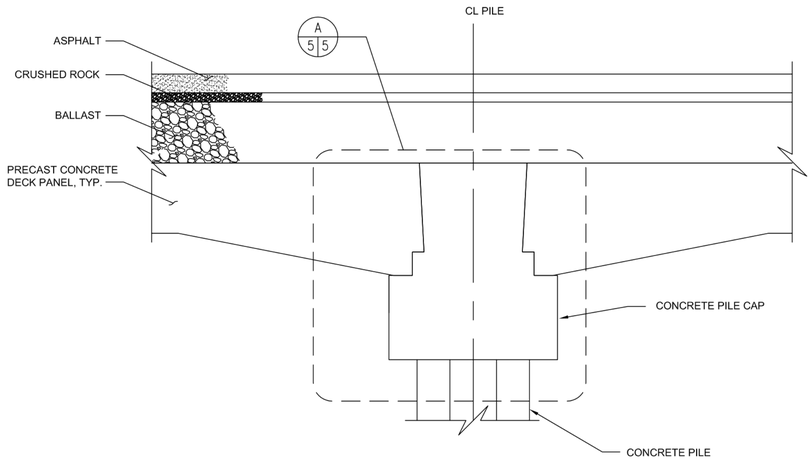
MARINE TERMINAL
BERTH 1 STRUCTURAL REPAIRS

Berth 1
Repair Locations
(2 of 2)

PROJECT NUMBER ?

CONTRACT NUMBER ?

SHEET 4 OF 5



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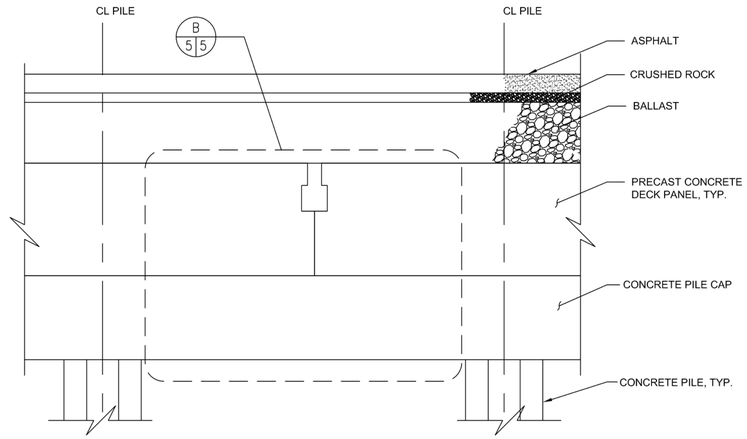
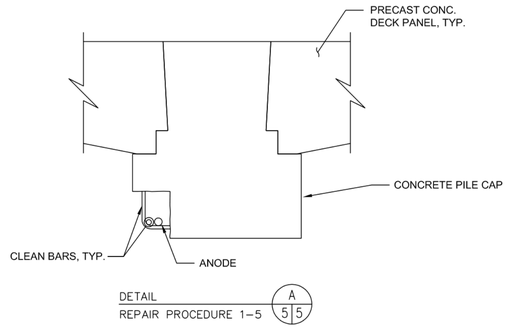
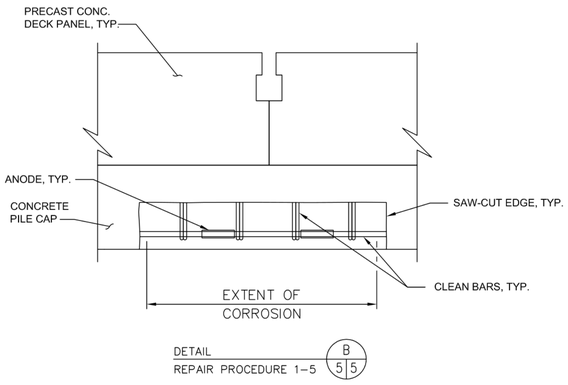


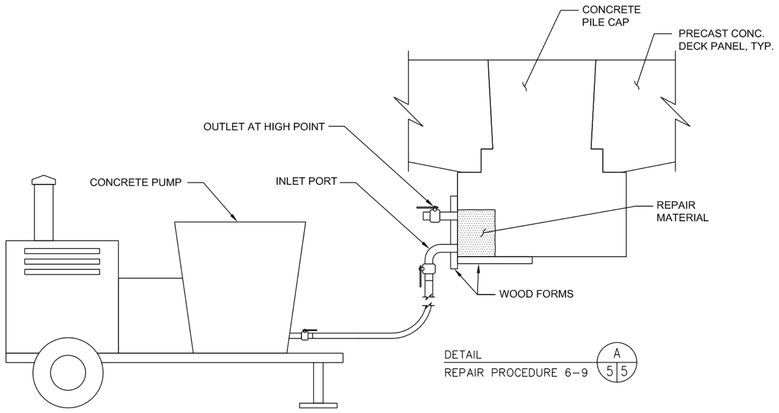
ELEVATION
SCALE: NTS



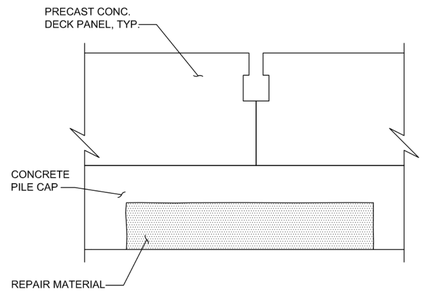
DETAIL
REPAIR PROCEDURE 1–5 (A 5|5)



DETAIL
REPAIR PROCEDURE 1–5 (B 5|5)



DETAIL
REPAIR PROCEDURE 6–9 (A 5|5)



DETAIL
REPAIR PROCEDURE 6–9 (B 5|5)

REPAIR PROCEDURE

NOTE: PRIOR TO STARTING REPAIRS, CONTRACTOR SHALL SUBMIT A DETAILED REPAIR PROCEDURE, BASED ON THE REPAIR PROCEDURE SPECIFIED BELOW, FOR REVIEW AND APPROVAL BY THE ENGINEER.

1. REMOVE CONCRETE AT LOCATIONS INDICATED ON SHEETS 3 & 4, EXPOSING LONGITUDINAL AND TRANSVERSE BARS. REFER TO CURRENT ICRI TECHNICAL GUIDELINE NO. 310.1R FOR CONCRETE REMOVAL AND SURFACE PREPARATION REQUIREMENTS. PROVIDE MINIMUM $\frac{3}{4}$ INCH CLEARANCE BETWEEN EXPOSED BARS AND SURROUNDING CONCRETE. REPAIR AREA SHALL EXTEND A MINIMUM 6 INCHES BEYOND THE DAMAGED AREA AND WHERE THE BAR IS WELL BONDED TO THE SURROUNDING CONCRETE. REPAIR CONFIGURATIONS SHOULD BE KEPT AS REGULAR AND SIMPLE AS POSSIBLE. SECURE ANY LOOSE REINFORCEMENT.
2. THE PERIMETER OF THE REPAIR AREA SHOULD BE SAW CUT A MINIMUM OF $\frac{3}{4}$ INCH TO PROVIDE A VERTICAL EDGE FOR THE REPAIR MATERIAL. A SAW CUT LESS THAN $\frac{3}{4}$" MAY BE PERMITTED DEPENDING ON THE REPAIR MATERIAL MANUFACTURER'S RECOMMENDATION.
3. CLEAN THE CONCRETE SURFACE BY ABRASIVE BLASTING OR HIGH PRESSURE WATER BLASTING, REFER TO ICRI GUIDELINE NO. 310.2R FOR SURFACE PREPARATION REQUIREMENTS TO PERMIT PROPER BOND.
4. REMOVE ALL OXIDATION AND SCALE FROM THE EXPOSED REINFORCING STEEL WITH ABRASION BLASTING IN ACCORDANCE WITH ICRI TECHNICAL GUIDELINE 310.1R.
5. INSTALL GALVANIC ANODE CATHODIC PROTECTION SYSTEM IN REPAIR AREA. ENGINEER TO INSPECT REPAIR AREA.
6. BUILD FORMS IN ACCORDANCE WITH ACI 347R. SATURATE THE REPAIR AREA BY FILLING THE FORMWORK WITH CLEAN WATER 24 HOURS BEFORE PLACEMENT.
7. DRAIN WATER COMPLETELY AND SEAL DRAINAGE OUTLETS. SURFACE SHALL BE SATURATED SURFACE DRY (SSD) WITH NO PONDED WATER REMAINING WHEN APPLYING THE REPAIR MATERIAL.
8. REPAIR MATERIAL SHALL BE MASTEREMACO S 440MC OR AN APPROVED EQUIVALENT. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE 6,500 PSI. IN ADDITION TO THE ABOVE SPECIFIED PROCEDURES, FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR SURFACE PREPARATION, MIXING SHALL, AND APPLICATION FOR BEST PERFORMANCE. IMMEDIATELY AFTER MIXING, REPAIR MATERIAL SHALL BE PUMPED INTO THE BOTTOM OF THE FORM AREA. VENTS SHALL BE PROVIDED AT THE TOP OF THE FORM AREA. REFER TO ACI 304.2R FOR PLACING CONCRETE BY PUMPING METHODS.
9. LEAVE FORMWORK IN PLACE UNTIL THE COMPRESSIVE STRENGTH REACHES A MINIMUM OF 2,500 PSI. CURE REPAIR MATERIAL PER MANUFACTURER'S RECOMMENDATION. ALLOW PROPER CURING OF REPAIR MORTAR IN ACCORDANCE WITH ACI 308 "STANDARD PRACTICE FOR CURING CONCRETE".

BURIED UTILITIES IN AREA
PLEASE CALL BEFORE YOU DIG
1.800.424.5555

No.	Date	Revision

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RECORD DRAWING CERTIFICATION

These drawings conform to the Contractor's construction records.

Drawn By: Date

Project Manager:

	BY	DATE
Drawn	JMR	06/09/15
Reviewed	CGH	06/09/15
Approved	NRS	06/09/15

SCALE: NOT TO SCALE

POFO_005_BERTH 1 REPAIR DETAILS.DWG

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Port of Olympia

ENGINEERING DEPARTMENT
606 Columbia Street, NW, Suite 300
Olympia, Washington 98501

REVIEWED BY: DATE:

Project Manager

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MARINE TERMINAL
BERTH 1 STRUCTURAL REPAIRS
Berth 1
Repair Details

PROJECT NUMBER ?

CONTRACT NUMBER ?

SHEET 5 OF 5

T·Y·LIN INTERNATIONAL
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To:	John Thompson Project Manager Port of Olympia, Engineering Dept. Olympia, WA	From:	Norm Smit, PE SE Senior Associate T.Y. Lin International Olympia, WA
Re:	Berth 1 Final Structural Evaluation	**Date:**	October 26, 2016

On December 8, 2014, an assessment was completed on the performance of the Port of Olympia docks under a Gottwald HMK 7608 harbor crane walking and lifting loads [1]. In this assessment, one of the berths, Berth 1, was excluded from the assessment due to a prior report [2], which was based on a site inspection of the docks in April 2014. This report noted distresses observed in the field on the inverted-T bent cap beams of Berth 1, in the form of longitudinal splitting cracks and small spalls on the cap concrete, suggesting corrosion of the reinforcing bars within the cap.

