

**Application for Federal Assistance SF-424**

Version 02

* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	* If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify) <input type="text"/>
--	--	---

* 3. Date Received: <input type="text" value="09/18/2014"/>	4. Applicant Identifier: <input type="text" value="14-1588D"/>
--	---

5a. Federal Entity Identifier: <input type="text"/>	* 5b. Federal Award Identifier: <input type="text"/>
--	---

**State Use Only:**

6. Date Received by State: <input type="text" value="05/01/2014"/>	7. State Application Identifier: <input type="text" value="14-1588D"/>
--	--

**8. APPLICANT INFORMATION:**

\* a. Legal Name:

* b. Employer/Taxpayer Identification Number (EIN/TIN): <input type="text" value="91-0780046"/>	* c. Organizational DUNS: <input type="text" value="0884058520000"/>
--	---

**d. Address:**

* Street1:	<input type="text" value="1111 Washington Street SE PO Box 40917"/>
Street2:	<input type="text"/>
* City:	<input type="text" value="Olympia"/>
County:	<input type="text"/>
* State:	<input type="text" value="WA: Washington"/>
Province:	<input type="text"/>
* Country:	<input type="text" value="USA: UNITED STATES"/>
* Zip / Postal Code:	<input type="text" value="98504-0917"/>

**e. Organizational Unit:**

Department Name: <input type="text" value="Recreation Conservation Office"/>	Division Name: <input type="text" value="Rec &amp; Conservation Section"/>
---	---

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

Prefix: <input type="text" value="Ms."/>	* First Name: <input type="text" value="Laura"/>
Middle Name: <input type="text" value="Josephine"/>	
* Last Name: <input type="text" value="Moxham"/>	
Suffix: <input type="text"/>	

Title:

Organizational Affiliation:

* Telephone Number: <input type="text" value="360-902-2587"/>	Fax Number: <input type="text" value="360-902-3026"/>
---	---

\* Email:

**Application for Federal Assistance SF-424**

Version 02

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

A: State Government

Type of Applicant 2: Select Applicant Type:

C: City or Township Government

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

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

Fish and Wildlife Service

**11. Catalog of Federal Domestic Assistance Number:**

15.622

CFDA Title:

Sportfishing and Boating Safety Act

**\* 12. Funding Opportunity Number:**

F14AS00241

\* Title:

Boating Infrastructure Grants Tier 2

**13. Competition Identification Number:**

Title:

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

City of Port Townsend in Jefferson County in Washington State, Oregon and Canada. The entire Pacific Northwest Region etc.

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

Port of Port Townsend Point Hudson Jetty Replacement

Attach supporting documents as specified in agency instructions.

**Application for Federal Assistance SF-424**

Version 02

**16. Congressional Districts Of:**

\* a. Applicant

\* b. Program/Project

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

Add Attachment

Delete Attachment

View Attachment

**17. Proposed Project:**

\* a. Start Date:

\* b. End Date:

**18. Estimated Funding (\$):**

* a. Federal	<input type="text" value="1,500,000"/>	<del>1,514,946.00</del>
* b. Applicant	<input type="text" value="57,824"/>	<del>97,891.00</del>
* c. State	<input type="text" value="0.00"/>	
* d. Local	<input type="text" value="1,403,489"/>	<del>2,376,000.00</del>
* e. Other	<input type="text" value="0.00"/>	
* f. Program Income	<input type="text" value="0.00"/>	
* g. TOTAL	<input type="text" value="2,961,313"/>	<del>3,988,837.00</del>

**\* 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.)**

- Yes  No

**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:

Middle Name:

\* Last Name:

Suffix:

\* Title:

\* Telephone Number:  Fax Number:

\* Email:

\* Signature of Authorized Representative:  \* Date Signed:

**Application for Federal Assistance SF-424**

Version 02

**\* Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

### 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	\$ <input type="text" value="117,179.00"/>	\$ <input type="text"/>	\$ <input type="text" value="157,837.00"/>
2. Land, structures, rights-of-way, appraisals, etc.	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
3. Relocation expenses and payments	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
4. Architectural and engineering fees	\$ <input type="text" value="474,022.00"/>	\$ <input type="text"/>	\$ <input type="text" value="638,500.00"/>
5. Other architectural and engineering fees	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
6. Project inspection fees	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
7. Site work	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
8. Demolition and removal	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
9. Construction	\$ <input type="text" value="2,362,688.00"/>	\$ <input type="text"/>	\$ <input type="text" value="3,182,500.00"/>
10. Equipment	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
11. Miscellaneous	\$ <input type="text" value="7,424.00"/>	\$ <input type="text"/>	\$ <input type="text" value="10,000.00"/>
12. SUBTOTAL (sum of lines 1-11)	\$ <input type="text" value="2,961,313.00"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="3,988,837.00"/>
13. Contingencies	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
14. SUBTOTAL	\$ <input type="text" value="2,961,313.00"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="3,988,837.00"/>
15. Project (program) income	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="0.00"/>
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$ <input type="text" value="2,961,313.00"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="3,988,837.00"/>
<b>FEDERAL FUNDING</b>			
17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter eligible costs from line 16c Multiply X <input type="text" value="50.6"/> % Enter the resulting Federal share.			\$ <input type="text" value="1,500,00.00"/>

## ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009  
Expiration Date: 06/30/2014

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**

**NOTE:** Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant:, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.
20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

<b>SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL</b> Brent Hedden	<b>TITLE</b> Director, RCO
<b>APPLICANT ORGANIZATION</b> State of Washington	<b>DATE SUBMITTED</b> 09/18/2014

SF-424D (Rev. 7-97) Back

## Edward Curren

---

**From:** Jacobs, Karl (RCO)  
**Sent:** Monday, November 03, 2014 3:12 PM  
**To:** Edward Curren  
**Cc:** Moxham, Laura (RCO); Austin, Marguerite (RCO); Paul Hayduk (Paul\_Hayduk@fws.gov); Jarasitis, Mark (RCO)  
**Subject:** RE: Washington FY2015 Boating Infrastructure Grant Submissions  
**Attachments:** WA State 14-1588 Port Townsend-REVISED 424 and Budget Narrative.PDF

**Importance:** High

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Flinn – as discussed, both the original and adjusted 424s mistakenly included ineligible costs. The Budget Justification attached to our application correctly describes the proration of the total project cost (\$3,831,000) to arrive at a BIG-eligible total cost of \$2,844,134. Adding our state indirect cost (4.12%) gives you Total Estimated Funding of \$2,961,313. I've attached a revised 424 showing the correct amounts as follows:

a.Federal: \$1,500,00  
b.Applicant: \$57,824  
d.Local: \$1,403,489  
g.TOTAL: \$2,961,313

Please make these changes to the 424 in our submitted application.

Also included in the attached is a revised "budget narrative" worksheet dated 3-Nov-14 showing the cost breakdown.

As to Paul's other questions:

- 1) Contingency is not included in our application. The reference to contingency is in an early feasibility assessment, but was excluded from the Budget Justification and therefore not carried forward to the BIG application.
- 2) The project narrative provided by the applicant only includes project construction costs. The state then adds indirect as shown on the attached budget narrative worksheet.

Very sorry for the confusion. I hope this helps to clarify this proposal. Please contact me if you need anything else.

Thanks so much for your help!

Karl Jacobs, Outdoor Grants Manager  
Recreation and Conservation Office  
1111 Washington St SE  
Olympia WA 98501

(360) 902-3084 Ph / (360) 902-3026 Fax  
[www.rco.wa.gov](http://www.rco.wa.gov)

Mailing Address:  
PO Box 40917  
Olympia WA 98504-0917

**From:** [Moxham, Laura \(RCO\)](#)  
**To:** [edward\\_curren@fws.gov](mailto:edward_curren@fws.gov)  
**Subject:** Port of Port Townsend-Jetty Replacement, BIG Tier 2 Application---Clarification information  
**Date:** Thursday, November 06, 2014 8:02:51 AM  
**Attachments:** [Copy of budget narrative template-BIG-2014-Port Townsend.xls](#)  
**Importance:** High

---

Hi Flinn,

I wanted to follow-up with you on the questions below for Port of Port Townsend Tier 2 project application.

I was looking through the application materials and cross referencing it with the RFA and came up with the following:

1. Depth Information: The facility depth is mentioned in the Project Narrative on Page 5, the 2<sup>nd</sup> paragraph under Description of Work "A majority of the work will occur in-water, and water depths at the entrance channel to the marina typically exceed 15 feet at low tide." Additionally, the Point Hudson Marina was dredged to a depth of -12 feet at 0 tide in 2007; this depth would apply to all slips for vessels of 26 feet and longer. Thus, it is more than adequate to accommodate vessels over 26 feet in length (as plainly evidenced by the fact that it routinely does so at present). Because of the orientation of the marina, littoral drift sedimentation has not been an issue with this marina.---See email below.
2. Pump-Out Location: On page 2 under the table, 2<sup>nd</sup> sentence indicates that there is a Pump-out in the Point Hudson Marina (at the facility).
3. GPS Coordinates: Latitude 48.11620640 Longitude -122.75019343
4. Useful Life: As described in the below email, the useful life of the proposed jetty is in excess of 40 years.

If you have any questions please do not hesitate to call me. This is a very important project for the Port of Port Townsend and for Washington State. I appreciate all your assistance! Thank you so much!

**Laura Moxham**

Outdoor Grants Manager

[WA Recreation and Conservation Office](#)

PO Box 40917

Olympia, WA 98504-0917

(360) 902-2587

**Schedule: Monday 6:00am-2:30pm, Tuesday through Friday 8:15-4:45pm**

---

**From:** Eric Toews [mailto:[eric@portofpt.com](mailto:eric@portofpt.com)]  
**Sent:** Thursday, November 06, 2014 9:57 AM  
**To:** Moxham, Laura (RCO)  
**Cc:** Jim Pivarnik  
**Subject:** RE: BIG Tier 2

Hi Laura,

Jim Pivarnik, our Deputy Director and Operations Manager, has indicated to me that the Point Hudson Marina was dredged to a depth of -12 feet at 0 tide in 2007; this depth would apply to all slips for vessels of 26 feet and longer. Thus, it is more than adequate to accommodate vessels over 26 feet in length (as plainly evidenced by the fact that it routinely does so at present). Because of the orientation of the marina, littoral drift sedimentation has not been an issue with this marina.

I hope this helps. I will be departing the office at 12:15 today. Please advise if you require any additional information.

Kind regards,

Eric Toews  
Planning Analyst  
Port of Port Townsend  
360.385.0680  
[eric@portofpt.com](mailto:eric@portofpt.com)

**From:** Moxham, Laura (RCO) [<mailto:Laura.Moxham@rco.wa.gov>]  
**Sent:** Thursday, November 06, 2014 9:37 AM  
**To:** Jim Pivarnik; Eric Toews; Larry Crockett  
**Subject:** RE: BIG Tier 2  
**Importance:** High

Hi Jim,

Thank you so much for your response. Another question just raised; do you have depth info for the slips used by the vessels over 26 ft in length? They must be at least 6 ft deep.

Thanks.

**Laura Moxham**  
Outdoor Grants Manager  
[WA Recreation and Conservation Office](#)  
PO Box 40917  
Olympia, WA 98504-0917  
(360) 902-2587

**Schedule:** Monday 6:00am-2:30pm, Tuesday through Friday 8:15-4:45pm

**From:** Jim Pivarnik [<mailto:jim@portofpt.com>]  
**Sent:** Wednesday, November 05, 2014 5:59 PM  
**To:** Moxham, Laura (RCO); Eric Toews; Larry Crockett  
**Subject:** Re: BIG Tier 2

Laura, the proposed project is designed to have a useful life in excess of 40 years. The existing structure has served us well for 60 years so we are confident that this design is a long

term solution. I will be in my office at 8am should there be any additional questions. Thanks again for your help and support of this very important infrastructure project for Port Townsend.

Jim Pivarnik  
Deputy Director

---

**From:** Moxham, Laura (RCO) <[Laura.Moxham@rco.wa.gov](mailto:Laura.Moxham@rco.wa.gov)>

**Sent:** Wednesday, November 05, 2014 5:36:17 PM

**To:** Eric Toews; Jim Pivarnik; Larry Crockett

**Subject:** BIG Tier 2

Hi Eric, Jim and Larry,  
I am in need of additional information.

I just heard back from US Fish and Wildlife and they have eligibility concerns with this project as there is missing information that should have been included in the application documentation. Our contact with US Fish and Wildlife will be talking with the DC representative tomorrow morning in support of your project to allow it to be included in competition.

Can you please provide me documentation on the useful life determination of the proposed facility? It must be at least 20 years. Once I get this info from you I will email it to US Fish and Wildlife.

Thank so much for your immediate attention to this email!!!

**Laura Moxham**

Outdoor Grants Manager

[WA Recreation and Conservation Office](#)

PO Box 40917

Olympia, WA 98504-0917

(360) 902-2587

**Schedule:** Monday 6:00am-2:30pm, Tuesday through Friday 8:15-4:45pm

**From:** Edward Curren [[mailto:edward\\_curren@fws.gov](mailto:edward_curren@fws.gov)]

**Sent:** Wednesday, November 05, 2014 4:12 PM

**To:** Moxham, Laura (RCO)

**Subject:** Talking points for WA BIG Tier 2 Proposals

Port Townsend

any documentation about water depth at proposed facility

distance from project to pumpouts? Pumpouts must be within reasonable distance (generally within 2 miles)?

GPS coordinates

useful life determination

\*\*\*\*\*

Edward (Flinn) Curren  
Wildlife and Sport Fish Restoration Program  
U.S. Fish & Wildlife Service  
300 Ala Moana Blvd, Room 5-207  
Honolulu, HI 96813

Phone: 808-792-9572  
Fax: 808-792-9584

**BIG APPLICATION ATTACHMENT "J":  
MATCHING SHARE CERTIFICATION**

## Eric Toews

---

**From:** Thirtyacre, Sarah (RCO) <Sarah.Thirtyacre@rco.wa.gov>  
**Sent:** Monday, April 28, 2014 2:34 PM  
**To:** eric@portofpt.com  
**Subject:** Certification of Match

Eric-  
This email serves as a waiver to the application deadline requiring certification as match shares for your BIG application. Please submit the certification of match by attaching it to PRISM before the July 18<sup>th</sup>, 2014 Technical Completion deadline. You can attach a copy of this email transmittal to PRISM to satisfy the application attachment requirement.