In response to the exclusion of Berth 1 from the Gottwald harbor crane loading assessment, another inspection report [3], dated June 10, 2015, was completed. In the spring of 2015, the Port of Olympia chipped away concrete at two locations where evidence of corrosion of the reinforcement was visible. Based on a visual observation, the #5 ledge stirrup was estimated to have lost up to 30% of the bar area, while the longitudinal bars on the bottom layer of reinforcement was estimated to have lost up to 10% of the bar area. The report recommended to take concrete core samples from the cap beam, to determine the compressive strength of the concrete, and to implement a corrosion repair plan to prevent further deterioration of the structure.

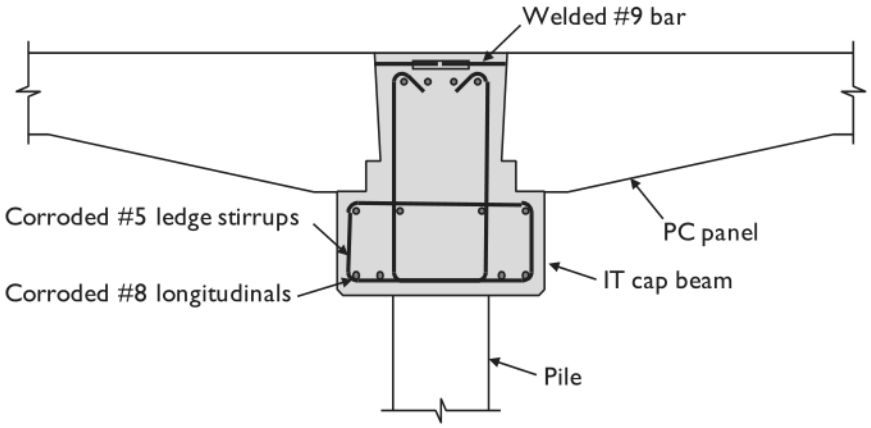


Figure 1: Berth 1 inverted-T bent cap with locations of observed corrosion

The Port of Olympia facilitated the testing of the compressive strength of the cap beam concrete, with a minimum compressive strength of 6.8ksi found from the data received in March 2016. This evaluation uses 6.5ksi to provide a measure of conservatism. In addition to this, a procedure was proposed to utilize a cathodic protection system, to prevent further corrosion of the reinforcement bars.

The purpose of this assessment is to assess the performance of the invert-T bent caps of Berth 1 under the Gottwald HMK 7608 harbor crane loading under walking and lifting conditions, in addition to the original live loads intended for use on this structure (Wagner L-90 log loader/1000psf uniform live loading), on the basis of the following assumptions:

1. Minimum compressive strength of concrete, f'c, is 6.5ksi.
2. #5 ledge stirrups have at least 70% of original bar area after corrosion.
3. (4) x #8 + (2) x #6 bottom layer reinforcement have at least 90% of original bar area after corrosion.
4. A corrosion repair and monitoring plan to be implemented to prevent further deterioration of reinforcing steel. This to include the following:
    - Repair of structural concrete at locations of spalls/splitting cracks.
    - Measure and document exposed rebar to determine if assumed maximum corrosion loss is valid.
    - Implement and maintain a cathodic protection system to prevent further corrosion.
    - Implement and maintain a structural monitoring system for remaining service life.

This report does not consider the capacity of any other members of the structural system, namely the precast panels or piles. The Gottwald crane loading assessment [1] from December 2014 concluded that the precast panels and piles had sufficient capacity to take the crane loading so long as recommended placement limits for walking/lifting conditions were observed. In addition, the dock inspection report [2] from July 2014 had previously noted that from visual observation, the precast panels and piles appeared to be in good condition, with no signs of distress.

Analysis and Modeling Details

A three-dimensional finite element grillage model was used to determine the demands on the bent cap, using LARSA 4D v7.07.07. Beam elements were used to represent the bent caps, precast panels and piles. The loads were applied as joint loads, distributed at a 45deg angle through the depth of the ballast to the top surface of the concrete panels/bent cap. The refinement of the model allowed for the live load to be marched at 2ft increments in a north/south direction, and between 1.65-2.00ft increments in a west/east direction. Live loads were placed at worst possible locations for positive/negative flexure and shear in cap.

As previously mentioned, the types of live loads applied to the analysis model are as follows:

- Gottwalk HMK 7608 harbor crane – refer to reference [1] for details.
- Log L-90 log loader – refer to drawing C-2 in reference [4] for details.
- Uniform live load – 1000 psf – refer to drawing C-2 in reference [4] for details.

Table 1 summarizes the ULS combinations used, per ACI 318-08.

ULS (Ultimate Limit State) Loading Combinations		
Live Load Case	Dead Load Factor	Live Load Factor
Gottwalk crane (walking)	1.20	1.30*
Gottwalk crane (lifting)	1.20	1.30*
Log L-90 log loader	1.20	1.60(+30% Impact)
1000psf uniform loading	1.20	1.60
Ledge Bearing**	1.40	0.00

Table 1: ULS load combinations

** Due to the limited variability of the max loading and the recommended operational restrictions of the Gottwald harbor crane, a load factor of 1.3 was selected. The crane walking scenario was also limited to a 1.3 live load factor based off known crane weight from manufacturer.*

*** Ledge bearing demand for local strut-and-tie analysis only has self-weight of panel to support, with ballast/live load applied to composite inverted-T member.*

LARSA analysis results were exported to excel with the demands compared against generated capacities based on assumed reinforcement area loss, with these capacities determined in accordance with ACI 318-08.

Evaluation: Bent cap in positive flexure

Table 2 tabulates the results observed from the comparison of the analysis demands to the capacities determined for the bent cap under positive bending.

Summary of Evaluation of Bent Cap under Positive Flexure			
Live Load Case	**Max D/C Ratio**	**Limit**	**OK/NG?**
Gottwalk crane (walking)	0.91	1.00	OK
Gottwalk crane (lifting)	0.96	1.00	OK
Log L-90 log loader	0.55	1.00	OK
1000psf uniform loading	0.95	1.00	OK

Table 2: Summary of Bent Cap D/C's for Positive Flexure

The controlling live load case for positive bending in the cap is the Gottwald harbor crane in the lifting scenario. The available bending capacity was affected by the corrosion in the bottom layer of reinforcing in the cap. The original capacity of the cap, based on original design material values, resulted in a maximum D/C (Demand over capacity) of 0.92. With the 10% reduction in bottom longitudinal steel area, this D/C increased to 0.99 using 4ksi concrete compressive strength. However, using the tested concrete compressive strength of 6.5ksi, this resulted in the current reported maximum D/C of 0.96.

Evaluation: Bent cap in negative flexure

Table 3 tabulates the results observed from the comparison of the analysis demands to the capacities determined for the bent cap under negative bending.

Summary of Evaluation of Bent Cap under Negative Flexure			
Live Load Case	**Max D/C Ratio**	**Limit**	**OK/NG?**
Gottwalk crane (walking)	0.52	1.00	OK
Gottwalk crane (lifting)	0.57	1.00	OK
Log L-90 log loader	0.26	1.00	OK
1000psf uniform loading	0.90	1.00	OK

Table 3: Summary of Bent Cap D/C's for Negative Flexure

The 1000psf uniform load was determined to be the controlling live load case with respect to negative bending in the cap. Where a maximum D/C of 0.90 was reported based off the reduced section capacity.

Evaluation: Bent cap in shear (Global)

Table 4 tabulates the results observed from the comparison of the analysis demands to the capacities determined for the bent cap under global shear.

Summary of Evaluation of Bent Cap under Global Shear			
Live Load Case	**Max D/C Ratio**	**Limit**	**OK/NG?**
Gottwalk crane (walking)	0.88	1.00	OK
Gottwalk crane (lifting)	0.89	1.00	OK
Log L-90 log loader	0.52	1.00	OK
1000psf uniform loading	0.91	1.00	OK

Table 4: Summary of Bent Cap D/C's for Global Shear

The 1000psf uniform load case was determined to be the controlling live load case for shear in the cap. The controlling location for shear was taken as "d" away from the support face of the pile. The computation of the distance "d" used the depth of the ledge beam, instead of the depth of the full member, to determine the critical face. This is conservative, as only the self-weight of the concrete panels are assumed to be transferred to the top of the ledge beam, with the ballast/live loading assumed to be transferred to the full composite inverted-T beam due to composite behavior of the cap.

Evaluation: Ledge beam of bent cap (local)

A strut-and-tie was developed for the local ledge beam, to determine the effects of the reduced area of ledge beam stirrup reinforcement steel available. As mentioned in the previous section, only the self-weight of the concrete panels are assumed to be transferred to the ledge beam, due to the construction sequence. Using the strut-and-tie method, the horizontal tie (ledge stirrup) took a tensile force equivalent to ~49% of the bearing demand P. It was verified that (1) the concrete strut (1.10 P) was sufficient to take the compressive demands from the bearing force, (2) the hanger reinforcement (1.00 P) was sufficient to take the tensile force, and (3) the horizontal tie (0.49P) with 30% loss of area due to corrosion was sufficient to take the tensile force.

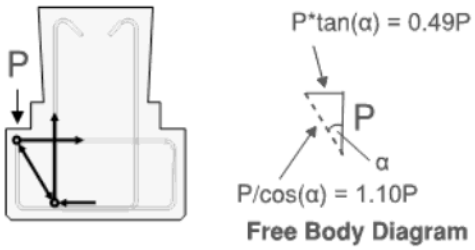


Figure 2: Local strut-and-tie analysis for bearing on ledge beam

Summary and Recommendations

This evaluation was used to determine whether it is possible to allow the Port of Olympia full use of the lifting capabilities of the Gottwald 7608 harbor crane if a satisfactory corrosion repair/monitoring plan is implemented, and assumptions in the capacity check validated.

Berth 1 inverted-T bent cap, with reduced reinforcement area, showed sufficient capacity to take the ULS demands for all relevant failure modes under the Gottwald harbor crane operating within the allowable walking/lifting position limits, as well as Logger L-90 and 1000psf uniform live loading cases.

Other structural components such as dock panels and piles did not control, as per findings of previous reports/assessments.

The allowable walking/lifting positions of the Gottwald harbor crane, as determined by analysis, is highlighted in the attached striping plan for Berth 1. It can be summarized as follows:

- No walking/lifting pads to be allowed between CL of bents 14-17.
- Propped pad edge to be placed at least 4'-0" from face of bull rail.
- Propped pad edge to be placed no more than 58'-0" from face of bull rail.

All assumptions noted on page 2 of this report need to be validated for findings to be valid. In particular the corrosion repair/monitoring plan is necessary to validate report, which includes the following:

- Repair of structural concrete at locations of spalls/splitting cracks.
- Measure and document exposed rebar to determine if assumed maximum corrosion loss is valid.
- Implement and maintain a cathodic protection system to prevent further corrosion.
- Implement and maintain a structural monitoring system for remaining service life.

The following details should also be recognized:

- The crane should be used with propping pad geometry as provided in June 2014 and attached to this memo.
- Lifting operations should only occur with the outrigger fully extended.
- Long term storage should be with outriggers extended, and should only occur in areas indicated as unrestricted on the plans.
- The restricted areas should be clearly marked on the dock to preclude crane operations occurring in these areas.

In summary, it is anticipated that full use of the lifting capabilities of the Gottwald crane would be permissible within the allowable walking/lifting zones. This is subject to implementation/success of corrosion repair/monitoring plan.

Attachments:

1. Crane Loads and Geometry (2 pages)
2. TYLI Berth 1 Striping Plans (2 pages)

References

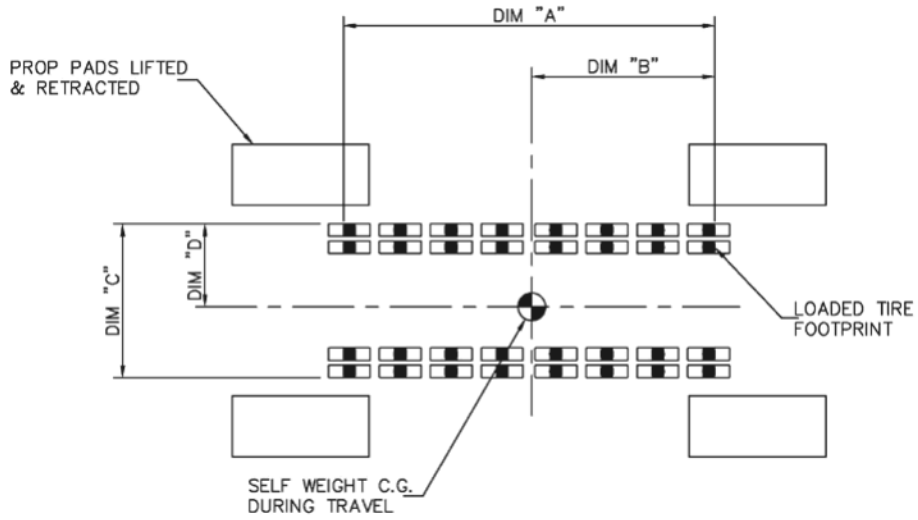
1. "Gottwalk HMK 7608 Assessment", T.Y. Lin International to the Port of Olympia, December 8, 2014.

2. "Dock Inspection Report", T.Y. Lin International to the Port of Olympia, July 24, 2014.

3. “Dock Inspection Report”, T.Y. Lin International to the Port of Olympia, June 10, 2015
4. “Berth 3 Reconstruction Drawing Set, DGES Consulting Engineers to Port of Olympia, June 16, 1998.
5. “Berth 1 Reconstruction As-built plans”, Hardold V. Sargent Civil & Structural Engineer to Port of Olympia, April 29, 1981.

1.0 VERACRUZ GOTTWALD MODEL 7608

1.1 During travel on pier, wheel/tire arrangement & self weight CG location



Self weight during travel (with prop pads lifted/retracted) = 480.0 tonnes

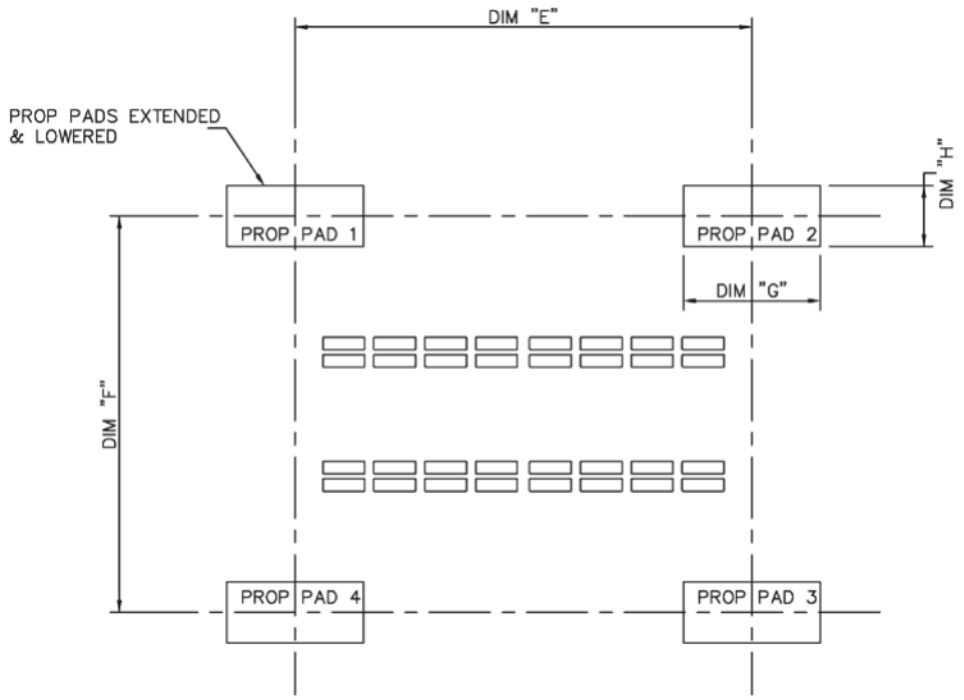
Dimension “A” = 11.55 meters

Dimension “B” = 5.77 meters

Dimension “C” = 5.04 meters

Dimension “D” = 2.52 meters

1.2 During cargo handling operation on pier, propping pad arrangement



Dimension “E” = 15.00 meters

Dimension “F” = 13.00 meters

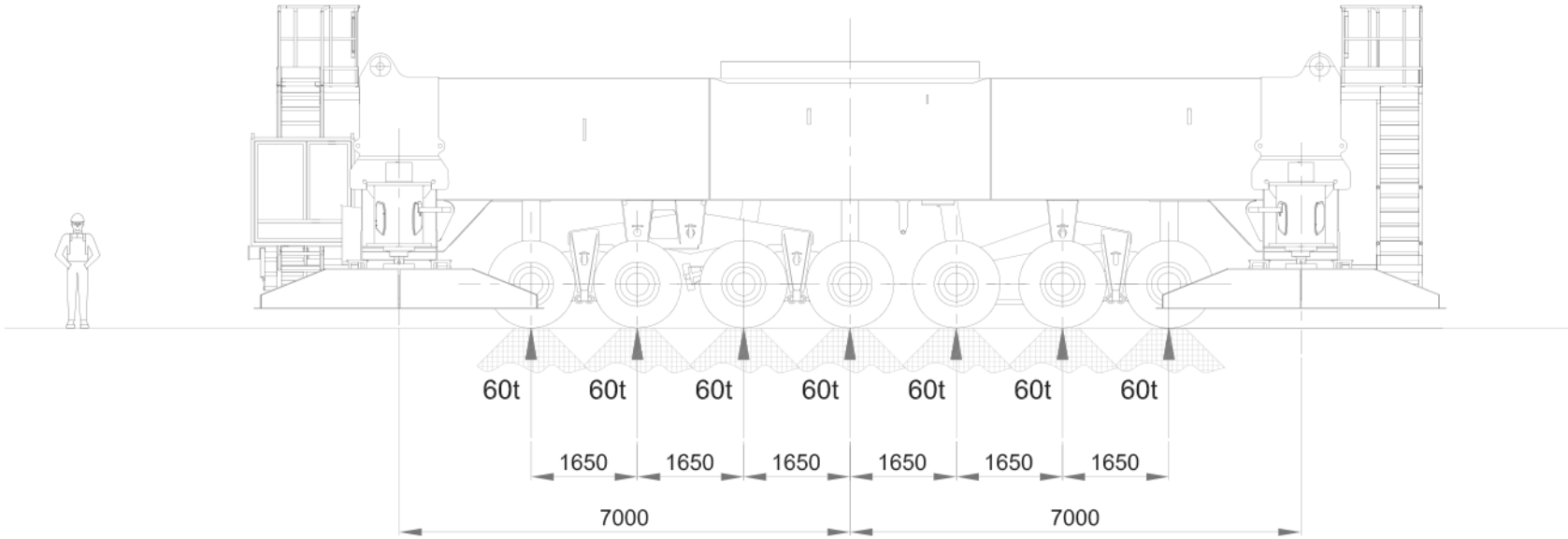
Dimension “G” = 5.00 meters

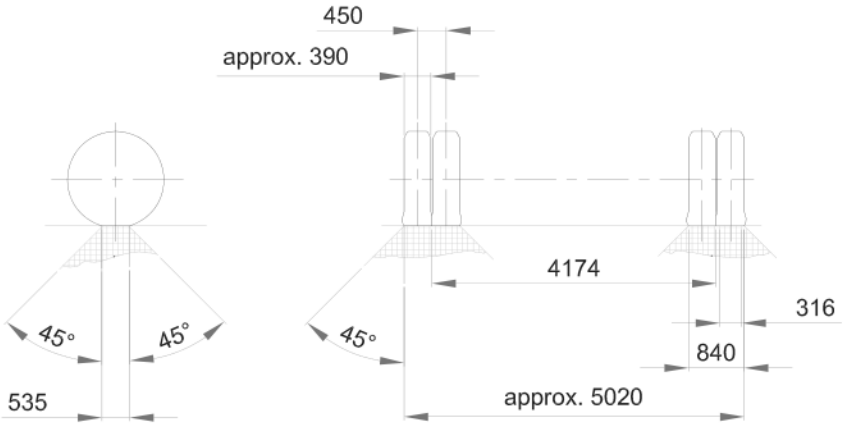
Dimension “H” = 2.40 meters

1.3 Propping pad loads (in tonnes)

Max condition with boom over propping pad 1, 137.5 tonnes LL @ 21 m radius

	Prop pad 1	Prop pad 2	Prop pad 3	Prop pad 4
DL (crane self weight, boom over prop pad 1)	103.3	117.6	136.7	122.4
LL (137.5 tonnes @ 21 m radius)	181.3	55.2	-112.6	13.5
Impact	27.2	8.3	-16.9	2.0
Wind Load (54 mph)	7.6	1.1	-7.6	-1.1
DL + LL	284.6	172.8	24.1	135.9
DL + LL + I	311.8	181.1	7.2	137.9
DL + LL + WL	292.2	173.9	16.5	134.8





Total load	420 t
Axle load	60 t
load per double tyre	30 t
Influence area double tyre	0,84 m x 0,535 m = 0.45m²
Load per unit area of double tyre	300 kN / 0,45 m² = 667 kN/m²

Änderung vorbehalten - subject to change without notice - sous reserve de modification