*Sarah Thirtyacre*

*Senior Grants Manager and Cultural Resources Coordinator*

**Recreation and Conservation Office**  
**1111 Washington St SE Olympia, WA 98504**  
**360-902-0243**  
**[sarah.thirtyacre@rco.wa.gov](mailto:sarah.thirtyacre@rco.wa.gov)**



# **Boating Infrastructure Grant Request Point Hudson Marina Jetty Replacement Project Port of Port Townsend, Washington**

## **Project Narrative**

### **Project Description**

The proposed Tier II Grant will help to fund a new breakwater to protect the Port of Port Townsend's recently renovated Point Hudson Marina, with the expectation that the improvements will result in the continuation of high volume transient recreational boating use of the facility and an enhanced boating experience. The project includes demolition and replacement of the existing 600 foot breakwater (overlapping north and south jetty walls and wings) that protect the marina's 51 transient boat slips (66 total slips) from the significant winds and waves of Port Townsend Bay.

### **Need Statement**

Port Townsend has a long standing maritime heritage dating to Captain George Vancouver's landing at Point Hudson in 1792. Port Townsend has remained an extremely active port, hosting fishing derbys, yacht club rendezvous, recreational boating, and a north Pacific fishing fleet which together are responsible for a vigorous maritime industry that comprises a significant part of the local economy. As the home of the Northwest Maritime Center, the Northwest School of Wooden Boatbuilding and the annual Port Townsend Wooden Boat Festival, the Port Townsend area has a strong maritime tradition and a high level of recreational boating activity. As a recreational boating destination, Port Townsend is one of the most visited ports on Puget Sound.

The City's popularity as a major port-of-call for both local boaters and those traveling the inland waters of Washington State and British Columbia can be attributed to its key location at the north end of Puget Sound where the waters of Port Townsend Bay and Admiralty Inlet meet the Strait of Juan De Fuca, as well as its relatively close proximity to Seattle, Victoria B.C. and Vancouver B.C. Additionally, Port Townsend is a major maritime service center and has the added attraction of being an extremely popular regional tourist destination, attracting more than 1.5 million visitors a year to Washington State's only "Victorian Seaport" and National Register Historic District. (Source: City of Port Townsend). The city has long been recognized for its unique historic and traditional maritime character.

Port Townsend is located in Jefferson County, which has more than 2,605 registered vessels in a population of only 29,924. (Sources: Northwest Maritime Trades Association; 2010 U.S. Census). Additionally, approximately 120 vessels in the upland areas of the Port's Boat Haven Boatyard, Washington State's largest remaining public yard. Although there are approximately 1,300 slips available in the immediate vicinity of Point Hudson, nearly all of these are reserved for long-term/permanent moorage, rather than transient use. Visiting boats rely

heavily on the public amenities offered by the Port of Port Townsend at the Point Hudson Marina since few other slips are available to transient boaters in the area.

The Point Hudson Marina is the epicenter of activity for transient recreational boaters visiting Port Townsend. In 2007, the Port completed a \$2.9 million dollar renovation of the facility, replacing all piles, docks, finger slips, gangways and viewing platforms. This unique small boat harbor lies within the heart of Port Townsend’s historic district, and accommodates 66 total tie-ups/slips, 51 of which are reserved solely for transient recreational use. All of the tie-ups/slips can accommodate vessels over 26 feet in length. Port data collected for the period July 1, 2012 to June 30, 2014 indicate that 96% of the usage of the 51 transient recreational slips/tie-ups was by nontrailerable vessels of 26’ or greater in length. Slips are rented on a nightly basis as follows:

<b>Point Hudson – Transient Recreational Moorage Fees</b>	
Reservation Fee	\$7.00 Per Reservation
Nightly Moorage – Winter (Oct – May)	\$1.00 Per Foot/Night
Nightly Moorage – Summer (June – Sept)	\$1.25 Per Foot/Night
Temporary Tie-Ups (Up to 4 hours)	\$5.00
Temporary Tie-Ups 35’ + (Up to 4 hours)	\$10.00
Nightly Electrical	\$3.00 Per Night
Nightly Electrical – 55’ +	\$5.00 Per Night

During the summer boating season, the temporary tie-up slips may be rented to several different boaters each day. The slips at Point Hudson Marina also offer transient boaters shore-side amenities including showers, laundry, water, WiFi, a pump-out station, and a choice of three restaurants on the harbor.

The Port of Port Townsend will use this grant to replace the existing north and south jetties protecting the entrance to the Point Hudson Marina. A recent engineer’s assessment of both the north and south jetties concluded that they are severely compromised, and that their failure, if not replaced in the near term, could jeopardize future public use of this historic marina facility. The engineering assessment report included the following key findings:

- Existing piles are near the end of their useful life, having suffered abrasion damage, marine borer attack damage and decay;
- The horizontal walers that tie the exterior piles together are highly deteriorated and no longer functional;
- Steel cable tiebacks binding the exterior pilings together are deteriorated and highly deteriorated, with a number having already failed or at the end of their useful life;
- Internal armor rock (highly friable basalt) is beyond its useful service life, with deterioration causing the quarry spalls to fracture into smaller rocks and fall through the exterior pilings;
- Overall structural system of the jetties is substantially less stable than its original condition, placing higher stresses on the breakwaters;
- Walkway stringers at the end of the south jetty arm are nearly unseated, creating a potential safety hazard for pedestrians using the walkway/viewing platform;

- The entire 60' end portion of the walkway is leaning seaward and at the end of its useful life; and
- Near-term replacement of the entirety of the breakwater structure is required.

In sum, by replacing this deteriorated and vulnerable breakwater, the Port will ensure the long-term protection of the 51 transient recreational moorage slips (66 total slips) in the marina from the damaging wind and wave action of Port Townsend Bay, and ensure that one of the only marinas on north Puget Sound devoted primarily to transient recreational boaters is maintained into the future.

### **Project Objectives**

The objectives of the proposed breakwater demolition and replacement project are as follows:

- Demolish and properly dispose of the entirety of the 258' long south and 284' north breakwaters (shoreward and seaward legs);
- Replace both breakwaters with new structures combining elements of rubble mound construction (shoreward legs of both north and south jetties) and braced vertical steel pile construction (seaward legs of both jetties);
- Reduce impacts to juvenile salmonids by replacing the facility with a design that is less conducive to sheltering species of predator fish;
- Widen the entrance channel to the marina enabling larger vessels easier access to the facility;
- Ensure that Point Hudson and vicinity remain a vital locus of economic activity anchoring the east end of Port Townsend's commercial historic district; and
- Safeguard the public's investment in one of north Puget Sound's few marinas devoted principally to transient recreational vessel use.

It is anticipated that these objectives will be accomplished before the "fish window" closes at the end of winter, 2017.

### **Expected Project Results & Benefits**

The City of Port Townsend is at the center of Jefferson County's maritime economy, which (in relation to population) remains one of the most important in the State of Washington. At the Point Hudson Marina, 51 transient recreation slips generated \$220,103 in 2013, up from \$190,836 in 2011, an increase of more than 15%. The Port estimates that Point Hudson hosts 30,000 guest nights per year, each spending approximately \$58.00 per day while in town. Thus, transient boaters using the Point Hudson Marina generate approximately \$1,740,000 in revenue within the local economy annually. (Sources: City of Port Townsend; Jefferson County Economic Development Council (2007)).

Based on recent trends, the Port estimates that revenues for Point Hudson transient moorage will increase by approximately 5% over the coming five year period, and it is expected that replacement of the breakwater and widening of the entrance channel to the marina will

recruit additional larger vessel users. Even a modest daily increase in overnight stays during the summer season is anticipated to have a significant impact on the local economy, as well as the Port's bottom line.

Moreover, public improvements have significant ancillary benefits over time. The level of public use and vitality of the area can increase, and with that, the level of business activity in the area can also increase. Recently, the property immediately adjacent and to the west of the south jetty arm was redeveloped and is now home to the Northwest Maritime Center - a foundation dedicated to the preservation and promotion of traditional wooden boat heritage, culture and skills. The campus, completed in 2008, serves as a vibrant gathering place on Port Townsend's waterfront, providing educational programs for school-aged youth, continuing education for adults, and serving as host to a variety of events and classes produced by other organizations.

The City of Port Townsend also recently completed \$5.9 million in public improvements to the east end of Water Street in the immediate vicinity of Point Hudson. This "civic district" project enhances the walkability of the historic district, improves visual and physical access to the water, and helps to maintain Port Townsend's visitor-based economy. The proposed demolition and replacement of the Point Hudson Marina breakwater will complement these public and private investments and will further encourage private business activity and visitation to the area.

### **Project Approach**

The Port's Executive Director and Deputy Director, in close consultation with the Port of Port Townsend's Commission, will be responsible for project design and management. All required local, State, and federal permits will be obtained by the Port. The Port anticipates a team approach to project management, involving the staff, elected officials, policy advisors and community stakeholders listed below. Additional project team members may be added as needed.

- Commissioner - Serves as advocate for the project;
- Executive Director - Ensures adequate resources are available and tracks project status;
- Project Manager - Leads the planning and execution of the project, leads project team meetings; and
- Subject Matter Experts – To lend expertise and guidance as needed.

It is anticipated that the precise nature of the design may be modified slightly as engineering and bidding for this major capital project progresses. While change is both certain and required, it is acknowledged by the Port that any significant modifications to the project will impact at least one of three critical success factors: 1) available time; 2) available resources (financial, personnel), or 3) project quality. The project will be coordinated using the Port's adopted public works project management process.

## **Description of Work**

The work involves the demolition and removal of the north and south jetty arms, originally constructed in 1934 by the federal government, and replacement with a new jetty composed of both rubble mound (shoreward legs) and braced vertical steel pile (seaward legs) design. The existing breakwater was constructed by the federal government when the marina was originally developed as part of a quarantine station. During the Second World War, the marina and upland areas were made part of a U.S. Coast Guard Training Station.

A majority of the work will occur in-water, and water depths at the entrance channel to the marina typically exceed 15 feet at low tide. It is anticipated that demolition of the existing creosote impregnated timber and rubble breakwater will require land based and floating heavy equipment, including crawler cranes, hydraulic excavators, and pile drivers.

The existing jetty footprint encompasses approximately .33 acres. The combination rubble mound/braced steel pile jetty that replaces it will cover approximately the same, or perhaps a slightly smaller total area of the substrate. The precise character and scope of work that may disturb the substrate is unknown at the time of this writing. A biological assessment completed as part of the permitting precedent to the 2007 Marina Renovation Project suggests that a highly compacted sand layer exists approximately 0.8 to 2 feet below the mudline. Soil capacities must be ascertained to finalize the breakwater design, particularly along the 100' seaward leg of the north jetty, and the 129' seaward leg of the south jetty.

Because the project is in a preliminary phase, the precise scope and nature of project mitigation is unknown at this time. The nature of the work can be summarized as follows:

- Demolish and properly dispose of the entirety of the 258' long south and 284' north breakwaters (shoreward and seaward legs);
- Replace both breakwaters with new structures combining elements of rubble mound construction (shoreward legs of both north and south jetties) and braced vertical steel pile construction (seaward legs of both jetties); and
- Widen the entrance channel to the marina enabling larger vessels easier access to the facility.

## **Relationship to Other Federally Funded Projects**

The proposed breakwater replacement project for the Point Hudson Marina is wholly unrelated to any other Federally funded Port of Port Townsend projects that are planned, anticipated, or currently underway.

## **Cost Proration Methodology**

The proposed breakwater replacement project will benefit the marina as a whole, which includes slips/tie-ups for a total of 66 vessels. Of the 66 total slips/tie-ups available, 51 are reserved for use by transient recreational vessels. However, not all use of the 51 transient recreational slips/tie-ups is by nontrailerable vessels of 26' or longer. To clarify actual usage of the 51 slips/tie-ups, Port staff queried Point Hudson Marina moorage reservation records for the period July 1, 2012 to June 30, 2014 (24 months). Specifically, the Port examined its records

to determine what percentage of usage of the 51 slips/tie-ups reserved for transient recreational use within the marina was actually by transient, nontrailerable recreational vessels of 26' and longer. The Port's moorage reservation records show that 96% of the usage of the 51 transient recreational slips during the relevant time period was by transient, nontrailerable recreational vessels of 26' and longer.

Ninety-six percent (96%) of the 51 "potentially available" slips/tie-ups is 49 (i.e., 48.96, rounded). Thus, 49 of 66 total slips/tie-ups within the marina, or 74% (i.e.,  $49 \div 66 = 74.24\%$ ), are eligible for Boating Infrastructure Grant funding. The total estimated breakwater replacement cost is \$3,831,000. Seventy-four percent (74.24%) of the total estimated project cost is \$2,834,940 (\$2,844,134 if 74.24% is used; i.e., "eligible" project costs). The federal funding request is for \$1,440,645 plus the 4.12% indirect rate from Washington State, totalling \$1,500,000, or 50.65% of "eligible" project costs.