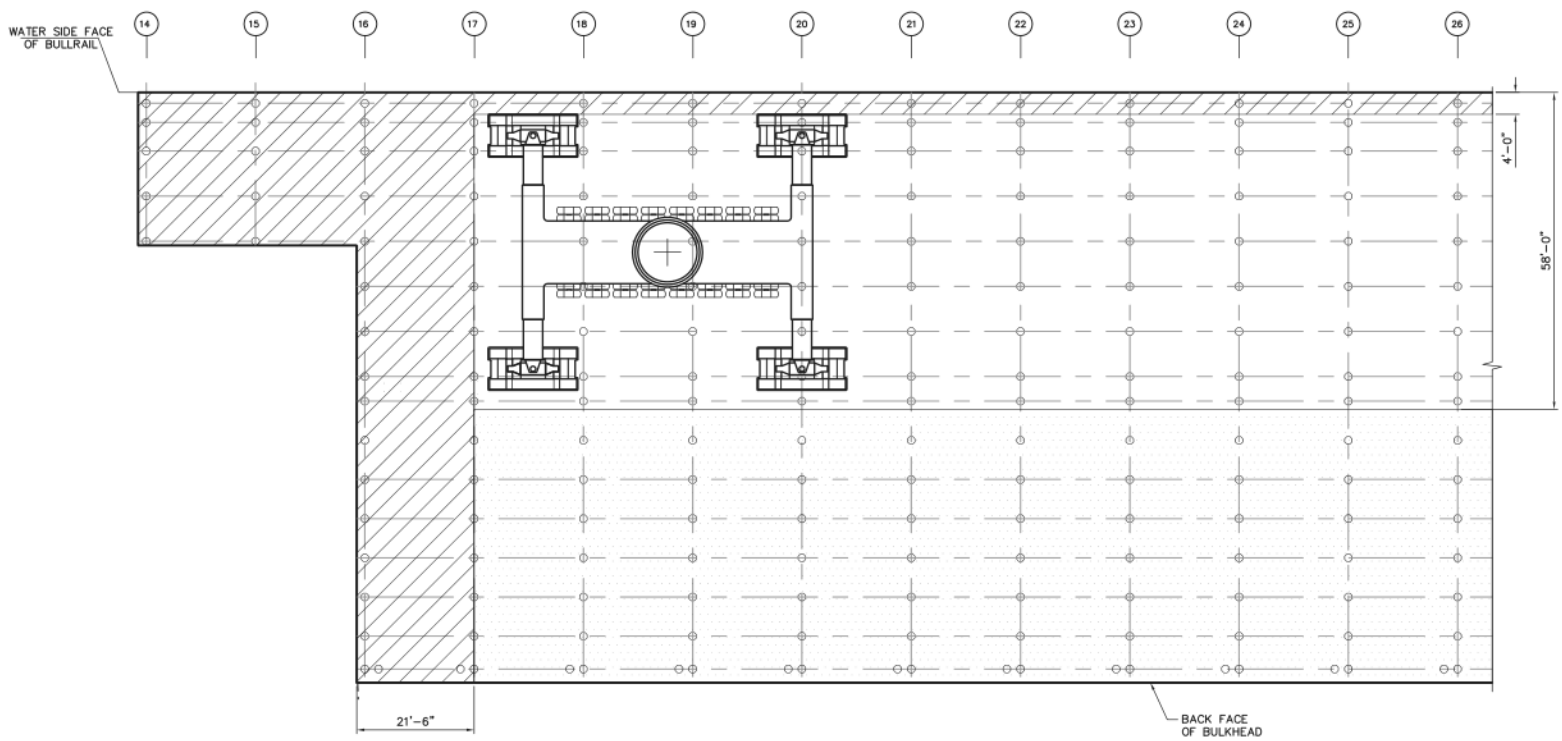
Schutzvermerk ISO 16016	Maßstab - scale - échelle	Gepr.									
Trademark ISO 16016	1:50	Gez.	21.02.07	C. Petek							
Mark déposée ISO 16016			Datum	Name	Ind.	Änd.- Nr.	Anzahl	Datum	Name	Gepr.	

Benennung - designation - désignation: G HMK 6_07

Zeichnungsnummer - drawing number - no de dessin: 1.1762.1002-2

CAD Zeichnung

entstand aus:



PLAN – BERTH 1
SCALE: NTS

NOTES:
1. THE STRIPING PLAN INDICATES WHERE THE PORT OF OLYMPIA MAY OPERATE (LIFTING OR WALKING) THE VERACRUZ GOTTWALD 7608 MOBILE HARBOR CRANE.
2. CRANE WEIGHT = 1060 KIP; MAXIMUM PICK = 300 KIP.
3. SEE SHEET 0500–00 FOR CRANE LAYOUT AND DIMENSIONS.

STRIPING LEGEND

- NO WALKING OR LIFTING
- WALKING ALLOWED, NO LIFTING
- WALKING & LIFTING ALLOWED

TYLIN INTERNATIONAL
engineers | planners | scientists

NOTES:

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

NO.	REVISIONS	DATE	APPROVED BY
B	REVISION AFTER BERTH 1 ANALYSIS/REPAIR REVIEW	09/21/2014	N.S.
A	REVISION AFTER BERTH 1 ANALYSIS	06/29/2015	

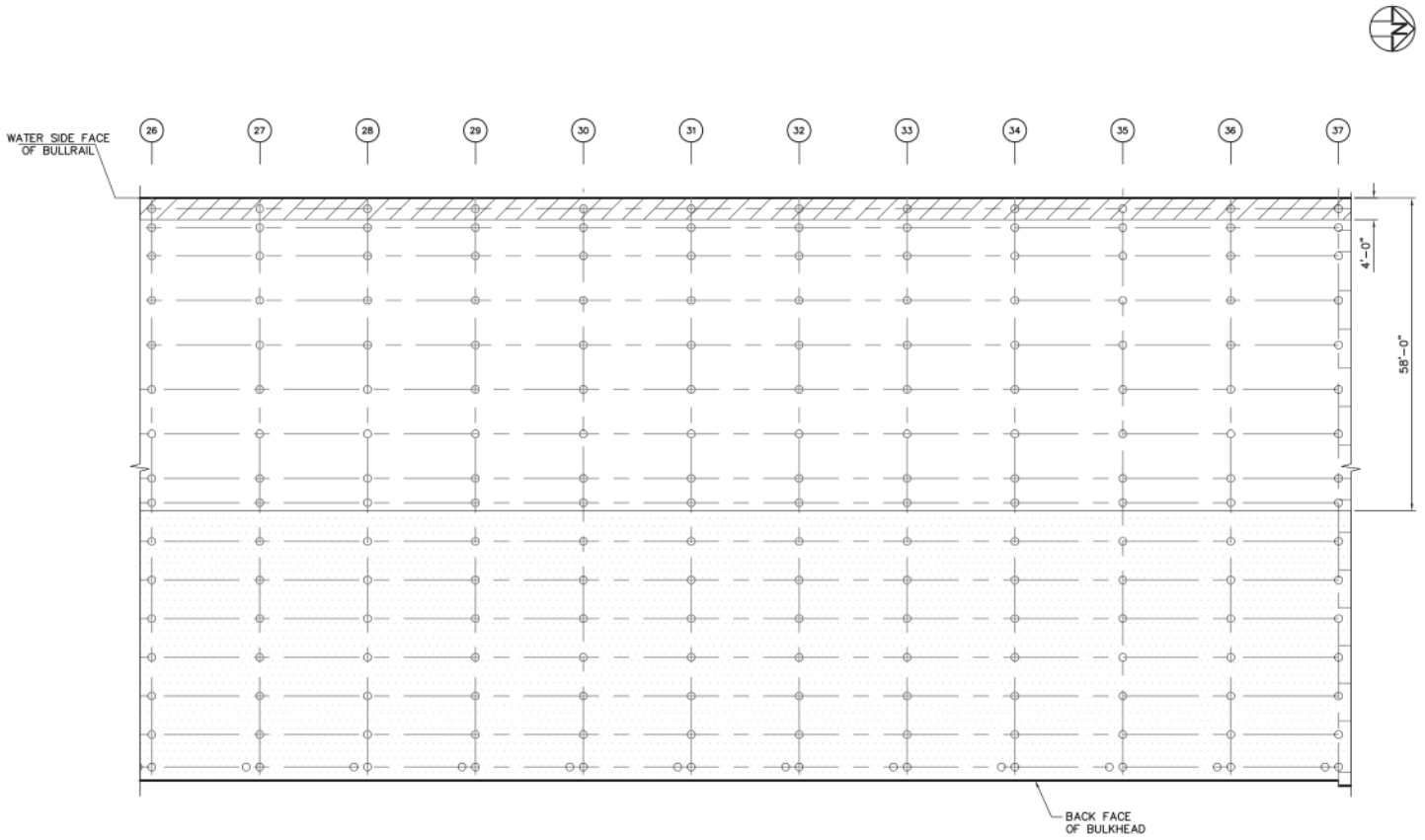
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN FEET AND INCHES

DESIGNED	CGH	07/21/2014
DRAWN	JMR	07/21/2014
CHECKED		
APPROVED		

TITLE: PORT OF OLYMPIA
STRIPING PLAN
BERTH 1 (1 OF 2)

SCALE: AS NOTED
PROJ. NO. 490071.00

SIZE	SHEET NO.	REV
	1000-01	



PLAN – BERTH 1
SCALE: NTS

STRIPING LEGEND

- NO WALKING OR LIFTING
- WALKING ALLOWED, NO LIFTING
- WALKING & LIFTING ALLOWED

TY LIN INTERNATIONAL
engineers | planners | scientists

NOTES:

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

NO.	REVISIONS	DATE	APPROVED BY
B	REVISION AFTER BERTH 1 ANALYSIS/REFINED REVIEW	09/21/2014	N.S.
A	REVISION AFTER BERTH 1 ANALYSIS	08/29/2013	

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN FEET AND INCHES

DESIGNED	CGH	07/21/2014
DRAWN	JMR	07/21/2014
CHECKED		
APPROVED		

TITLE:
PORT OF OLYMPIA
STRIPING PLAN
BERTH 1 (2 OF 2)