## Budget Narrative

Sponsor: Port of Port Townsend  
 State: Washington  
 Indirect Cost Rate: 4.12%  
 Project Name: Point Hudson Jetty Replacement  
 Project Number: 14-1588  
 Date: 3-Nov-14

Item	Costs
Construction	\$2,288,448.00
Cultural Resources	\$7,424.00
Permits	\$74,240.00
A&E	\$474,022.00
Subtotal	\$2,844,134.00
Indirect Costs	\$117,179.00
TOTAL	\$2,961,313.00
Federal Share	\$1,500,000.00
% Federal Share	50.65%

BIG Share of Indirect Cost	\$59,355.00
State Share of Indirect Cost	\$57,824.00
Sponsor share of project costs	\$1,403,489.00
	2,961,313.00
	0.00

grant	indirect	total
\$1,440,645.00 big	59,355.00	\$1,500,000.00
\$1,403,489.00 match	57,824.00	\$1,461,313.00
\$2,844,134.00	\$117,179.00	\$2,961,313.00



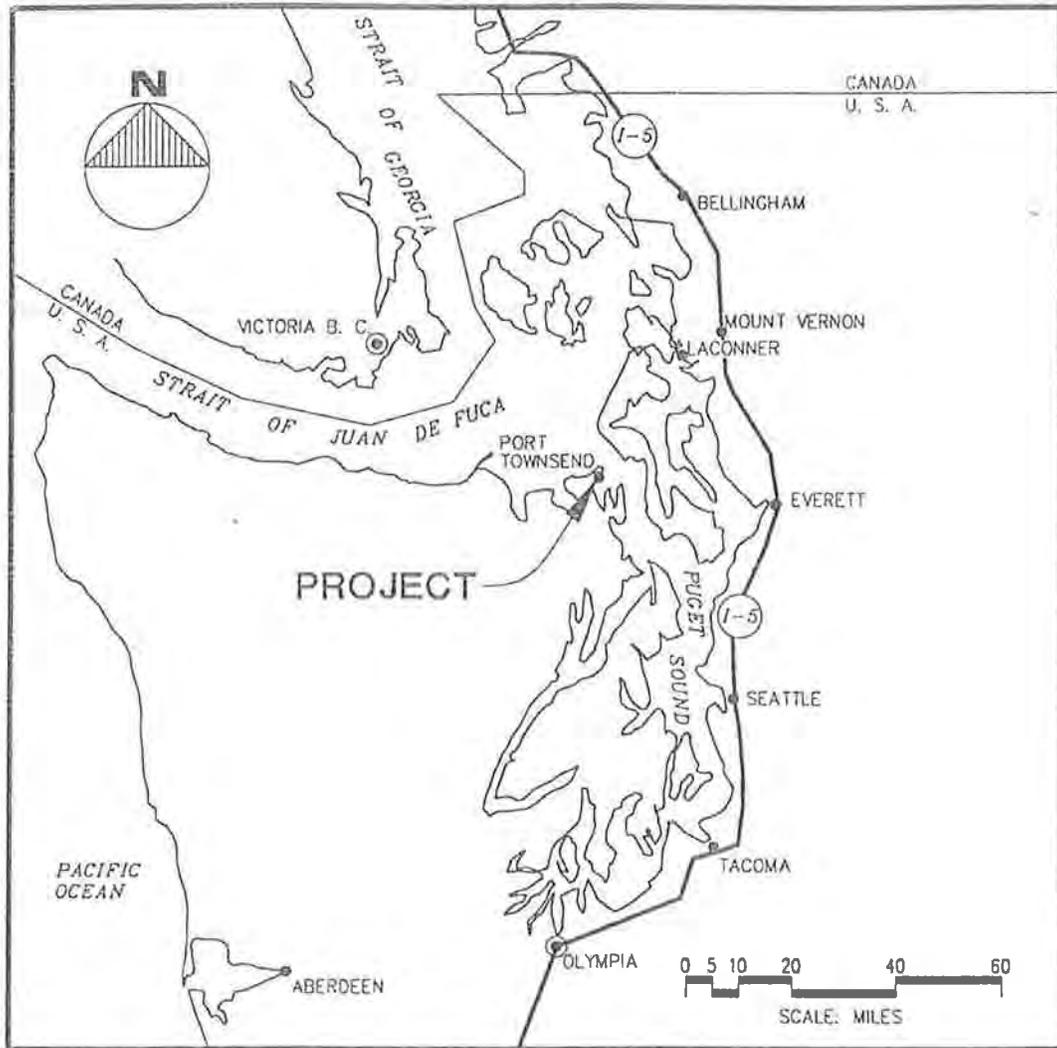
AUGUST 27, 2011

**Port Townsend Port of; Point Hudson Jetty Replacement (#14-1588)**

**Attachment #187336, TIFF - AUG 27 2011 POINT HUDSON (30 X 40) WITH DATE (3)**

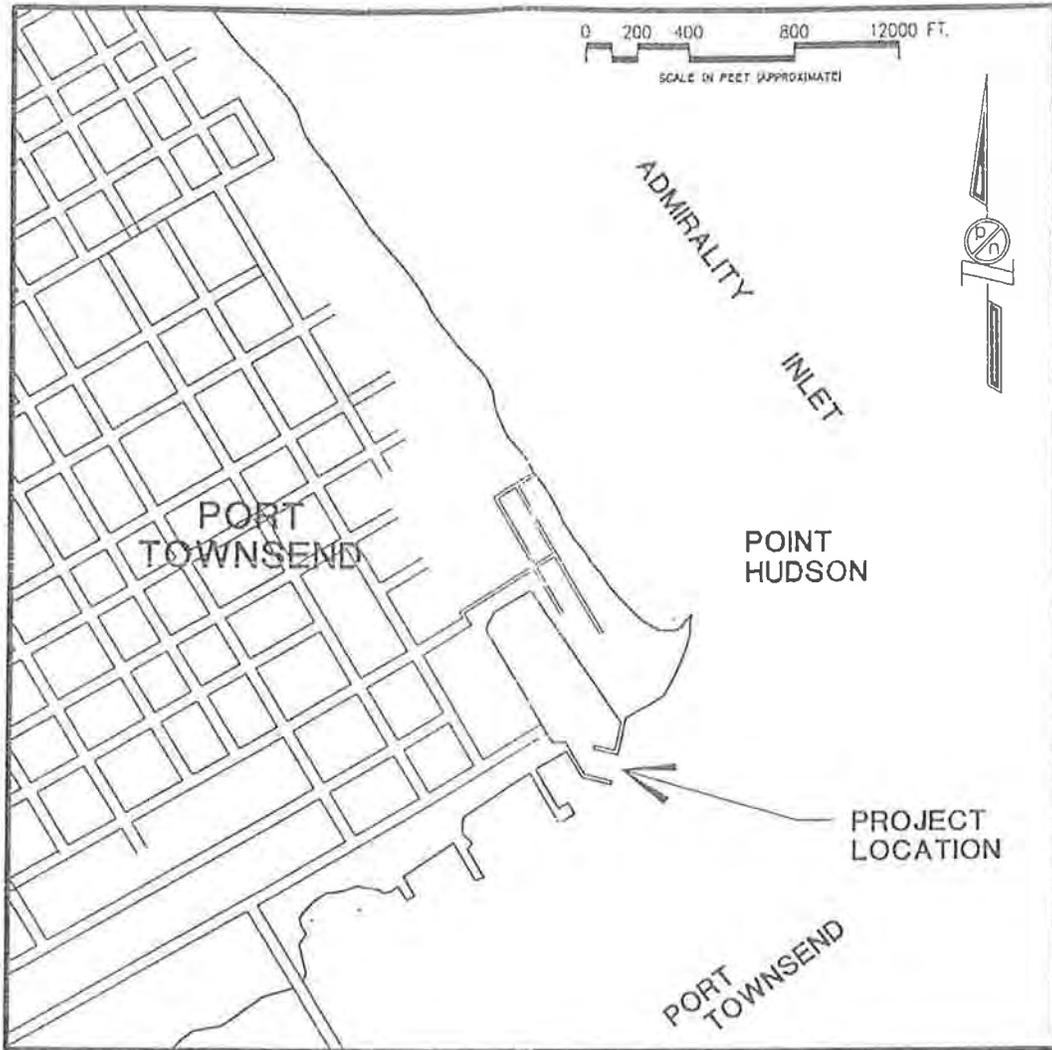
**BIG APPLICATION ATTACHMENT "H":**

**MAP: REGIONAL LOCATION**



**BIG APPLICATION ATTACHMENT "I":**

**MAP: SITE LOCATION**



**BIG APPLICATION ATTACHMENT “L”:  
SITE PLAN - DEVELOPMENT SITE PLAN  
Protecting the Marina – Options  
(p. 43 from April 26, 2014 Feasibility Assessment)**

# Protecting the Marina - Options

## Mudline EL 3.5, 129'

Vert. Pile Wall (\$6.5k/ft)  
Braced Pile Wall (\$6.5k/ft)  
Closed Cell (\$6.5k/ft)  
Rubble Mound (\$4.8k/ft)  
Exterior Soldier  
Pile(\$8.8k/ft)

## Mudline EL -13, 129'

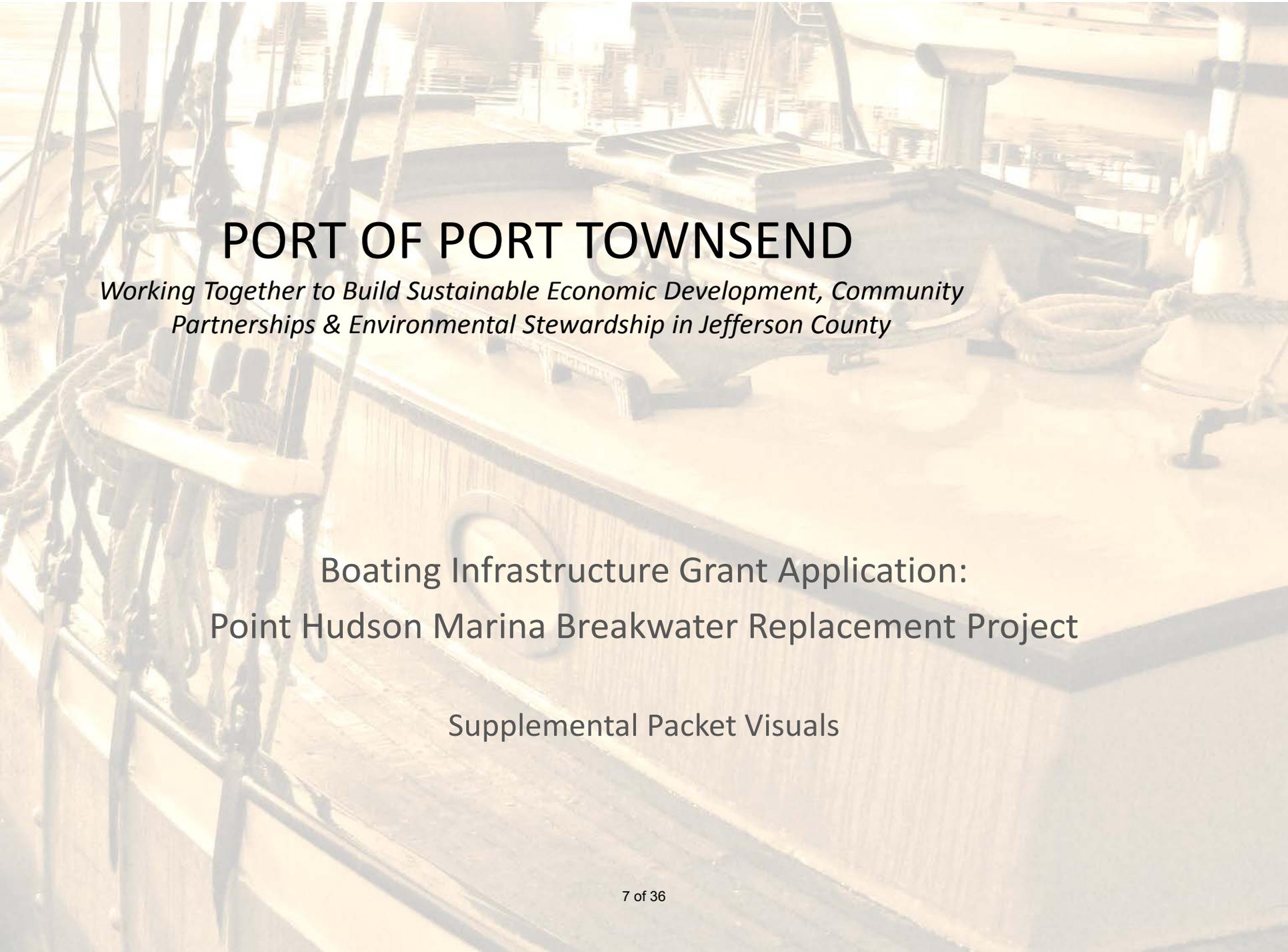
Closed Cell (\$8.3k/ft)  
Braced Pile Wall (\$6.9k/ft)

## Mudline EL -7, 100'

Vert Pile Wall (\$6.9k/ft)  
Braced Pile Wall (\$6.9k/ft)  
Closed Cell (\$8.3k/ft)  
Exterior Soldier Pile (\$10k/ft)

## Mudline EL -1, 184'

Vertical Pile (\$6.5k/ft)  
Closed Cell (\$6.5k/ft)  
Rubble Mound (\$4.8k/ft)  
Vert Pile Wall (\$6.5k/ft)



# PORT OF PORT TOWNSEND

*Working Together to Build Sustainable Economic Development, Community Partnerships & Environmental Stewardship in Jefferson County*

Boating Infrastructure Grant Application:  
Point Hudson Marina Breakwater Replacement Project

Supplemental Packet Visuals

# Project Location: Port Townsend, Jefferson County, Washington



Project Location: Northeast Jefferson County  
*“Where the Strait of Juan de Fuca Meets Puget Sound”*



## Project Location: Port Townsend

### *“Washington’s Victorian Seaport & Arts Community”*

- The county seat of Jefferson County, founded in 1851
- Population 10,000
- Located 40 miles northwest of Seattle
- Renowned for its beautiful setting, rich history, wealth of Victorian buildings, numerous cultural events, and myriad recreational opportunities



# The Setting

Winter view (looking northwest) from Whidbey Island across Admiralty Inlet to Port Townsend and the Olympic Mountain Range



# The Setting

Winter sunrise (looking southeast) across Port Townsend Bay, with Marrowstone Island in the background



# The Setting

Sailboats against the dramatic backdrop of Port Townsend's  
National Register Historic District



# The Setting: *“One of America’s Coolest Small Towns”* (MSNBC & FOX News)

Pedestrians enjoying Port Townsend’s vibrant and walkable downtown historic district



# The Setting: *“One of America’s Coolest Small Towns”* (MSNBC & FOX News)

Historic Haller Fountain steps – downtown Port Townsend



© Copyright John Evans/On-Scenic-Routes.com

The Setting: *“Endowed with some of the West’s major Victorian architectural resources”* (National Trust for Historic Preservation)

James & Hastings Building (1889) – Water & Tyler Streets



© Copyright John Evans/On-Scenic-Routes.com

# What attracts visitors to Port Townsend?

Uptown Farmer's Market – Saturdays, April through October



# Port Townsend Visitor Attractions

## Uptown Farmer's Market



# Attractions - Arts & Cultural Events

Annual Port Townsend Film Festival – Outdoor Movie, Taylor Street



# Attractions - Arts & Cultural Events

Annual Blues Festival, Fort Worden State Park - one of many such events held in Port Townsend



# Attractions – Arts & Cultural Events

## Uptown Street Parade & Fair



# Prominent Destinations

North Beach at Fort Worden State Park with  
Point Wilson and the North Cascades Mountains in the distance



# Prominent Destinations – Further Afield

Olympic National Park: the view from Hurricane Ridge Visitors' Center



# Prominent Destinations – Further Afield

Annual Swiftsure Sailboat Race – Strait of Juan de Fuca  
between Port Townsend and Victoria, B.C.



# Prominent Destinations – Further Afield

Inner Harbour, Victoria, B.C., Canada – a half day's sail from Port Townsend



# What the Breakwater Project Protects - the Point Hudson Marina

Anchoring the East end of Port Townsend's waterfront – this historic facility is a key attraction for transient recreational boaters in the region



# What the Breakwater Project Protects - the Point Hudson Marina

A typical summer day at the marina, with the breakwater in the distance



# What the Breakwater Project Protects - the Point Hudson Marina

A packed marina during the annual Wooden Boat Festival



# What the Breakwater Project Protects - the Point Hudson Marina

An uncharacteristically calm winter's morning, with the vulnerable south breakwater arm and Mount Rainier in the distance



# What the Breakwater Project Protects - the Point Hudson Marina

Autumn afternoon, with a portion of the south breakwater arm on the left, and historic Coast Guard Station buildings in the distance



# What the Breakwater Project Protects

## *“An Unparalleled On-the-Water Recreational Experience”*

The “Adventuress” on Port Townsend Bay - Point Hudson Marina immediately behind



# What the Breakwater Project Protects

## *“An Unparalleled On-the-Water Recreational Experience”*

The “Lady Washington” on Port Townsend Bay off Point Hudson,  
Mt. Rainier looms in the distance



# What the Breakwater Project Protects

*“A renowned center of traditional wooden boat culture”*

A “Junk” off Point Hudson during the Wooden Boat Festival



# What the Breakwater Project Protects

*“A renowned center of traditional wooden boat culture”*

Point Hudson Marina reflections during the annual Wooden Boat Festival



# In a Community That Depends Upon its Waterborne Connections

Washington State Ferry “Kitsap” arriving in Port Townsend



# The Point Hudson Marina Jetty Breakwater Project: Critical for the Economic Health of the Community

View of Point Hudson Marina – looking west, with breakwater to the left, Northwest Maritime Center Building middle left, and downtown Port Townsend in the distance



# Port of Port Townsend

Point Hudson Marina Jetty Replacement Project

RCO grant # 14-1588 dev



<u>Activities and Points of Interest in Port Townsend</u>	<u>Distance from Project</u>	<u>How to get there</u>
Northwest Maritime Center	less than ¼ mile	Walk
Jefferson County Historical Museum	less than ¼ mile	Walk
Pope Marine Park & Waterfront Walk	less than ¼ mile	Walk
Port Townsend National Register Historic District	less than ¼ mile	Walk
Puget Sound Express (Whale Watching-Friday Harbor Ferry)	less than 100 yards	Walk
Chief Chetzemoka Park & Beach	less than ½ mile	Walk
Uptown Civic District	less than 1 mile	Walk
Port Townsend Farmers' Market	less than 1 mile	Walk/Bus
Rothschild House State Park	less than 1 mile	Walk
Fort Worden State Park & Conference Center	less than 2.5 miles	Bus/Cab/Walk
Port Townsend Marine Science Center		
McCurdy Pavilion		
Joe Wheeler Theater		
Coast Artillery Museum		
Commanding Officer's House		
Centrum		
Madrona Mind & Body		
Point Wilson Light House		
North Beach County Park	less than 3 miles	Bicycle/Cab
Cappy's Trails System	less than 3 miles	Bicycle
Larry Scott Memorial Trail	less than 3 miles	Bicycle
Kah Tai Lagoon Nature Park (wildlife viewing)	less than 3 miles	Bicycle/Bus/Cab

# Port of Port Townsend

Point Hudson Marina Jetty Replacement Project

RCO grant # 14-1588 dev

Pg. 2

<b>Tourist Attractions in the Vicinity of Port Townsend</b>	<b>Distance from Project</b>	<b>How to get there</b>
Fort Townsend State Park Cab	less than 6 miles	Bicycle/Bus/
Fort Flagler State Park or	less than 5 miles	via Dinghy,
Cab	less than 20 miles	Bicycle/Bus/
Fort Casey State Park Ferry	less than 8 miles	Walk/State
Indian Island County Park (walking/wildlife viewing) Cab	less than 12 miles	Bicycle/Bus/
Olympic National Forest (hiking/mountain biking)	less than 15 miles	Bicycle
Olympic National Park – Hurricane Ridge Visitor’s Center Bicycle	less than 55 miles	Bus, then

<b>Amenities &amp; Boater Services</b>	<b>Distance from Project</b>	<b>How to get there</b>
Hotels/Motels/B&Bs/Guest Houses (25+) Bicycle/Cab	within 2 miles	Walk/Bus/
Restaurants (20+)	within 1 mile	Walk
Marine Mechanics	within 100 yards	Walk
Marine Store/Chandlery (2)	within 100 yards	Walk

<b>Area Marinas</b>	<b>Distance from Project</b>	<b>How to get there</b>
Boat Haven (permanent moorage)	2 nautical miles	Boat
Port Hadlock	9 nautical miles	Boat
Port Ludlow	19 nautical miles	Boat
John Wayne	29 nautical miles	Boat
Friday Harbor, San Juan Island	30 nautical miles	Boat
Victoria, B.C. (Inner Harbour)	35 nautical miles	Boat
Edmonds	37 nautical miles	Boat
Anacortes	40 nautical miles	Boat
Bell Street (Seattle)	42 nautical miles	Boat

# PORT OF PORT TOWNSEND



## Point Hudson Marina Entrance Breakwater Feasibility Assessment

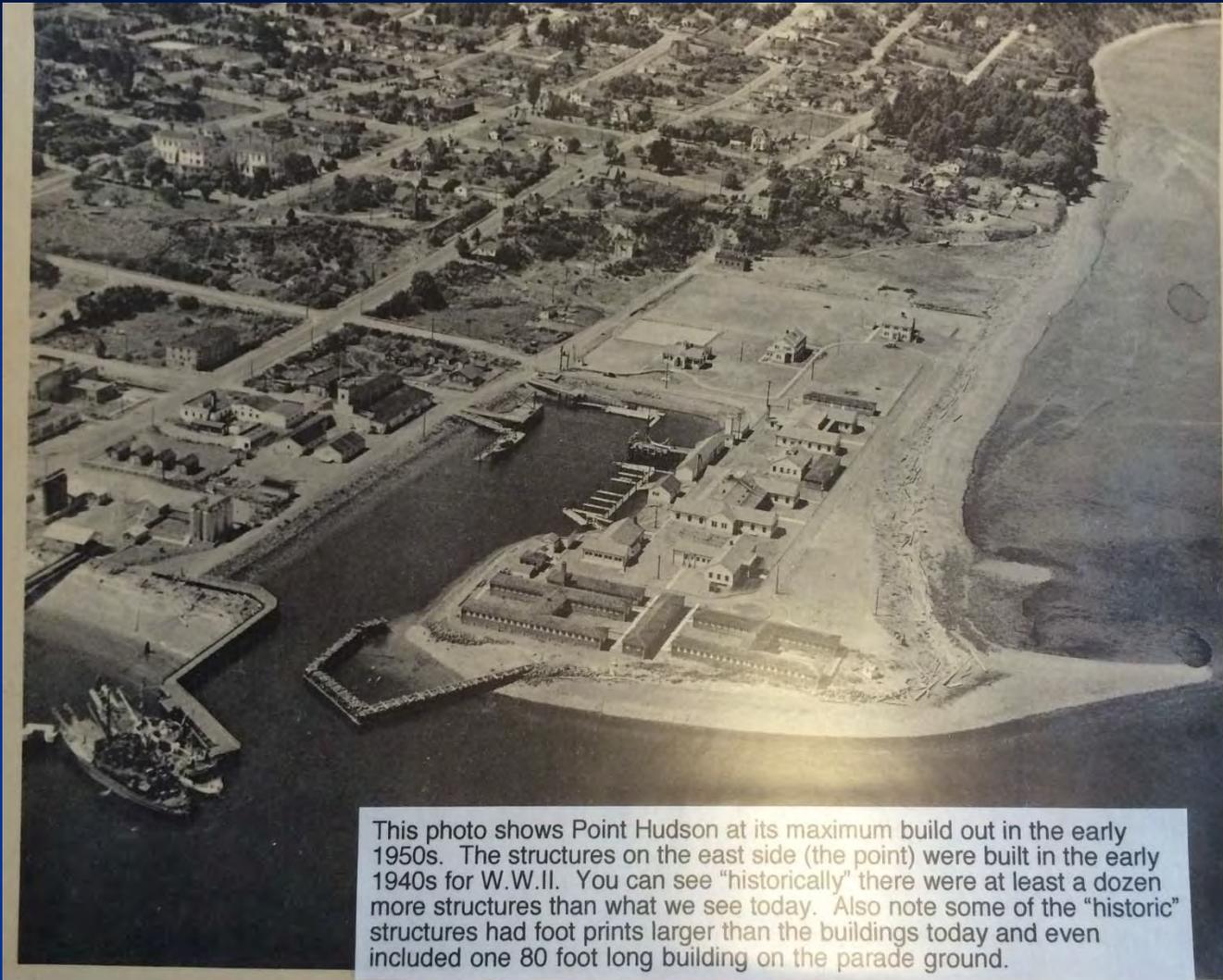


# Outline

---

- Breakwater History
  - Facility
  - Materials
- Breakwater Condition
- Analysis
- Protecting the Marina – Options

# Breakwater History



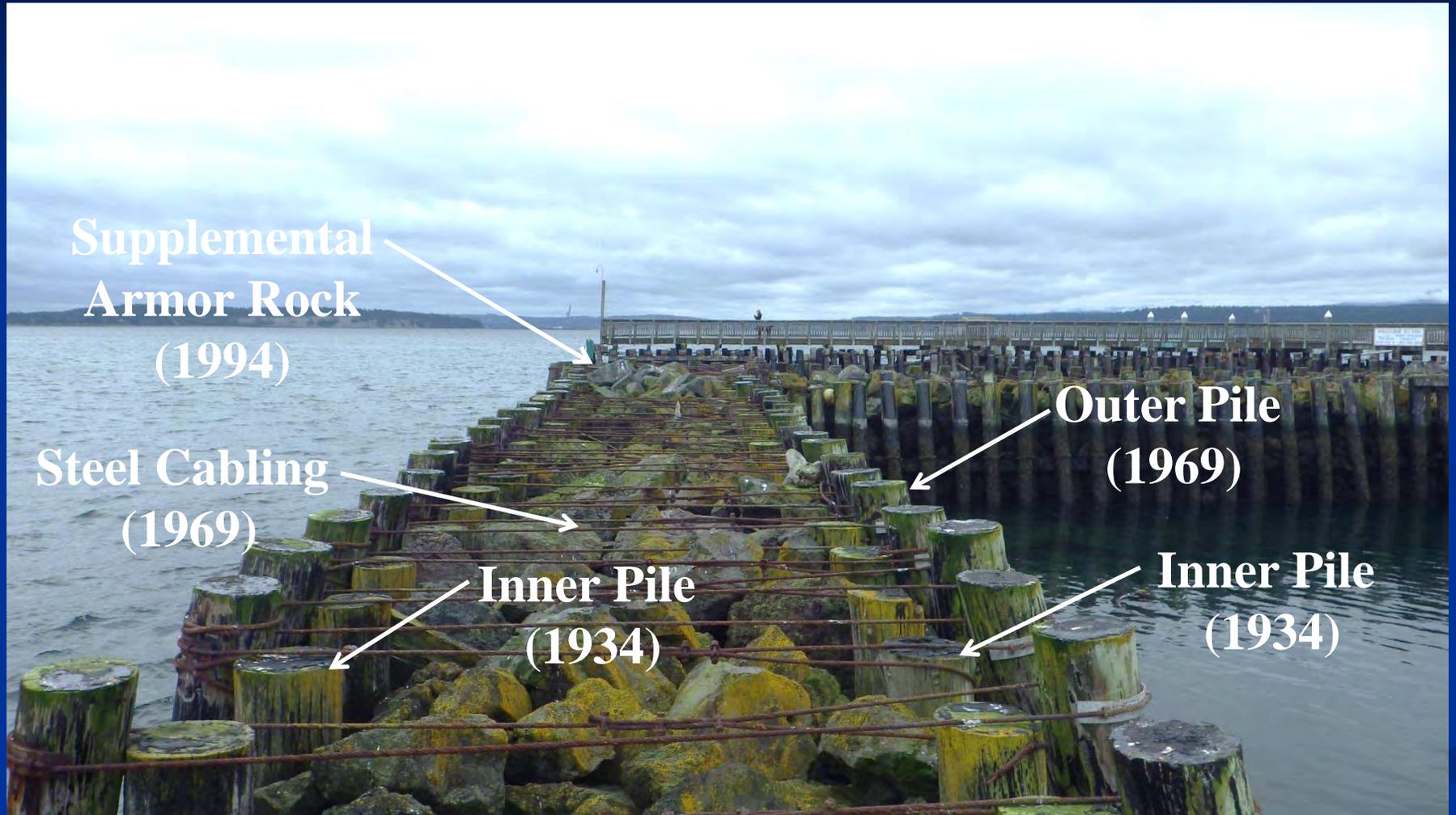
This photo shows Point Hudson at its maximum build out in the early 1950s. The structures on the east side (the point) were built in the early 1940s for W.W.II. You can see "historically" there were at least a dozen more structures than what we see today. Also note some of the "historic" structures had foot prints larger than the buildings today and even included one 80 foot long building on the parade ground.