SCALE: AS NOTED

PROJ. NO. 490071.00

SIZE	SHEET NO.	REV
	1000-02	

Appendix IV

EPA EJSCREEN Maps and Summary Report

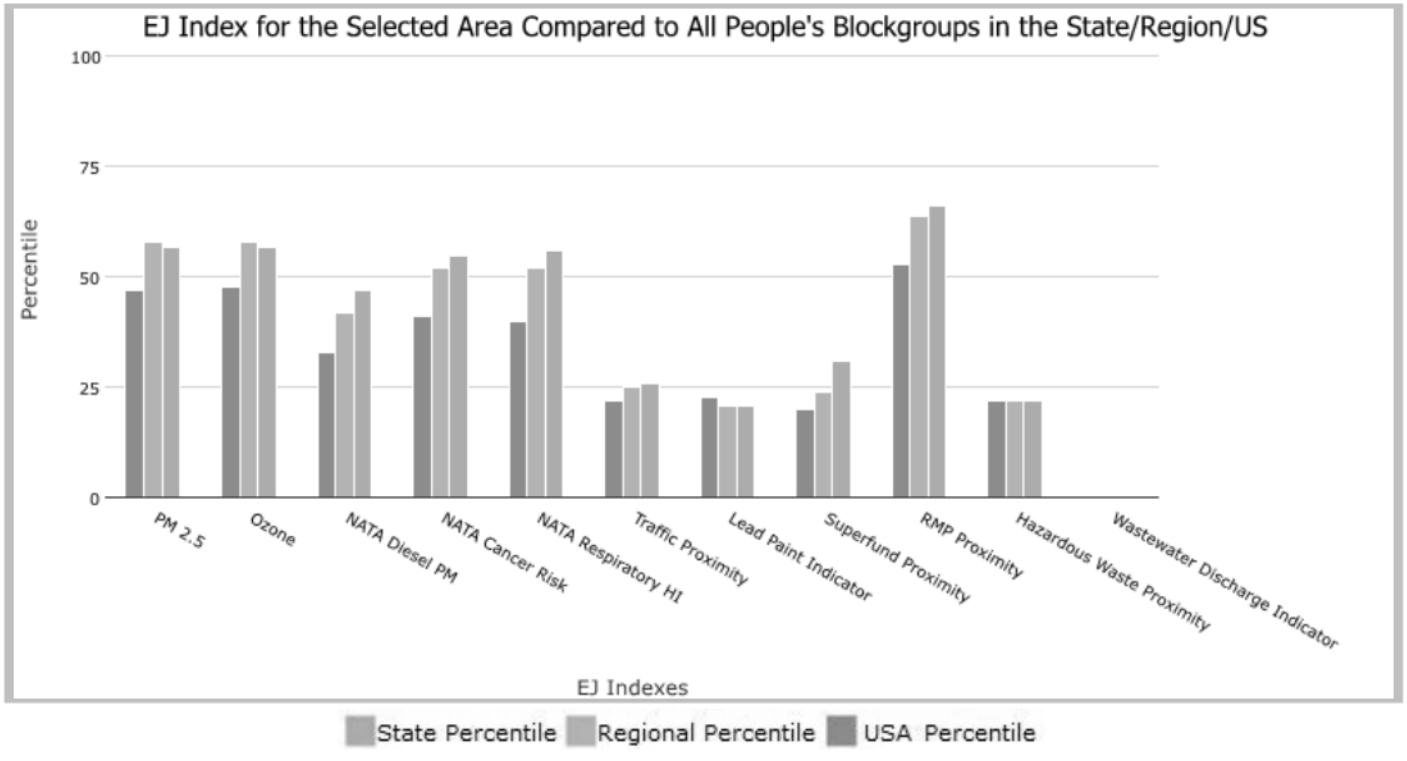
EJSCREEN Report (Version 2020)

1 mile Ring Centered at 47.049452,-122.903366, WASHINGTON, EPA Region 10

Approximate Population: 8,050

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	57	58	47
EJ Index for Ozone	57	58	48
EJ Index for NATA* Diesel PM	47	42	33
EJ Index for NATA* Air Toxics Cancer Risk	55	52	41
EJ Index for NATA* Respiratory Hazard Index	56	52	40
EJ Index for Traffic Proximity and Volume	26	25	22
EJ Index for Lead Paint Indicator	21	21	23
EJ Index for Superfund Proximity	31	24	20
EJ Index for RMP Proximity	66	64	53
EJ Index for Hazardous Waste Proximity	22	22	22
EJ Index for Wastewater Discharge Indicator	N/A	N/A	N/A



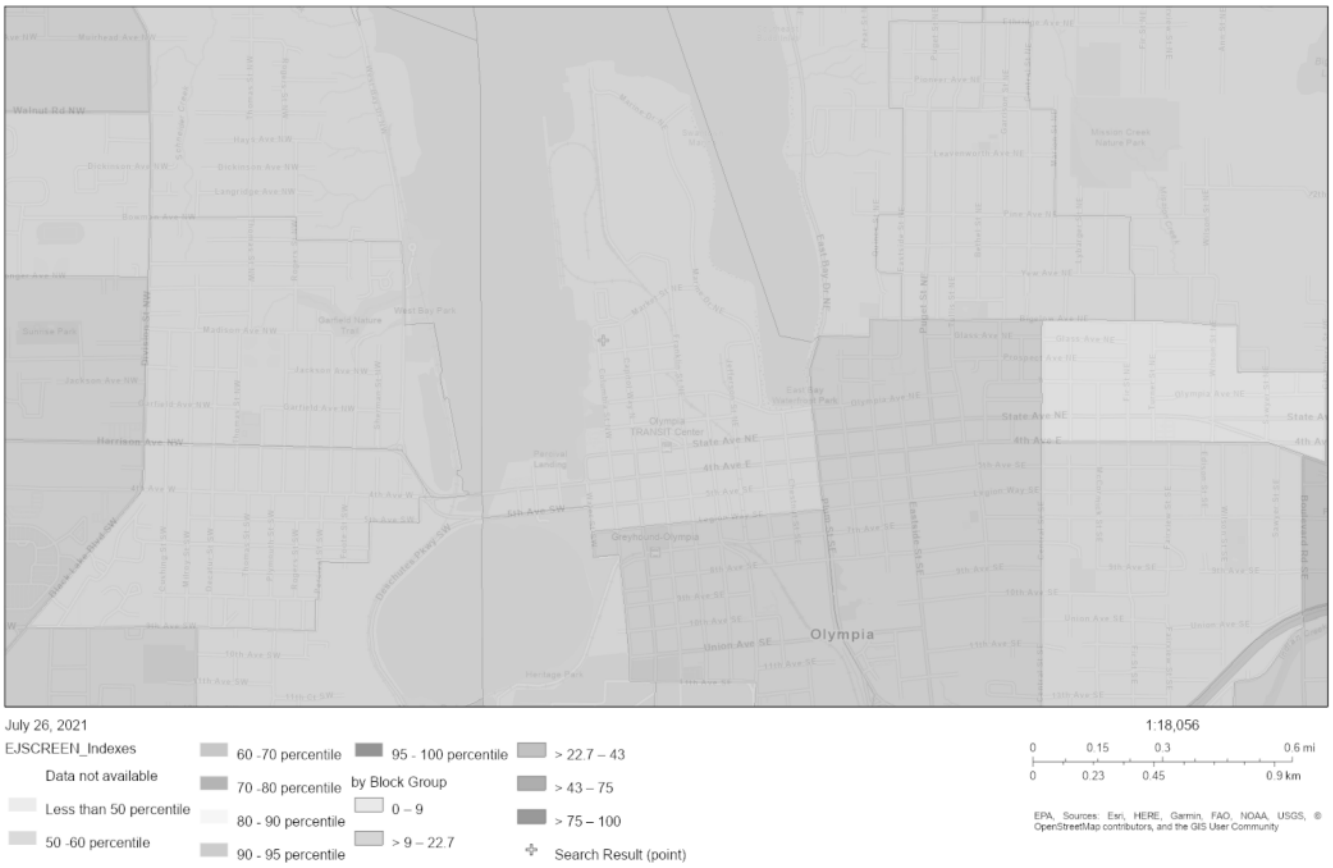
This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJSCREEN Report (Version 2020)

1 mile Ring Centered at 47.049452,-122.903366, WASHINGTON, EPA Region 10

Approximate Population: 8,050

Input Area (sq. miles): 3.14



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	1

EJSCREEN Report (Version 2020)

1 mile Ring Centered at 47.049452,-122.903366, WASHINGTON, EPA Region 10

Approximate Population: 8,050

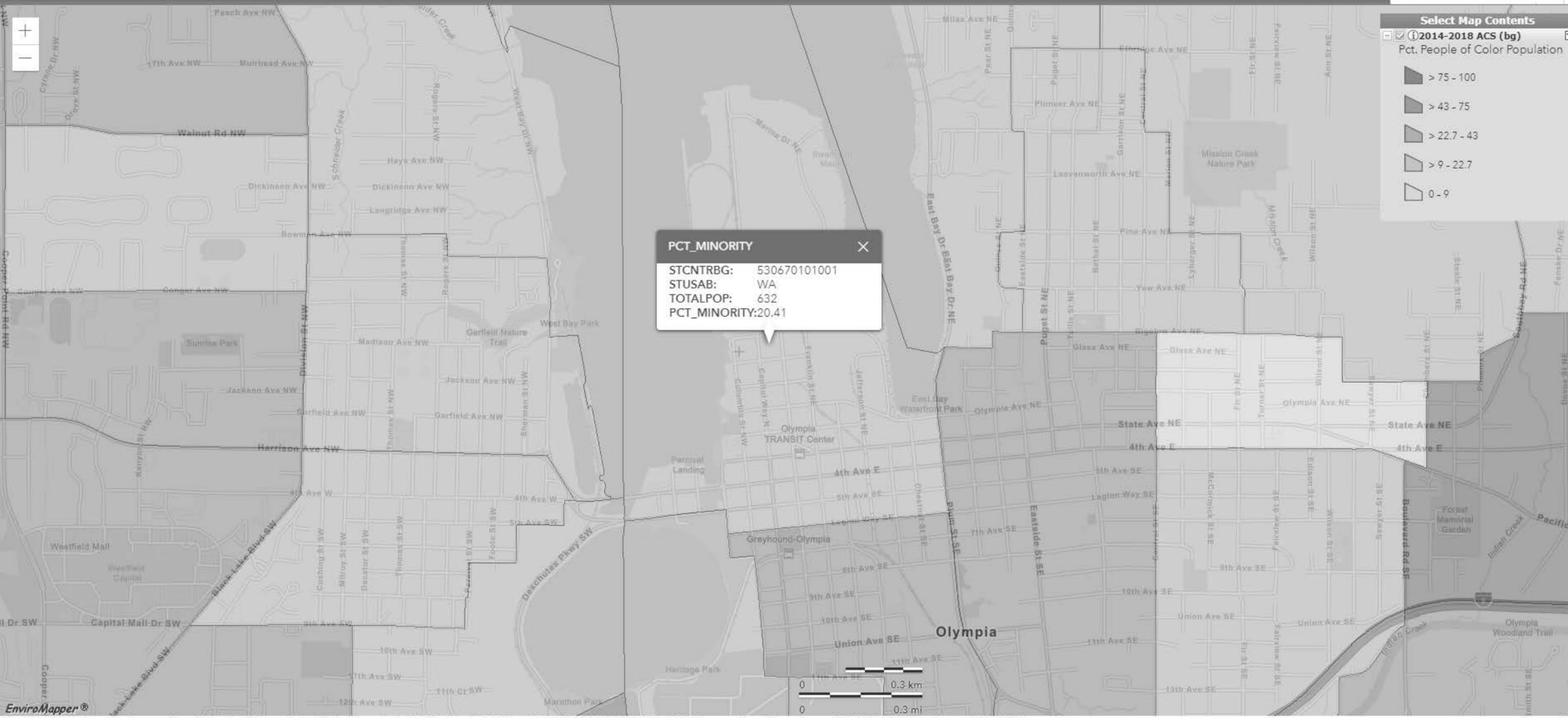
Input Area (sq. miles): 3.14

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m^3)	6.99	8.21	17	8.52	13	8.55	13
Ozone (ppb)	33.2	37.3	19	39.1	12	42.9	6
NATA* Diesel PM (µg/m^3)	0.52	0.585	52	0.481	60-70th	0.478	60-70th
NATA* Cancer Risk (lifetime risk per million)	33	34	43	31	50-60th	32	50-60th
NATA* Respiratory Hazard Index	0.47	0.5	40	0.46	<50th	0.44	60-70th
Traffic Proximity and Volume (daily traffic count/distance to road)	640	610	74	510	78	750	73
Lead Paint Indicator (% Pre-1960 Housing)	0.45	0.23	81	0.22	83	0.28	73
Superfund Proximity (site count/km distance)	0.19	0.19	74	0.13	83	0.13	85
RMP Proximity (facility count/km distance)	0.056	0.63	8	0.65	11	0.74	5
Hazardous Waste Proximity (facility count/km distance)	1.7	1.9	69	1.5	74	5	61
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	N/A	0.0091	N/A	3.1	N/A	9.4	N/A
Demographic Indicators							
Demographic Index	28%	29%	56	29%	56	36%	46
People of Color Population	20%	31%	35	28%	42	39%	36
Low Income Population	36%	27%	72	30%	66	33%	61
Linguistically Isolated Population	1%	4%	49	3%	54	4%	51
Population With Less Than High School Education	4%	9%	29	9%	27	13%	21
Population Under 5 years of age	3%	6%	19	6%	20	6%	21
Population over 64 years of age	15%	15%	59	15%	56	15%	55

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.