# Breakwater History - Facility

---

- Original 1934 Construction by Military
  - Creosote Treated Timber Piling
  - Creosote Treated Timber Walers (2 to 3 Rows)
  - Armor Rock
  - Steel Cable Tiebacks
- Major Rehabilitation in 1969
  - Conversion from Pier/Breakwater to Breakwater
  - New Outer Piles
  - New Center Cables Tied to Existing Piles
- Retrofit in 1996 - End 60' of S. Breakwater, Bend & End 12' of N. Breakwater
  - New ACZA Treated Timber Piling
  - Steel Cable Wrapped Around New Piling
  - Supplemental Armor Rock

# Breakwater History - Facility



# Breakwater History - Materials

---

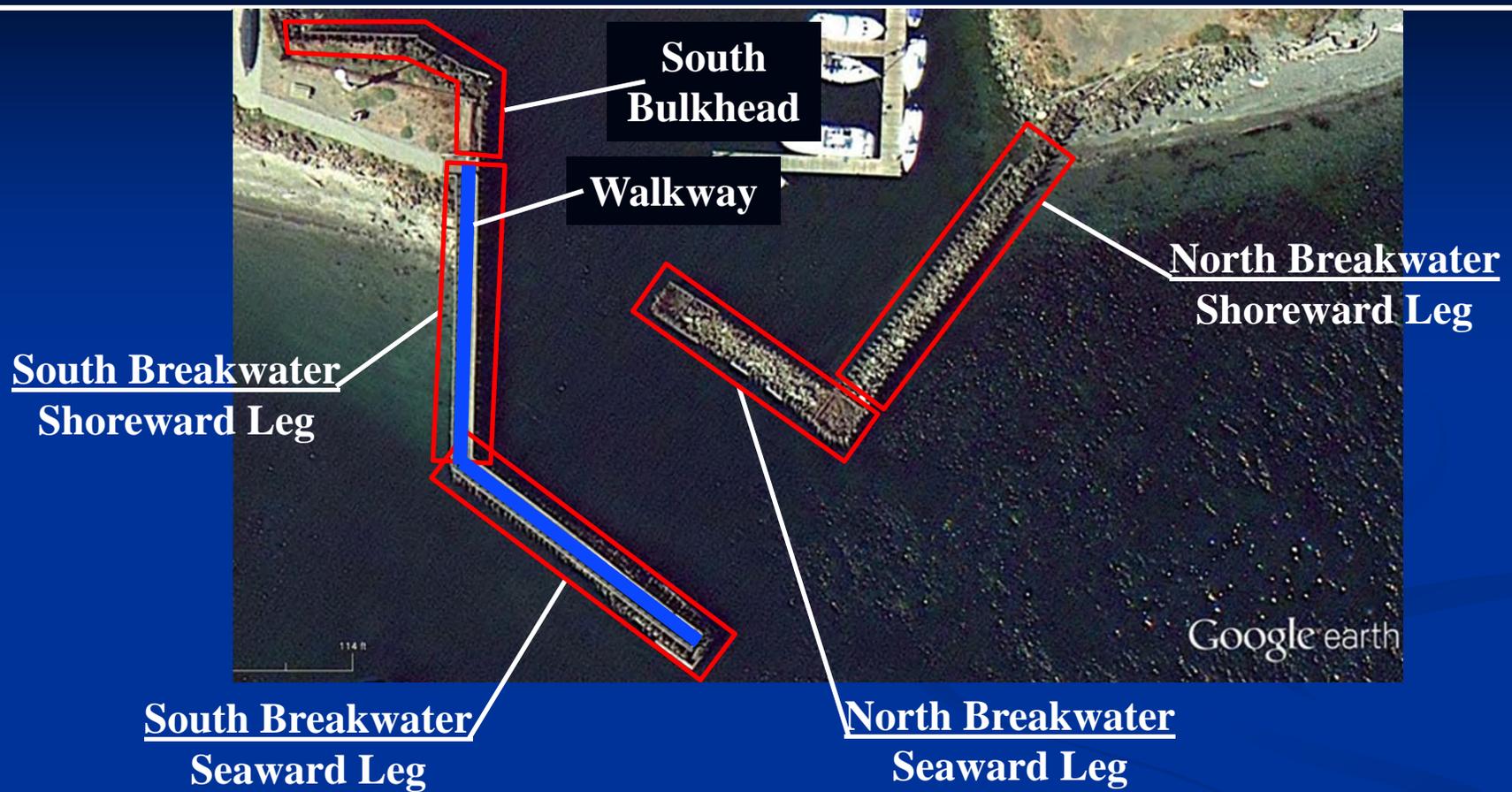
- Original Creosote Treated Timber Piling
  - Typical Life Expectancy of 35 to 80 Years
  - Excellent Quality Lumber
- Original Creosote Treated Timber Walers
  - Typical Life Expectancy of 35 to 50 Years
- Galvanized Steel Cable Tiebacks
  - Galvanizing Has Typical Life Expectancy of 20 - 30 Years in Marine Environments, Then Rapid Deterioration Begins
- ACZA Treated Timber Piling
  - Typical Life Expectancy Much Less Than Creosote Treated Timber Piling, Typically 20 to 35 Years
- Armor Rock
  - Marine Basalt – Low Quality. Typical Life Expectancy of 20 to 40 Years

# Outline

---

- Breakwater History
- Breakwater Condition (Based on 2014 Site Visit)
  - System Components (Breakwater & Walkway)
  - Piles
  - Walers
  - Steel Cable Tiebacks
  - Armor Rock
  - S Breakwater End, Walkway
  - Conclusion
- Analysis
- Protecting the Marina - Options

# Breakwater Condition – System Components



# Breakwater Condition – Breakwater Components



**Top Cable (1969)**

**Outer Pile (1969)**

**Upper Waler  
(1934)**

**Center Cable  
(1969)**

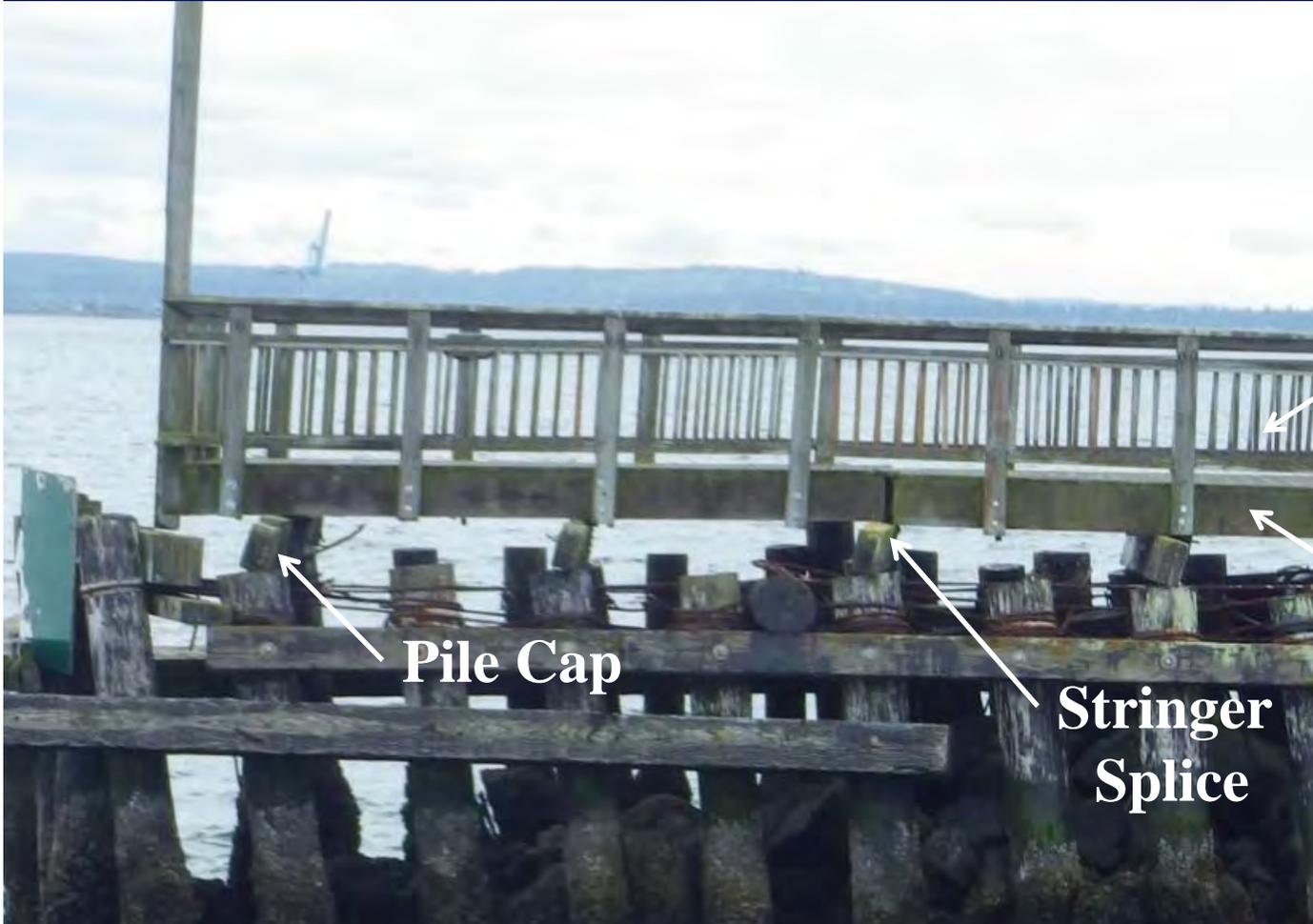
**Armor Rock  
(1934)**

**Inner Pile (1934)**

**Lower Waler  
(1934) (Not  
Visible) <sup>9</sup>**

# Breakwater Condition – Walkway Components

---



**Walkway**

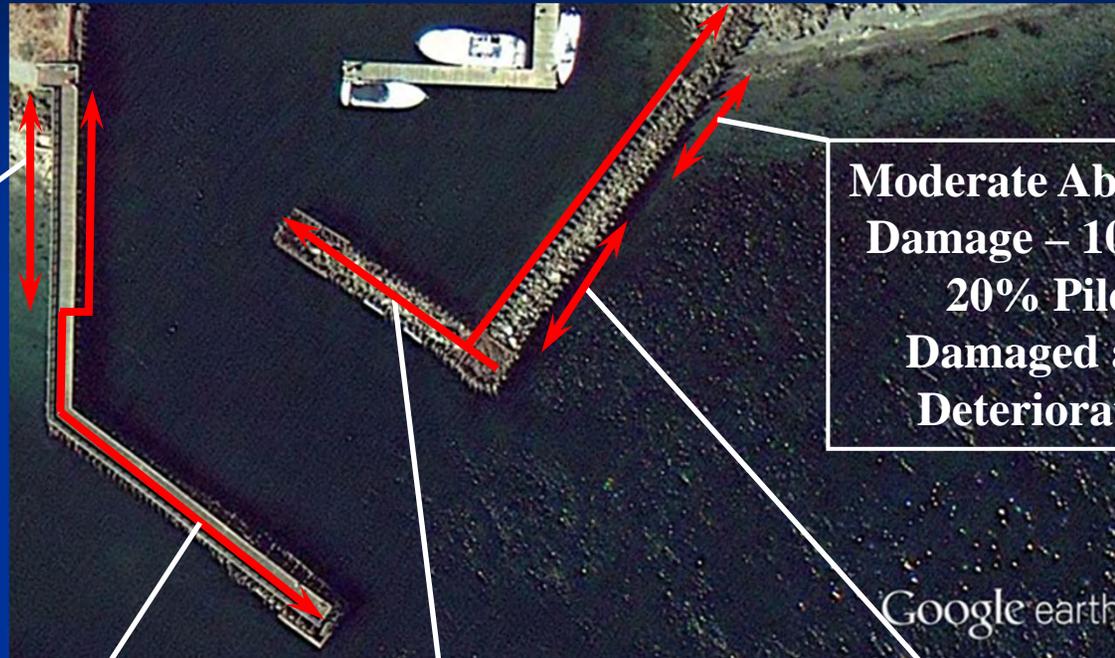
**Stringer**

**Pile Cap**

**Stringer  
Splice**



# Breakwater Condition – Outer Piles



**Moderate to Severe  
Abrasion Damage  
20% to 30% Piles  
Damaged and  
Deteriorated**

**Moderate Abrasion  
Damage – 10% to  
20% Piles  
Damaged and  
Deteriorated**

**10% to 20% of Piles  
Sounded Somewhat  
Hollow, Exposed  
Side Worse than  
Sheltered Side**

**10% to 20% of Piles  
Sounded Somewhat  
Hollow, Exposed Side  
Worse than Sheltered  
Side**

**Severe Marine  
Borer Attack ,  
20% to 30% Piles  
Damaged and  
Deteriorated**

# Breakwater Condition – Outer Piles

- Varying Levels of Deterioration Depending on Exposure, Damage
- Likely Shallow Embedment – Highly Compacted Sand Layer 0.8ft to 2ft Below Mudline (Landau Biological Assessment/Evaluation, September 2005)
- Piles Beyond Useful Service Life



**Piles in Poor Condition**



**Piles in Fair Condition**

# Breakwater Condition – Outer Piles

- Marine Borer Attack
- Varying Levels of Deterioration
- Decay Where Creosote Treatment Penetrated by Bolts, Thru Rods



**Inner Pile  
(1934) :  
Decay at  
Penetration**

**Outer Pile  
(1969):  
Marine  
Borer  
Attack**

# Breakwater Condition – Outer Piles

- Abrasion  
Penetrated  
Creosote  
Protective  
Treatment,  
Subsequent  
Decay/Marine  
Borer Attack



**Inner Pile  
(1934)  
Abraded &  
Decayed**

**Outer Pile (1969)  
Abraded, Decaying  
(Hollow Sounding)**

# Current Condition – Upper & Lower Walers



**Walers Completely Deteriorated – Minimal Load Carrying Capacity**

**Walers Completely Deteriorated – Minimal Load Carrying Capacity**

# Current Condition – Upper & Lower Walers

- Highly Deteriorated – Minimal Capacity
- Minimal Contribution to Structure Stability – Decreased System Capacity
- Loss of Stone Confinement
- Walers Beyond Useful Service Life



**Deteriorated  
Waler**

**Loss of  
Armor Rock**

# Current Condition – Steel Cable Tiebacks



**10% Cables Severed,  
Remainder  
Deteriorated, Areas  
Exposed to Wave Splash  
Worst**

**10% to 20% of Cables  
Severed, Remainder  
Deteriorated, or  
Highly Deteriorated**

**5% to 10% of  
Cables Severed,  
Remainder  
Deteriorated**

# Breakwater Condition – Steel Cable Tiebacks

- Pile Top – Cables Wrapped Around Pile Tops to Provided Lateral Support
- Intermediate – Cables Wrapped Between New and Old Piling – 90%+ Missing, Remainder Highly Deteriorated