EnviroMapper®

Esri Community Maps Contributors, City of Olympia, WA State Parks GIS, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA | EPA

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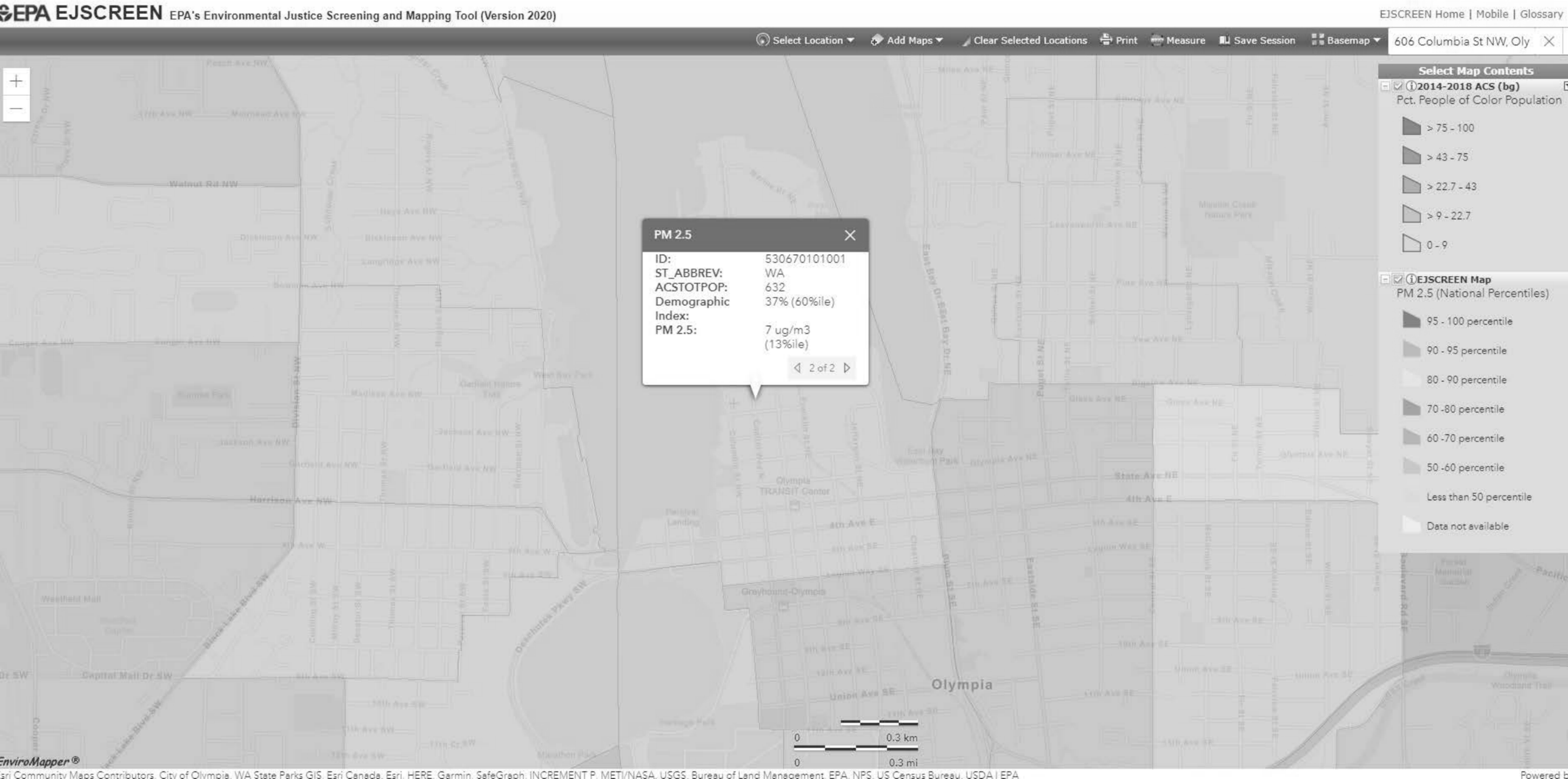
EPA EJSCREEN EPA's Environmental Justice Screening and Mapping Tool (Version 2020)
EJSCREEN Home | Mobile | Glossary
Select Location
Add Maps
Clear Selected Locations
Print
Measure
Save Session
Basemap
606 Columbia St NW, Oly
PM 2.5
ID: 530670101001
ST_ABBREV: WA
ACSTOTPOP: 632
Demographic Index: 37% (60%ile)
PM 2.5: 7 ug/m3 (13%ile)
2 of 2
Select Map Contents
2014-2018 ACS (bg)
Pct. People of Color Population
> 75 - 100
> 43 - 75
> 22.7 - 43
> 9 - 22.7
0 - 9
EJSCREEN Map
PM 2.5 (National Percentiles)
95 - 100 percentile
90 - 95 percentile
80 - 90 percentile
70 -80 percentile
60 -70 percentile
50 -60 percentile
Less than 50 percentile
Data not available
Olympia
0 0.3 km
0 0.3 mi
EnviroMapper®
Esri Community Maps Contributors, City of Olympia, WA State Parks GIS, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA | EPA
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Appendix V

Port of Olympia Public Works Contracting Procedures

POLICY:

The Port shall ensure that its contracts for construction of public works comply with applicable laws and regulations. All public works contracts shall be executed by the Executive Director and administered by the Port's Environmental, Public Works and Planning Director or designee.

Policy Definitions:

- **Public Works** is defined by Washington State law to include "all work, construction, alteration, repair or improvement, other than ordinary maintenance, performed at public cost on any property".
- **Ordinary Maintenance** means work not performed by contract and that is performed by the employees of the Port on a regularly scheduled basis (e.g. daily, weekly, monthly, seasonally, semiannually, annually) to service, check, or replace items that are not broken; or work not performed by contract that is not regularly scheduled but is required to keep existing infrastructure in good usable, operational condition. Maintenance work by contractors is not Ordinary Maintenance.
- **Small Public Works** is the procedure created by Washington State statute authorizing the solicitation of public works bids from a limited number of contractors in lieu of formal advertisement to bid.

Policies:

- **Competitive Selection:**

  The Port shall observe a competitive solicitation process for the purposes of contracting Public Works, as determined by the approved Port Signing Authority and Spending Thresholds, in compliance with contracting law, and as is governed by RCW.

- **Signing Authority and Spending Thresholds for Public Work Contracts:**

  $0 to $40,000 – No solicitation requirements apply, although it is best practice to use at least a roster procurement process (i.e. "rosters"). Port staff ***may*** perform Public Work projects with in-house resources.

  $0 to $300,000 – Both formal, competitively bid or Small Works Roster contracts shall be authorized and executed by the Executive Director (see Policy #1002, "*Small Works Roster Procedures*").

  $300,000 or more - The Commission shall authorize all contracts prior to execution by the Executive Director.

  The Commission shall authorize any change order if the new contract not to exceed amount exceeds $300,000 or 10% of the Commission last approved amount. The Executive Director is authorized to execute change orders up to this threshold.

PROCEDURES:

Applicability:

1. This procedure applies to all Port public works contracts estimated over $10,000 must be documented as follows: Less than $10,000 – no formal price quotation necessary. $10,000 to $25,000 – minimum of three (3) price quotations: option of documented verbal quotes or written quotes. Contracts estimated between $25,000 and $40,000 requires three (3) written quotes.

   The Port is authorized, but not required, to use an expedited bidding process known as the "Small Works Roster" for public works estimated not to exceed $300,000 (see Policy 1002). All other public work requirements remain applicable to Roster contracts.

Definitions:

1. **Public Works** is defined by Washington State law to include "all work, construction, alteration, repair or improvement, other than ordinary maintenance, performed at public cost on any property". This includes maintenance work accomplished by contract. The definition of public works is not changed by the source of funds (i.e. capital vs. operating funds).
2. The ordinary maintenance exception to prevailing wage requirements in RCW 39.04.010 does not apply to maintenance work that is performed by contract, paid by a public entity, on a public asset. Maintenance is "ordinary" when performed by in-house employees of the public entity.
3. Examples of public works include:
   a) Asphalt Paving
   b) Building Renovation
   c) HVAC Installation
   d) Landscape Installation
   e) Site Grading
   f) Site Renovation
4. Examples of non-public works include:
   a) Equipment installation (if removable without affecting structural members)
   b) Modular furniture installation
5. **Construction** means public work.
6. **Contract Documents** means the drawings, specifications, addenda, agreement forms and change orders issued by the Port.

General Requirements:

Washington State public works laws require:

1. Only contractors licensed in the state of Washington may bid or contract to perform public works.
2. All contracts, meeting or exceeding monetary thresholds, must be competitively bid, except for emergencies (see policy on Emergency Contracts).
3. Prime contractors may not be prequalified by the Port, but qualifications may be evaluated as part of the bid.
4. Performance and payment bonds equal to 100% of the contract amount, including sales tax, are required.
5. The Thurston County prevailing rate of wage must be paid.
6. Contracts are subject to Washington State Sales Tax except public road improvements.
7. A 5% payment retention to ensure payment of suppliers, subcontractors and taxes must be administered by the Port.
8. Reciprocal preference for resident contractors. See explanation under Contract Document Provisions.

Contract Initiation:

If the Port's Maintenance Department is capable of performing the work with its own forces and can meet the schedule needs of the business leader, the Project Manager issues a Maintenance work request. Maintenance staff must prepare a cost estimate based on the scope of work provided by the Project Manager.

If Maintenance elects not to perform the work, the Project Manager obtains a contract number to put on the drawings and specifications from the Senior Contract Administrator.

Contract Document Preparation:

1. With the Senior Contract Administrator's concurrence, the Project Manager may use the Port's abbreviated form of contract documents (Small Works) when the work is estimated to cost less than $300,000 and minimal subcontracting is anticipated.
2. The Project Manager should incorporate into the project schedule a minimum of ten (10) business days for document preparation by the Senior Contract Administrator.
3. The consulting engineer should submit, at a minimum, an 80% specification submittal for the Port's review.