# Breakwater Condition – Steel Cable Tiebacks

- Level of Deterioration Difficult to Determine Visually
- Caked on Rust
- Cable End Examined, Estimated <10% Capacity Remaining
- Cable Beyond Useful Service Life



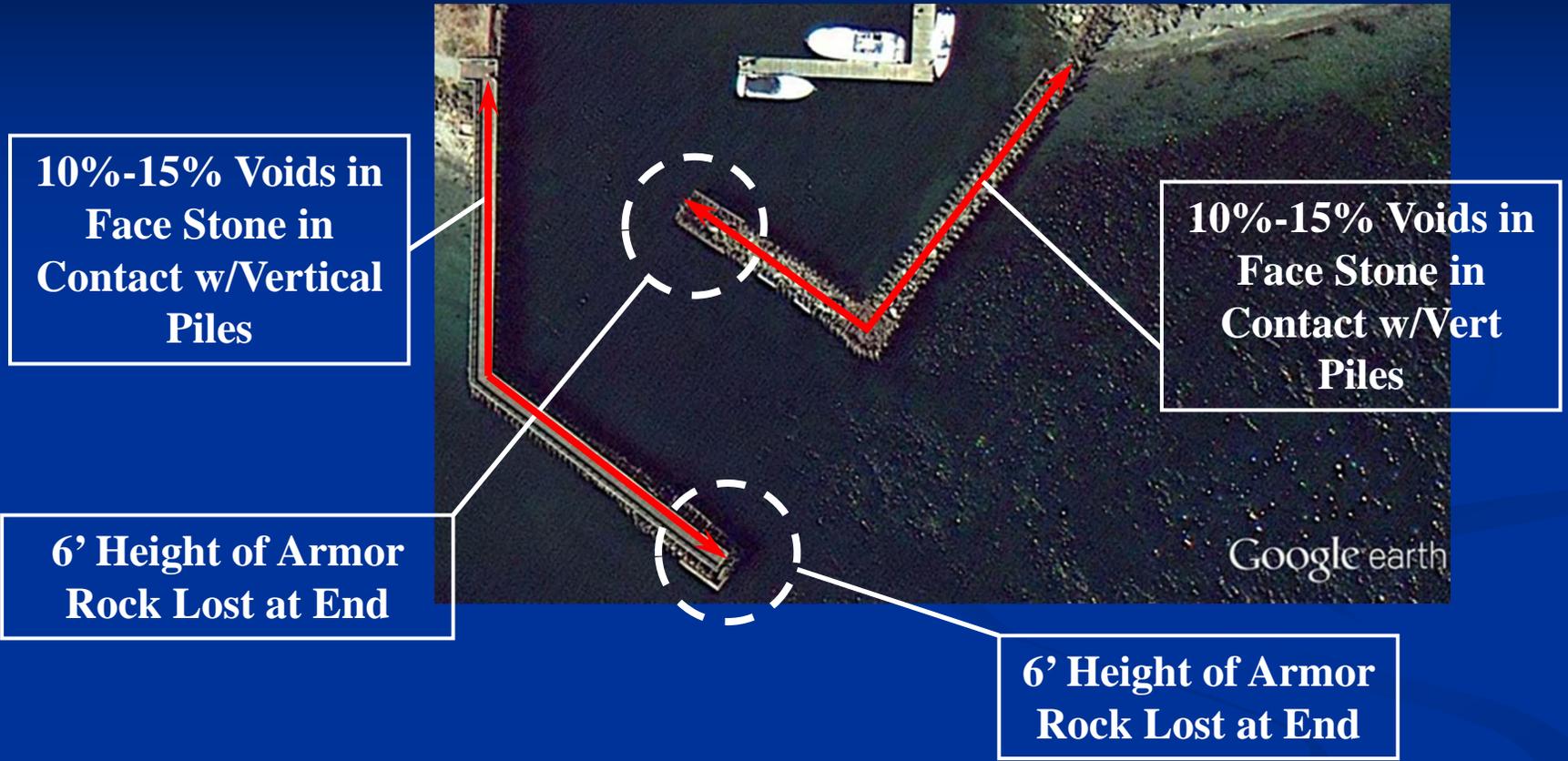
# Breakwater Condition – Steel Cable Tiebacks

---

- Supplementary Armor Piled on Cables – Potentially Causing Damage



# Current Condition – Armor Rock



# Current Condition – Armor Rock

---

- Appears to be Matts Matts Sourced Marine Basalt – Low Quality Stone
- Highly Fractured
- >50% of Stone in Deteriorated to Highly Deteriorated State



# Breakwater Condition – Armor Rock

- Armor Rock Spalls to 12" x 12" x 8" Pieces, Which are Being Pulled From Between Piles by Wave Action
- Loss of Water Results in Decreased Confinement of Armor Rock



# Breakwater Condition – Armor Rock

- Substantial Armor Rock Loss at Venerable Breakwater Ends – Approx. 6' Height of Material Lost
- 10% to 15% Voids in Face Stone in Contact With Vert. Pile
- Armor Rock Beyond Useful Service Life



# Breakwater Condition – Outer Piles

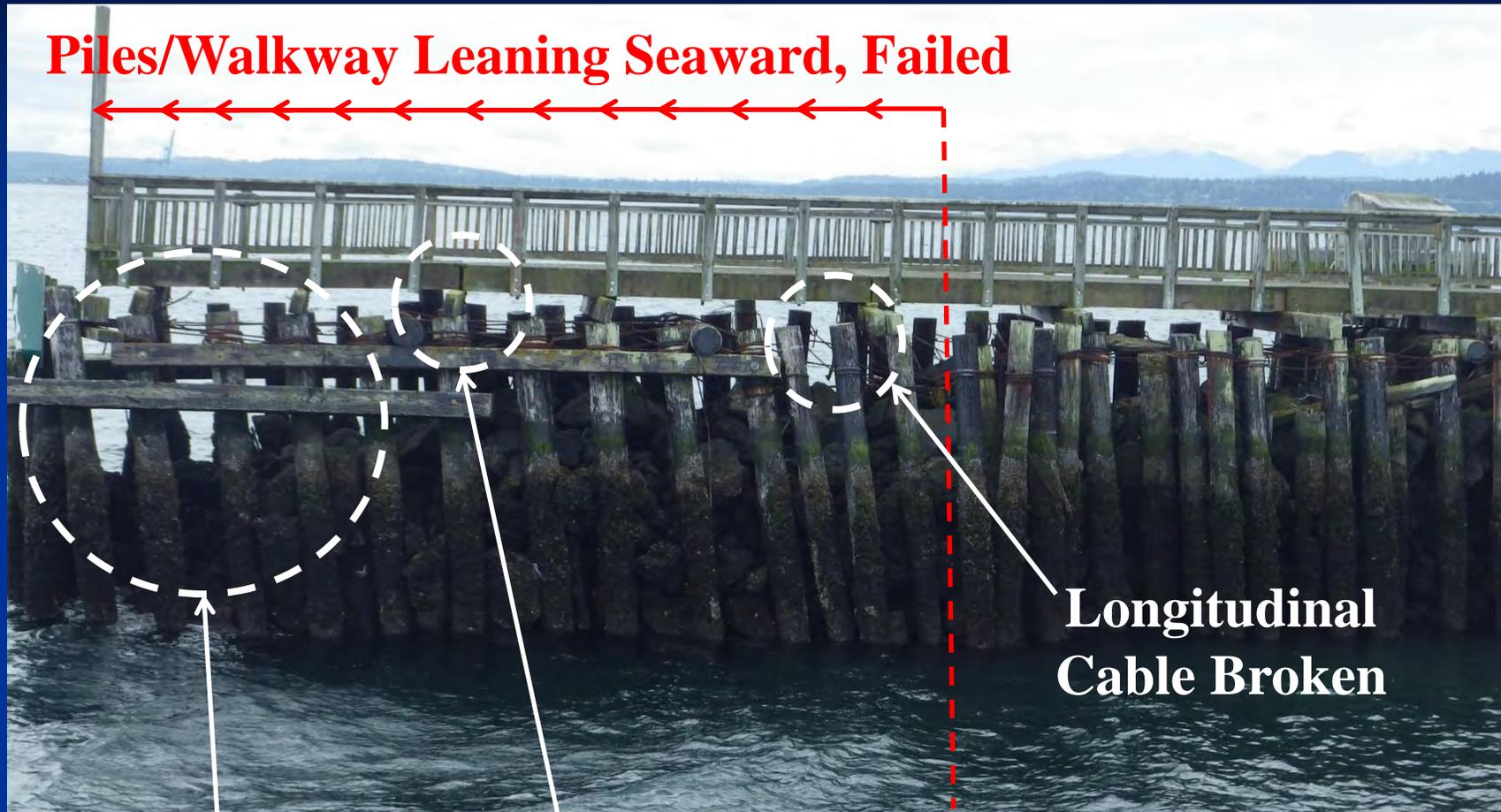
- Barge Impact Shows Consequences of Lost Pile: Armor Rock Falling Through Hole Gap in Piles Created by Pile Failure



**Impact-Damaged Pile**

**Loss of Armor Rock**

# Breakwater Condition – S. Breakwater End, Walkway



**Piles/Walkway Leaning Seaward, Failed**

**Longitudinal Cable Broken**

**Lost Stone**

**Stringer Nearly Unseated, Pile Cap Rotated**

# Breakwater Condition – S. Breakwater End, Walkway

---

**Bent Shear  
Pin**



**Pile Cap**



**Rail Recently  
Modified for Lean**

# Breakwater Condition – S. Breakwater End

---

- Breakwater End Under Walkway Failing – Maintenance Staff Needs to Closely Monitor Condition.
- Further Failure/Shifting May be Grounds For Closure of Approx. 60' End Portion.
- Port Maintenance to Monitor Pile Caps, Stringer Splices for any Change in Condition.

# Breakwater Condition – Assessment Summary

---

- Piles: Near End of Useful Life, Abrasion Damage, Marine Borer Attack Damage, Decaying
- Walers: Highly Deteriorated, No Longer Functional
- Steel Cable Tiebacks: Deteriorated to Highly Deteriorated, Some Already Failed, At End of Useful Life.
- Armor Rock: At Age of Increasing Deterioration Rate, Beyond Useful Service Life
- Overall Structural System: Substantially Less Stable than Original Construction, Higher Stresses
- S. Breakwater End: Walkway Stringer Nearly Unseated, Entire 60' End Portion Failed, Leaning Seaward
- Walkway: End 60' Near End of Useful Life, Needs Monitoring. Remainder in Good/Moderate Condition

# Breakwater Condition – Assessment Summary

---

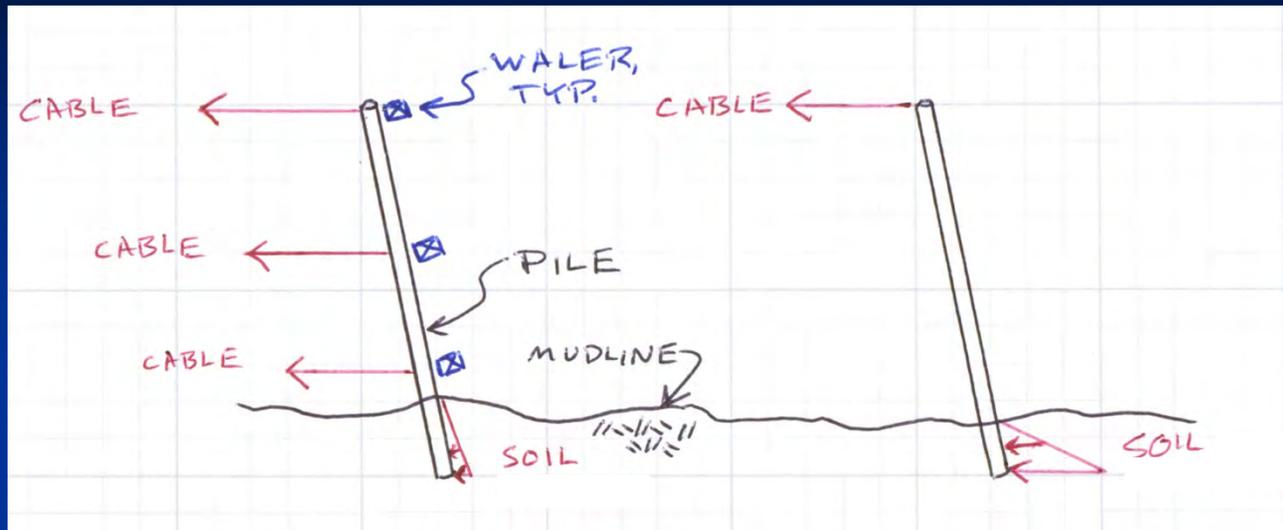
- Maintenance/Repair of Existing Structure is not a Viable Alternative for Intermediate to Long Term Solution
- Major Rehabilitation/Replacement Will Be Required

# Outline

---

- Breakwater History
- Breakwater Condition (Based on 2014 Site Visit)
- Analysis
  - Overall Structural System
- Protecting the Marina - Options

# Analysis – Overall Structural System



## Original Construction

- Series of Cables Minimized Pile Stresses
- Minimal Reliance on Soil Capacity
- Minimal Reliance on Pile Capacity and Soil Capacity

## Current Condition

- Only Top Cable Remaining
- Top Cable is Deteriorated – Reduced Capacity
- Stability Heavily Reliant on Pile Capacity and Soil Capacity

# Breakwater Condition – Analysis Summary

---

- System Capacity Significantly Reduced due to Deterioration. System Degradation Leading to Increased Pile Loading
- Outer Pile Load Demand Increased Significantly due to
  - Failed Walers (2 Rows)
  - Failed Thru-Rods (2 Rows)
- Outer Piles are Deteriorated Relative to New Condition – Resulting in Reduced Capacity
- Conclusion: Replacement/Rehabilitation Recommended

# Outline

---

- Breakwater History
- Breakwater Condition (Based on 2014 Site Visit)
- Analysis
- **Protecting the Marina**
  - Breakwater Replacement Options

# Breakwater Structure Type Alternatives

---

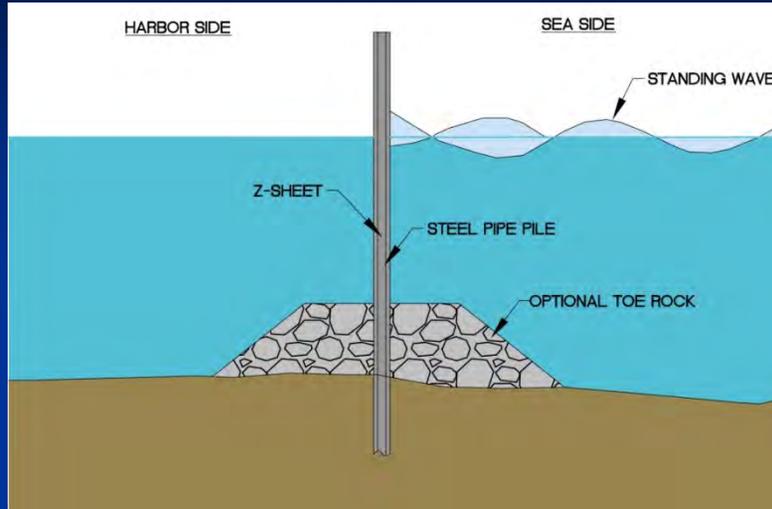
- Alternatives for Marina Protection
  - Vertical Pile Barrier
  - Braced Vertical Pile Barrier
  - Closed Cell Wall
  - Rubblemound
  - Exterior Soldier Pile

# Considerations for Structure Type Selection

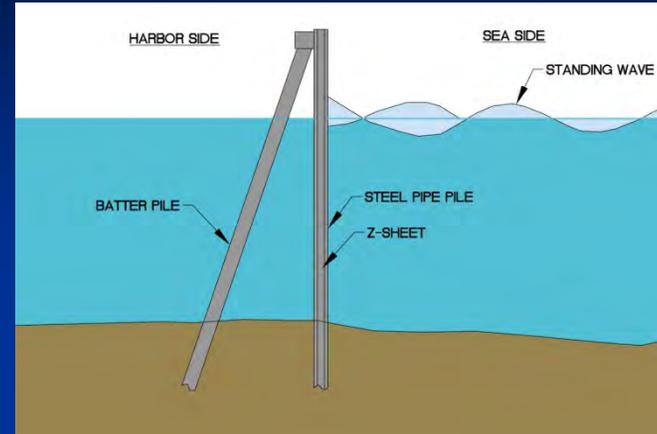
---

- Habitat – Eelgrass, Forage Fish
- Wave Reflection at entrance
- Wave Protection of Boat Basin
- Nearshore Sediment Processes
- Entrance Channel Width Requirement
- Structure Height (bottom elevation)
- Public Access Requirement
- Regulatory Requirements
- Construction Cost
- Maintenance

# Protecting the Marina - Options



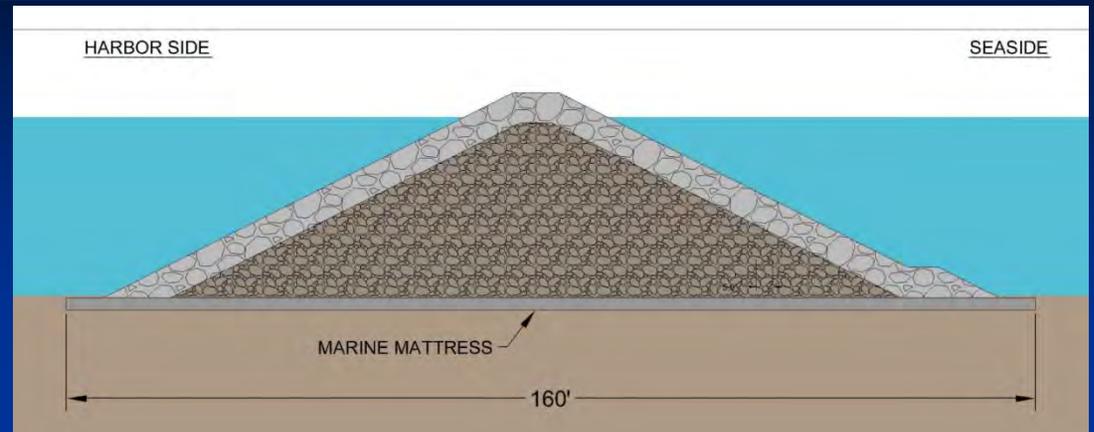
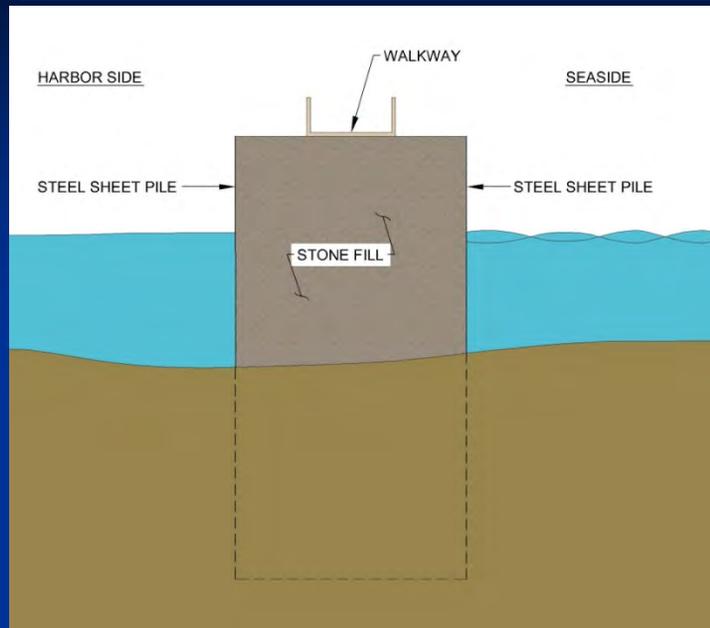
VERTICAL PILE (VP) BREAKWATER



BRACED PILE (BP) BREAKWATER



# Protecting the Marina - Options

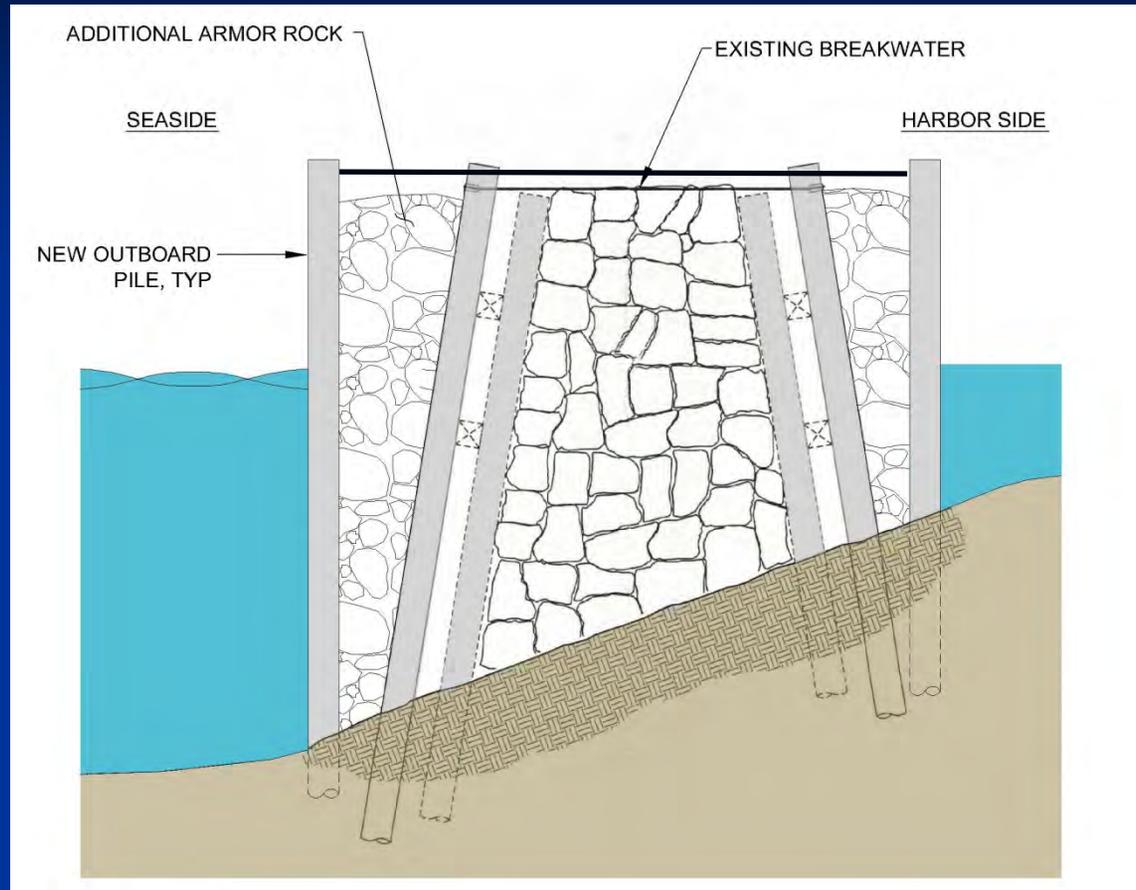


**CLOSED CELL (CC) BREAKWATER**



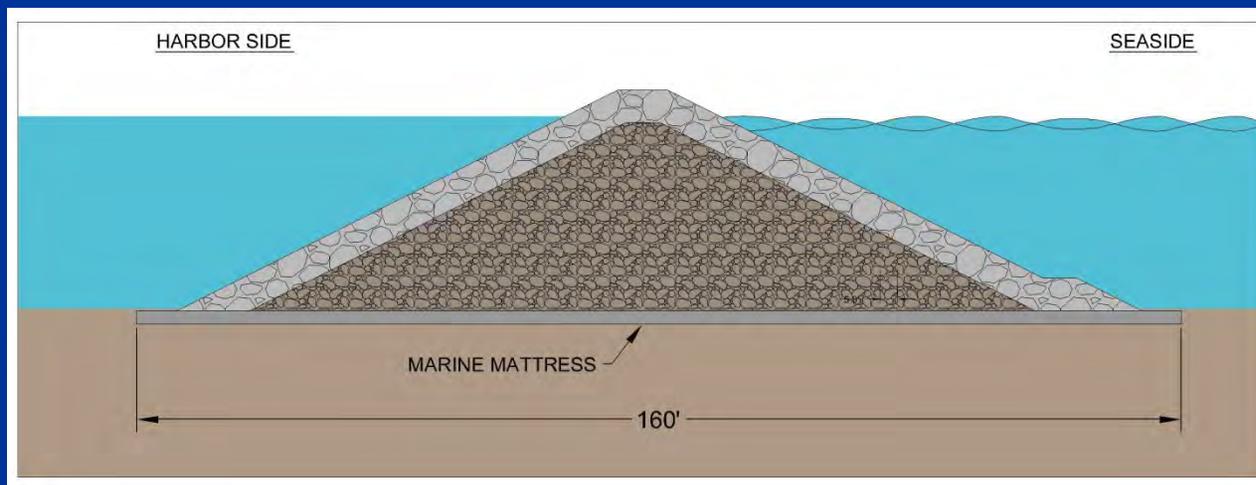
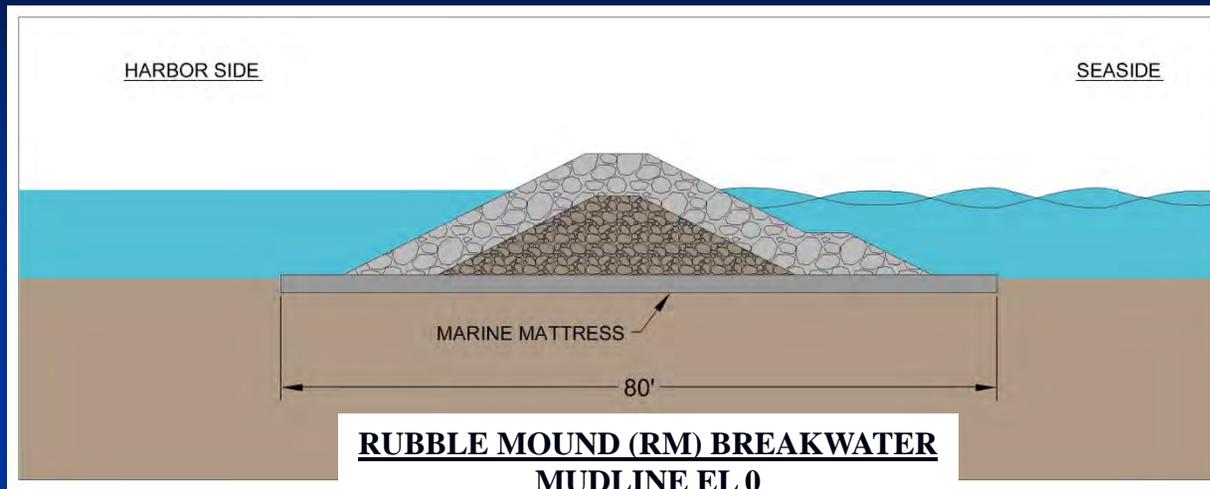
**RUBBLE MOUND (RM) BREAKWATER**

# Protecting the Marina - Options



EXTERIOR SOLDIER PILE

# Protecting the Marina - Options



Footprint too large  
~ Not Feasible for  
seaward  
breakwater leg

# Breakwater Alternatives Matrix

## South Breakwater

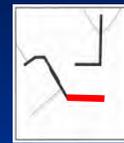
## North Breakwater

Shore

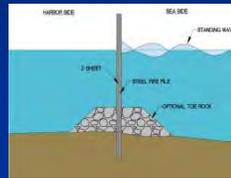
Seaward

Shore

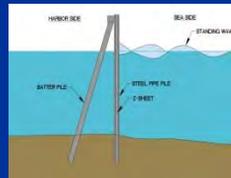
Seaward



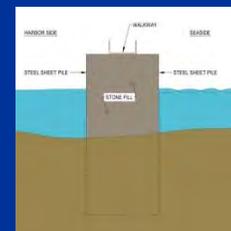
Vertical Pile  
(VP)



Braced Pile  
(BP)



Closed Cell  
(CC)



Rubblemound  
(RM)



Exterior Soldier  
Pile (ESP)