Contract Document Provisions:

1. All Port public work contract documents shall include the following requirements of Washington State law:
    a) Bid security of 5% of the total bid except for miscellaneous contracts or unless waived by the Environmental, Public Works and Planning Director.
    b) Performance and Payment bonds for 100% of the contract price, including sales tax, unless the contract price is less than $150,000 and the contractor elects to have the Port hold an additional 5% of the contract price for 45 days after final acceptance.
    c) Payment retention of 5% of the contract price for 45 days after final completion to ensure payment of subcontractors, suppliers and taxes, except if waived for miscellaneous contracts.
    d) Prevailing rate of wage shall be paid to all workers. http://www.lni.wa.gov/prevailingwage/. Contractor shall include the cost of all required filings with the Department of Labor and Industries in its bid.
    e) If the estimated cost of the work is greater than $1,000,000, bidders must identify on the bid form the firms proposed to perform HVAC, plumbing and electrical work.
    f) If the work requires trenching of a depth greater than four feet, the costs of trench excavation safety systems shall be set forth as a separate line item on the bid.
    g) A good-faith asbestos and lead survey or the statement that the owner is reasonably certain that asbestos and lead will not be disturbed by the work shall be included in the bidding documents.
    h) When appropriate, drawings shall be signed and stamped by a licensed architect or engineer, and signed by the Environmental, Public Works and Planning Director.
    i) All contract documents shall specify a time for completion or an expiration date.

j) Reciprocal Preference for Resident Contractors: Per RCW 39.04.380 all public works contracts estimated to cost more than $300,000 must include reciprocal preference for resident contractors language in specification section 00 21 13 Instructions to Bidders. Any public works bid received from a nonresident contractor from a state that provides an in-state percentage bidding preference, a comparable percentage disadvantage must be applied to the bid of that nonresident contractor. This does not apply to Small Works Roster, Limited Public Works, or contracts exempt from competitive bidding laws per RCW 39.04.280.

2. The basis for award to the low bidder should be identified, particularly if the bidding schedule contains alternates or life cycle cost factors.

3. The bidding schedule should be organized so that the low bid calculation considers the base bid and any alternates likely to be taken. The Port should expressly reserve the right to delete or reinstate any alternate within a reasonable period.

4. Specification Requirements for Federal Grant Funded Contracts:

   a) Federal Aviation Administration (FAA), U. S. Department of Homeland Security (DHS) /Federal Emergency Management Agency (FEMA), grant funded contracts must contain the following additional requirements.

   b) FAA requirements are designated by the number 2. DHS/FEMA requirements are designated by the number 1.

Construction Contracts	Provision Applies Only if Contract is:				
	For	Over	Over	Over	Over
Contract Provision	All	$2,000	$10,000	$25,000	$100,000
Buy American Preferences	1,2				
Civil Rights Act of 1964; Title VI – Contractor Contractual Requirements	1,2				
Airport and Airway Improvements Act of 1982, Section 520 – General Civil Rights Provisions	2				
Lobbying and Influencing Federal Employees	1,2				
Access to Records and Reports	2				
Disadvantaged Business Enterprises	1,2				
Energy Conservation Requirements	2				
Breach of Contract Terms	2				
Trade Restriction Clause	2				
Veteran's Preference	2				
Davis Bacon Requirements	1	2			
Certification of Non-segregated Facilities – 41 CFR Part 60-1.8			2		
Notice of Requirement for Affirmative Action – 41 CFR Part 60-4.2			2		
Standard Federal Equal Employment Opportunity 41 CFR Part 60-4.3	1		2		
Termination of Contract			2		
Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion	1			2	
Contract Work hours and Safety Standards Act Requirements 29 CFT Part 5					2
Clean Air and Water Pollution Control					2
TWIC Requirements	1				
OSHA (NRTL) Electrical Certification	1				

Construction Contracts	Provision Applies Only if Contract is:				
	For	Over	Over	Over	Over
Contract Provision	All	$2,000	$10,000	$25,000	$100,000
Lighting Must Meet OSHA Requirements	1				
Non-Disclosure Agreement Signed by Potential Bidders prior to Receiving Bid Documents	1				
Rehabilitation Act of 1973, Section 504, as amended, 29 U.S.C. 794	1				
Education Amendments of 1972, Title IX, as amended, 20 U.S.C. 1681	1				
Age Discrimination Act of 1972, as amended, 20 U.S.C. 6101	1				
Certified Payrolls Required from Prime and all Subcontractors at all tiers	1,2				
Sensitive Security Information (SSI) Labeling of documents	1				
Texting While Driving Banned	2				

Sole Source Items and Alternatives:

1. By Washington State law the specification of a product is presumed to create a standard of quality rather than a sole source. Standardization and sole source specifications may be authorized by the Environmental, Public Works and Planning Director (with the concurrence of a licensed engineer) when efficiencies can be documented.
2. Proposals for substitutions or alternates should require review and approval by the Project Manager. The specifications may require the contractor to bear the additional cost for reviewing and installing proposed substitutions or alternates.
3. The time for submitting proposals for substitutions or alternates should not be restricted to the bidding period since the time required to review such proposals and publish the results via addenda would likely require extension of the bidding period.
4. Legitimate sole source specifications should state that no substitutions will be permitted and should describe the reason therefore, e.g. repair or inventory efficiencies.
5. The provision of services, as opposed to products, should not be limited to a single source.

Contract Document Review:

1. Specifications are reviewed, and drawings reviewed and signed by a licensed engineer and counter-signed by the Environmental, Public Works and Planning Director prior to printing.
2. All final drawings shall be signed and stamped by the appropriate Architect/Engineer.
3. The Senior Contract Administrator will arrange for distribution of the contract documents following the Environmental, Public Works and Planning Director's review.

Bidding Advertisement:

1. The Senior Contract Administrator will place an advertisement for bids in the County's official newspaper, scheduled to run on the first day contract documents are available. At the Project Manager's request, the Senior Contract Administrator will place advertisements with other newspapers or other media. The advertisement shall include:
    a) A brief description of the work
    b) Date and time for submittal of bids and any pre-bid conference
    c) How to obtain contract documents
    d) Cost estimate range
    e) Any requirements which would significantly reduce the pool of prospective bidders, such as licensing by a roofing manufacturer, or special insurance requirements
2. For mandated formally bid solicitations (those exceeding $300,000), the Senior Contract Administrator will distribute plans and specifications to Builders Exchange of Washington (bxwa.com) for posting on their website. In lieu of formally bidding on bxwa.com, projects estimated to cost less than $300,000 may be solicited via MRSCRosters.org via email and a copy of the email and associated mailing list maintained on file.
3. During the bidding period all Port staff should endeavor to ensure that no bidder receives a competitive advantage over other bidders because of actions by Port staff.

Bidding Process:

1. By Washington State law the minimum bidding period is thirteen calendar days, counting the first day as the day after the advertisement appears. Bids may be opened on the thirteenth day (the bidding period may be shorter for Roster projects, see Small Works Roster procedure).
2. A pre-bid conference may be scheduled or waived in the Project Manager's discretion. Attendance at a pre-bid conference shall not be required in order to submit a bid, however, the Project Manager may make the pre-bid mandatory if unusual circumstances warrant it.
3. If a bidder objects to the provisions of the contract documents and the Project Manager is unable to resolve the issue, the matter shall be referred to the Environmental, Public Works and Planning Director for resolution.

Addenda:

1. The contract documents may be modified during the bidding period solely by written addenda.
2. If questions arise during the bidding process or at the pre-bid conference which cannot be answered solely by reference to the contract documents or physical feature of the worksite, any answer to the question must be made by addenda.
3. Addenda shall be prepared by the Senior Contract Administrator and Project Manager, and reviewed and signed by the Environmental, Public Works and Planning Director prior to issuance.
4. Addenda shall be distributed to Builders Exchange of Washington to be posted on their website, if applicable.

5. Bidders should be afforded a sufficient time to prepare their bids after receipt of addenda. If the addenda alter supplier or subcontracting requirements the deadline for bid submittal should be at least five working days after receipt of the addenda.
6. Receipt of all addenda must be acknowledged on the bid form unless it is evident on the face of the bid that the addendum was received (e.g. the addendum revised the bid form).

Bid-Submittal:

1. Bids shall contain the original signature of the bidder. Fax, phone or electronically submitted bids are not allowed.
2. Bids shall be submitted at the desk of the main office Receptionist before the date and time specified in the contract documents. All bids shall be kept in a locked filing cabinet until the time for bid opening. Port staff will not disclose information to bidders about the type or number of bids received until the bid opening.
3. For purposes of bid submittal the clock at the main office Receptionist's desk shall be the standard of time.
4. If a bid is submitted after the deadline, the Senior Contract Administrator shall advise the bidder that the bid is late and will not be opened. The Senior Contract Administrator shall retain the unopened late bid until a contract is awarded and then return it to the bidder.
5. The Senior Contract Administrator and Project Manager shall publicly open bids as soon as practicable after the bid submittal deadline. For miscellaneous contracts the hypothetical job which determines the low bid shall be disclosed. The Project Manager's final construction estimate shall be announced.

Bid-Evaluation:

1. The Senior Contract Administrator will:
   a) Apply any reciprocal preference factor for resident contractors per RCW 39.04.380;
   b) Prepare the bid results spreadsheets;
   c) Evaluate the three low responsive/responsible bids for responsiveness, and shall verify that bid bonds are issued by a surety licensed by the Insurance Commissioner of the state of Washington;
   d) To verify contractor registration: http://www.lni.wa.gov/contractors/contractor.asp; and
   e) To verify surety: http://www.insurance.wa.gov/.
2. The Senior Contract Administrator may determine Bid irregularities which render a Bid non-responsive, and to waive informalities and immaterial irregularities in the Bid. A Bid shall be considered irregular and may be rejected by the Port as non-responsive for reasons including, but not limited to:
   a) If the bid form furnished or authorized is not used or is altered;
   b) If the bid form or any required supplemental documents are incomplete, contain any additions, deletions, conditions, or otherwise fail to conform to the Port's requirements;
   c) If the bidder adds any provisions reserving the right to reject or accept the award, or enter into the contract;
   d) If the Bid or Bid Guaranty is not properly executed, or shows an incorrect amount;

e) If the Bid fails to include a price for every bid item;

f) If the Port reasonably deems the Bid Guaranty inadequate; or

g) If the Port deems any of the bid prices to be excessively unbalanced either above or below the amount of a reasonable bid price for the item of Work to be performed, to the potential detriment of the Port.

3. The Project Manager should conduct reference checks, utilizing those provided with the bid and others, if deemed appropriate during the process. This review should include the past performance of the low bidder on other work for the Port and may request from the low bidder a current job resume within 24 hours of bid opening. The Project Manager may also request a preliminary schedule and list of subcontractors prior to award.
4. The Senior Contract Administrator and/or Project Manager (either collaboratively or separately) shall evaluate the low bidder for responsibility. Considerations may include:
   a) The ability, capacity and skill of the bidder to perform the contract or provide the service or work within the time required;
   b) The character, integrity, reputation, and efficiency of the bidder;
   c) The quality and timeliness of performance by the bidder of previous contracts with the Port or other public jurisdictions;
   d) The previous and existing compliance by the bidder with laws relating to public contracts; and
   e) Such other information having a bearing on whether the bidder is responsible and has submitted a responsive bid.
5. The Project Manager shall compare the bids with the final construction estimate. If the low bid is more than ten percent lower than the other bids or the construction estimate, the Project Manager shall review the lower bidder's work sheets with the lower bidder. Factors affecting the bidder's responsibility include if the bid appears unbalanced or not adequate to complete all elements of the work.

Contract Award:

1. If all bids exceed the final construction estimate, an irregularity in the bidding process is discovered, or it appears that the Port will not obtain the best value by award of contract, the Environmental, Public Works and Planning Director may reject all bids. The contract may then be rebid as originally specified or the scope of work may be revised.
2. If a bidder claims a mathematical error in its bid and the Port finds that the error was not due to negligence, the Port may allow the bidder to withdraw its bid without penalty. The bid may not be corrected. A bidder claiming error in its Bid must submit supporting evidence including cost breakdown sheets within 24 hours of Bid opening and provide any other supporting documentation requested by the Port.
3. A contract may be awarded to the low responsive, responsible bidder. The Senior Contract Administrator shall prepare the authorization to award memo.

4. Any bidder who objects to the proposed award of contract must notify the Senior Contract Administrator immediately of the basis for objection. The Port will consider the objection and issue a written response prior to award of contract. If the bidder wishes to pursue its objection it must then obtain injunctive relief prior to contract award.
5. Immediately after authorization to award, the Senior Contract Administrator will prepare and sign, the Notice of Award. The Executive Director shall sign the contract. The Notice of Award shall require that the bidder provide the required signed contract, bonds, and insurance certificate within ten days of notice of award, and shall state that no work on site may commence until the required insurance certificate is received. The Project Manager may elect to restrict work on site until a separate notice to proceed is issued.
6. If the bidder does not provide the insurance and bond within the time required, the Port may retain the bid bond and award to the second low bidder, or the Project Manager may extend the time for submittal of insurance and bond.

Contract Change Orders:

1. The Executive Director is authorized to execute change orders totaling up to 10% of the original contract value for contracts over $300,000, per current Delegation of Authority.
2. The Executive Director has delegated this authority to the Environmental, Public Works and Planning Director, and Finance Manager.
3. For Small Works Contracts, (under $300,000), the Executive Director and delegates are authorized to sign change orders up to the value of the contract not exceeding $300,000.

Appendix VI

Port of Olympia Affirmative Action/Equal Employment Opportunity Policy

PORT of OLYMPIA POLICIES & PROCEDURES MANUAL		Page:	1 of 1
Section:	100 EXECUTIVE POLICY & PROCEDURE	Revision Date:	12/2012
Policy:	AFFIRMATIVE ACTION/EQUAL EMPLOYMENT OPPORTUNITY	Policy No.	103
Approver:	COMMISSION	Resolution	Yes

POLICY: The Port of Olympia will affirmatively provide equal employment opportunity and access to its programs and services in a fair and impartial manner for all persons without regard to race, religion, color, sex (including pregnancy, gender identity and sexual orientation), national origin, age, genetic information, or disability.

All employees will have the freedom to compete on a fair and level playing field with equal opportunity competition.

Equal employment opportunity covers all personnel/employment programs, management practices, and decisions, including, but not limited to: advertising, application procedures, compensation, demotion, employment, fringe benefits, job assignment, job classification, layoff, leave, promotion, recruitment, rehire, social activities, training, termination, transfer, upgrade, and working conditions.

It is the policy of the Port of Olympia to ensure and maintain a working environment free of coercion, harassment, and intimidation at all job sites, and in all facilities at which employees are assigned to work. Any violation of the policy should be immediately reported to your supervisor or the Administrative Services Director.

PROCEDURE: Components of the Port of Olympia's EEO policy include:

- Ensuring a timely, thorough, and fair processing of EEO complaints;
- Providing all employees and supervisors with access to regular training opportunities on the EEO program including retaliation, harassment, and discrimination;
- Creating and enforcing effective Anti-Harassment and Anti-Discrimination policies; and
- Managing an effective reasonable accommodation program.

Employees or applicants for employment who have questions or concerns regarding some aspect of the Port's EEO policy or program should contact the Port's Administrative Service's Director.

Authorizing Source: Governor's Executive Order No. 93-07; RCW 49.60; RCW 43.43; Presidential Executive Order Nos. 11246 and 11478 (as amended); 41 C.F.R. 60-62, Revised Order No. 4;Title VII of the Civil Rights Act of 1964; 28 C.F.R.; 29 C.F.R.; 43 C.F.R.; the Vietnam-era Veterans Readjustment Act of 1974. ***Age Discrimination in Employment Act (ADEA); Americans with Disabilities Act (ADA); Rehabilitation Act of 1973.***

Appendix VII

Project Scope Area


D
A
B
B
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A
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A
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B
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A
C

(b)(4)

CONTAINS CONFIDENTIAL BUSINESS INFORMATION -- MAY NOT BE SHARED, DISTRIBUTED OR DISCLOSED

(b)(4)

(b)(4)

(b)(4)

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ATTACHMENTS FORM

Instructions: On this form, you will attach the various files that make up your grant application. Please consult with the appropriate Agency Guidelines for more information about each needed file. Please remember that any files you attach must be in the document format and named as specified in the Guidelines.

Important: Please attach your files in the proper sequence. See the appropriate Agency Guidelines for details.

1) Please attach Attachment 1	1234-Port of Olympia FY22 PID	Add Attachment	Delete Attachment	View Attachment
2) Please attach Attachment 2	1235-Port of Olympia FY22 PID	Add Attachment	Delete Attachment	View Attachment
3) Please attach Attachment 3	1236-Port of Olympia 2021_BC	Add Attachment	Delete Attachment	View Attachment
4) Please attach Attachment 4		Add Attachment	Delete Attachment	View Attachment
5) Please attach Attachment 5		Add Attachment	Delete Attachment	View Attachment
6) Please attach Attachment 6		Add Attachment	Delete Attachment	View Attachment
7) Please attach Attachment 7		Add Attachment	Delete Attachment	View Attachment
8) Please attach Attachment 8		Add Attachment	Delete Attachment	View Attachment
9) Please attach Attachment 9		Add Attachment	Delete Attachment	View Attachment
10) Please attach Attachment 10		Add Attachment	Delete Attachment	View Attachment
11) Please attach Attachment 11		Add Attachment	Delete Attachment	View Attachment
12) Please attach Attachment 12		Add Attachment	Delete Attachment	View Attachment
13) Please attach Attachment 13		Add Attachment	Delete Attachment	View Attachment
14) Please attach Attachment 14		Add Attachment	Delete Attachment	View Attachment
15) Please attach Attachment 15		Add Attachment	Delete Attachment	View Attachment

OMB Number: 4040-0004
Expiration Date: 12/31/2022

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: 05/15/2022

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Port of Olympia

* b. Employer/Taxpayer Identification Number (EIN/TIN): (b)(4)

* c. UEI: (b)(4)

d. Address:

* Street1: 915 Washington Street, NE
Street2:
* City: Olympia
County/Parish:
* State: WA: Washington
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 985016931

e. Organizational Unit:

Department Name:

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:
* First Name: Tiffany
Middle Name:
* Last Name: Torrey
Suffix:

Title:

Organizational Affiliation:

* Telephone Number: 7325347824
Fax Number:

* Email: ttorrey@torrey-enterprises.com

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

D: Special District Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Maritime Administration

11. Catalog of Federal Domestic Assistance Number:

20.823

CFDA Title:

Port Infrastructure Development Program

*** 12. Funding Opportunity Number:**

MA-PID-22-001

* Title:

2022 Port Infrastructure Development Program Grants

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Seaport Throughput Improvement Project

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: WA03 | * b. Program/Project: WA03

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 12/01/2023 | * b. End Date: 12/31/2026

18. Estimated Funding ($):

* a. Federal	9,270,918.00
* b. Applicant	3,090,306.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	12,361,224.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: | * First Name: Tiffany

Middle Name: A

* Last Name: Torrey

Suffix:

* Title: Grant Manager

* Telephone Number: 7325347824 | Fax Number:

* Email: ttorrey@torrey-enterprises.com

* Signature of Authorized Representative: Tiffany Torrey | * Date Signed: 05/15/2022

OMB Number: 4040-0008
Expiration Date: 02/28/2025

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$ 190,000.00	$ 0.00	$ 190,000.00
2. Land, structures, rights-of-way, appraisals, etc.	$ 0.00	$ 0.00	$ 0.00
3. Relocation expenses and payments	$ 0.00	$ 0.00	$ 0.00
4. Architectural and engineering fees	$ 600,000.00	$ 0.00	$ 600,000.00
5. Other architectural and engineering fees	$ 150,000.00	$ 0.00	$ 150,000.00
6. Project inspection fees	$ 0.00	$ 0.00	$ 0.00
7. Site work	$ 0.00	$ 0.00	$ 0.00
8. Demolition and removal	$ 0.00	$ 0.00	$ 0.00
9. Construction	$ 10,465,653.00	$ 0.00	$ 10,465,653.00
10. Equipment	$ 0.00	$ 0.00	$ 0.00
11. Miscellaneous	$ 1,022,271.00	$ 0.00	$ 1,022,271.00
12. SUBTOTAL *(sum of lines 1-11)*	$ 12,427,924.00	$ 0.00	$ 12,427,924.00
13. Contingencies	$ 0.00	$ 0.00	$ 0.00
14. SUBTOTAL	$ 12,427,924.00	$ 0.00	$ 12,427,924.00
15. Project (program) income	$ 0.00	$ 0.00	$ 0.00
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 12,427,924.00	$ 0.00	$ 12,427,924.00

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X 75 %	$ 9,320,943.00

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

OMB Number: 4040-0013
Expiration Date: 02/28/2025

1. * Type of Federal Action:

- [ ] a. contract
- [x] b. grant
- [ ] c. cooperative agreement
- [ ] d. loan
- [ ] e. loan guarantee
- [ ] f. loan insurance

2. * Status of Federal Action:

- [ ] a. bid/offer/application
- [x] b. initial award
- [ ] c. post-award

3. * Report Type:

- [x] a. initial filing
- [ ] b. material change

4. Name and Address of Reporting Entity:

- [x] Prime
- [ ] SubAwardee

** Name:* Port of Olympia

** Street 1:* 915 Washington Street, NE *Street 2:*

** City:* Olympia *State:* WA: Washington *Zip:* 985016931

Congressional District, if known:

5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:

6. * Federal Department/Agency:

Department of Transportation/MARAD

7. * Federal Program Name/Description:

Port Infrastructure Development Program

CFDA Number, *if applicable:* 20.823

8. Federal Action Number, *if known:*

9. Award Amount, *if known:*

$

10. a. Name and Address of Lobbying Registrant:

Prefix: ** First Name:* NA *Middle Name:*

** Last Name:* NA *Suffix:*

** Street 1:* NA *Street 2:*

** City:* NA *State:* *Zip:*

b. Individual Performing Services (including address if different from No. 10a)

Prefix: ** First Name:* NA *Middle Name:*

** Last Name:* NA *Suffix:*

** Street 1:* NA *Street 2:*

** City:* NA *State:* *Zip:*

11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

*** Signature:** Tiffany Torrey

***Name:** *Prefix:* ** First Name:* Tiffany *Middle Name:* A

** Last Name:* Torrey *Suffix:*

Title: **Telephone No.:** 7325347824 **Date:** 05/15/2022

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