# Pre-Feasibility Evaluation

---

- Evaluation Conducted Relative to the following:
  - Structural
  - Construction Cost
    - Material, Installation, Mobilization, etc...
  - Previous Similar Project Experience
    - Recent Puget Sound Areas Breakwater/Jetty Construction
  - Depths (Total Height of Structure)
    - Bottom Elevations
      - 0' MLLW, -5' MLLW, -10' MLLW, -20' MLLW
- Purpose:
  - Determine Range of Feasible Concepts and range of cost for project planning
  - Evaluation of breakwater configuration not conducted in this phase; next phase coastal engineering analysis to evaluate new configuration

# Protecting the Marina - Options

## Mudline EL 3.5, 129'

Vert. Pile Wall (\$6.5k/ft)  
Braced Pile Wall (\$6.5k/ft)  
Closed Cell (\$6.5k/ft)  
Rubble Mound (\$4.8k/ft)  
Exterior Soldier  
Pile(\$8.8k/ft)

## Mudline EL -13, 129'

Closed Cell (\$8.3k/ft)  
Braced Pile Wall (\$6.9k/ft)

## Mudline EL -7, 100'

Vert Pile Wall (\$6.9k/ft)  
Braced Pile Wall (\$6.9k/ft)  
Closed Cell (\$8.3k/ft)  
Exterior Soldier Pile (\$10k/ft)

## Mudline EL -1, 184'

Vertical Pile (\$6.5k/ft)  
Closed Cell (\$6.5k/ft)  
Rubble Mound (\$4.8k/ft)  
Vert Pile Wall (\$6.5k/ft)

# Order of Magnitude Upper Bound Cost Estimate

<u>Vertical Pile Wall</u>	Mudline	\$/LF		<u>Includes</u>
<u>Braced Pile Wall</u>	EL 0	\$	6,500.00	Demolition/Disposal
	EL -5	\$	6,700.00	New Materials
	EL -10	\$	6,900.00	Installation
	EL -20	\$	7,300.00	Mob/Demob (6%)
<u>Exterior Soldier Pile</u>	Mudline	\$/LF		Sales Tax (8.4%)
	EL 0	\$	8,800.00	Contingency (15%)
	EL -5	\$	9,400.00	
	EL -10	\$	10,000.00	
	EL -20	\$	11,100.00	<u>Excludes</u>
<u>Rubble Mound</u>	Mudline	\$/LF		Engineering Fees
	EL 0	\$	4,800.00	Permitting Assistance
	EL -5	\$	6,800.00	Construction Administration
	EL -10	\$	9,200.00	Walkway Construction
	EL -20	\$	16,000.00	South Bulkhead
<u>Closed Cell</u>	Mudline	\$/LF		
	EL 0	\$	6,500.00	
	EL -5	\$	7,400.00	
	EL -10	\$	8,300.00	
	EL -20	\$	10,000.00	

# Order of Magnitude Cost Estimate

	Segment	Length [ft]	Potential System	Mudline [EL, MLLW]	Low Cost \$/ft	High Cost \$/ft	Low Cost	High Cost
N. Breakwater								
	Shore Leg	184	VP, BP, CC, RM	-1	4.8	6.5	\$ 880,000	\$ 1,200,000
	Seaward Leg	100	VP, BP, CC, ESP	-7	6.9	10	\$ 690,000	\$ 1,000,000
S. Breakwater								
	Shore Leg	129	VP, BP, CC, RM, ESP	3.5	4.8	8.8	\$ 620,000	\$ 1,140,000
	Seaward Leg	129	BP, CC	-13	6.9	8.3	\$ 890,000	\$ 1,070,000
	VP - Vertical Pile Wall					Total	\$ 3,080,000	\$ 4,410,000
	BP – Braced Pile Wall							
	CC- Closed Cell							
	RM - Rubble Mound							
	ESP – Exterior Soldier Pile							

# Cost Evaluation Summary

---

- Estimated Construction Cost - Breakwater
  - \$3.25 Million to \$4.75 million
- Engineering, Data Collection, Permitting
  - Typically 15%
- Walkway?
  - To be determined

# Next Steps

---

- Data Collection
  - Survey (Upland & Hydrographic)
  - Geotechnical borings
- Final Alternatives Evaluation
  - Coastal Engineering Analysis
    - Refine Entrance Channel & Breakwater Configuration
      - Reduce Construction Costs & Increase Entrance Safety & Maneuverability for Larger Vessels
  - Structural Engineering Analysis – Refine Design Concepts
    - Refine structure type, size, alignment
- Preliminary Engineering
  - Analysis, Design & Cost Estimates
- Permit Application Documents

# Other Considerations

---

- Grant Funding
  - WA DNR - Creosote Treated Timber Pile Removal Program
  - RCO – Overwater Public Access Walkway
  - RCO – Breakwater for Marina Protection

# PORT OF PORT TOWNSEND



## Point Hudson Marina Entrance Breakwater Feasibility Assessment



## Evaluation Criteria Responses

1. **Partnerships (15 points)**: At this stage in the breakwater project process, the Port has yet to secure definitive funding commitments from other partners that can be documented. However, the Port is continuing to working to form partnerships with the following entities:

- **Washington State Department of Natural Resources (DNR)**: The Port is involved in active discussions with the DNR to determine if funding support may be available for the removal and disposal of the 400-500 creosote impregnated pilings comprised within the existing, obsolete, breakwater structure. Because the breakwaters lie principally upon tidelands owned by the DNR and subject to a 30-year Port Management Agreement (PMA) which is anticipated to be renewed for a further 30-year term, the Port hopes to obtain funding support through DNR's Creosote Removal Program during the demolition and disposal phase of the proposed project.
- **Community Economic Revitalization Board (CERB)**: The jetty project is critically important to maintaining and sustaining the economic vitality of Port Townsend's Commercial Historic District and the Point Hudson Marina. The Port continues to explore the potential for either grant funding support, or loan assistance, for this infrastructure project.

The Port recognizes the importance of seeking funding partnerships. However, in the event that support is not secured, the Port nevertheless intends to proceed with this critically important project.

2. **Innovative Techniques (15 points)**: While it is currently contemplated that the replacement breakwater will be comprised of both rubble mound (shoreward legs) and braced vertical steel pile (seaward legs) elements, the Port is keeping its options open for emerging technologies that are the most environmentally sound and cost-effective at the time of construction. The construction materials and techniques that are currently being considered for this project are both advanced and considerably more environmentally benign than the current breakwater configuration. For instance, the present breakwaters (584 linear feet of exterior creosote impregnated piles/walers and rubble with numerous voids) offer habitat for a number of predator fish species that feed on juvenile salmon populations in nearshore waters. While the anticipated design of the replacement jetties will likely include rubble mound elements (313 linear feet) with some voids, the seaward legs of the breakwater (271 linear feet) will be of braced vertical steel sheet piles, considerably reducing habitat available to salmonid predators (46% less than the present jetty).

The removal of the existing 400-500 creosote impregnated pilings and construction of a jetty comprised entirely of rock and steel, demonstrates the Port's commitment to selecting materials that will not leach harmful chemicals into adjacent marine waters. Additionally, the use of braced steel sheet pilings for the seaward legs of the new jetty will reduce the footprint of the facility on the marine substrate, while having the ancillary benefit of providing a wider entrance channel that enables larger vessels to access to the harbor.

**3. Non-Federal Match (15 points):** As noted previously in this application, the estimated total project cost is \$3,831,000. After prorating ineligible project costs, the Port has concluded that 74.24% of this, or \$2,844,134, is eligible for Boating Infrastructure Grant aid. The Port is requesting \$1,455,000 in federal support, or 51.16% of eligible costs, and 37.98% of total project costs. Thus, the project would fall within the 36-49% range (48.84% of eligible costs to be borne by the Port) for non-federal match contributions, qualifying for 10 points.

**4. Cost Efficiency (10 points):**

A. The jetty replacement project is highly cost efficient, in that it seeks to maintain the public's investment in a marina with 66 tie-ups/slips, 51 of which are dedicated to transient recreational vessel use. Port moorage reservation records for the period July 1, 2012 to June 30, 2014 indicate that 96% of the usage of the 51 slips/tie-ups dedicated to transient recreational use was by nontrailerable vessels of 26' and longer. The Port presently returns more than \$200,000 per year in revenue from transient boaters, and estimates that some 30,000 boaters use the Point Hudson Marina annually (i.e., 3 boater per vessel). In 2007, the Port completed a \$2.9 million dollar renovation to the facility, replacing all piles, docks, finger slips, gangways and viewing platforms. The proposed project seeks to protect this significant public investment, and ensure that the marina remains one of the principal harbors on north Puget Sound serving transient recreational boaters.

B. As noted elsewhere in this submittal, the marina is presently configured to accommodate a total of 66 slips/tie-ups. Of this total, 51, or 77%, are reserved for transient recreational use. The Port's moorage reservation records show that 96% of the usage of the 51 transient recreational slips during the period July 1, 2012 to June 30, 2014 was by transient, nontrailerable recreational vessels of 26' and longer. This translates to 49 slips (i.e.,  $51 \times 96\% = 48.96$ , rounded to 49 (74.24% of the 66 total slips within the marina). The request for funding support is \$1,455,000. Thus, the federal cost share per new or renovated slip is \$29,693.88 (i.e.,  $\$1,455,000 \div 49$  (eligible for funding slips)).

**5. Link to Prominent Destination (10 points):** The proposed breakwater replacement project helps to maintain the long-term viability of one of the only marinas on north Puget Sound available for transient recreational boaters. Point Hudson Marina is located 42 nautical miles from Seattle, and is frequently used as a safe haven for sailors departing the more sheltered waters of the Sound en route to the Strait of Juan de Fuca, Vancouver Island, and the San Juan and Gulf Islands.

**6. Opportunities of National, Regional or Local Significance (15 points):** The Point Hudson Marina lies in the heart of Port Townsend's National Register Historic District. The National Trust for Historic Preservation has concluded that Port Townsend "*contains some of the West's major Victorian architectural resources*" and has stated that "*few communities with which the West Coast Office of the National Trust has worked are endowed with such fine late 19<sup>th</sup> century complexes of buildings.*" The city (8,925 in population) attracts over one million visitors a year who seek to enjoy its historic charm, arts and cultural events, and stunning natural setting. In addition to these unique offerings, the city is also an acknowledged center for independent boat-builders and related maritime industries and crafts.

Point Hudson itself was the location where Captain George Vancouver first made landfall on Puget Sound in May of 1792. The white clapboard buildings of Point Hudson were constructed in 1934 as part of a depression era public works project intended to serve as a quarantine station for the United States Customs. These structures are historic in their own right, and could potentially be listed as a separate historic district based upon the importance of the U.S. Customs operation, and later, the United States Coast Guard, to the establishment and growth of Washington's "Key City."

Another opportunity for visitation that has considerable historic value is Fort Worden State Park, approximately 3 minutes from Point Hudson via car, and roughly a 15-20 minute walk. Along with forts Casey and Flagler, Fort Worden was among three coastal artillery installations established in the late 1890s to protect the entrance to Puget Sound. Completed in 1907, the 330 acre post was obsolete by the end of World War I. Between the two world wars, staff at the fort was reduced and the community focus was on the paper mill across town. An active training base during World War II, Fort Worden was deactivated in 1953 and became a State Park in 1973. Most of the original wooden structures of the fort continue to exist to this day, as do all of the gun emplacements on Artillery Hill. Centrum, a non-profit organization for the arts, hosts a wide array of artistic and cultural events at the fort each year, drawing hundreds of thousands of visitors annually.

Finally, Point Hudson lies approximately 45 minutes to 1 hour via car from the wide array of active recreational opportunities available in Olympic National Park and Forest.

**7. Economic Impacts to Community (5 points):** The City of Port Townsend is at the center of Jefferson County's maritime economy, which (in relation to population) remains one of the most important in the State of Washington. At the Point Hudson Marina, 51 transient recreation slips generated \$220,103 in 2013, up from \$190,836 in 2011, an increase of more than 15%. The Port estimates that Point Hudson hosts 30,000 guest nights per year, each spending approximately \$58.00 per day while in town. Thus, transient boaters using the Point Hudson Marina generate approximately \$1,740,000 in revenue within the local economy annually. (Sources: City of Port Townsend; Jefferson County Economic Development Council (2007)).

Based on recent trends, the Port estimates that revenues for Point Hudson transient moorage will increase by approximately 5% over the coming five year period, and it is expected that replacement of the breakwater and widening of the entrance channel to the marina will recruit additional larger vessel users. Even a modest daily increase in overnight stays during the summer season is anticipated to have a significant impact on the local economy, as well as the Port's bottom line.

Moreover, public improvements have significant ancillary benefits over time. The level of public use and vitality of the area can increase, and with that, the level of business activity in the area can also increase. Recently, the property immediately adjacent and to the west of the south jetty arm was redeveloped and is now home to the Northwest Maritime Center - a foundation dedicated to the preservation and promotion of traditional wooden boat heritage, culture and skills. The campus, completed in 2008, serves as a vibrant gathering place on Port Townsend's waterfront, providing educational programs for school-aged youth, continuing

education for adults, and serving as host to a variety of events and classes produced by other organizations.

The City of Port Townsend also recently completed \$5.9 million in public improvements to the east end of Water Street in the immediate vicinity of Point Hudson. This “civic district” project enhances the walkability of the historic district, improves visual and physical access to the water, and helps to maintain Port Townsend’s visitor-based economy. The proposed breakwater replacement project is crucially important to protecting the long-term economic viability of Point Hudson, an anchor of Port Townsend’s commercial historic district. It will also complement the public and private investments highlighted above, and further encourage private business activity and visitation to the area.

**8. Multi-State Efforts (5 points):** As currently envisaged, the project will not be part of a multi-state effort. However, it should be noted that numerous boaters from the southern mainland of British Columbia as well as Vancouver Island use this key marina facility, and opportunities may exist to collaborate with our Canadian friends.

# Port of Port Townsend

Point Hudson Marina Jetty Replacement Project

RCO grant # 14-1588 dev



<u>Activities and Points of Interest in Port Townsend</u>	<u>Distance from Project</u>	<u>How to get there</u>
Northwest Maritime Center	less than ¼ mile	Walk
Jefferson County Historical Museum	less than ¼ mile	Walk
Pope Marine Park & Waterfront Walk	less than ¼ mile	Walk
Port Townsend National Register Historic District	less than ¼ mile	Walk
Puget Sound Express (Whale Watching-Friday Harbor Ferry)	less than 100 yards	Walk
Chief Chetzemoka Park & Beach	less than ½ mile	Walk
Uptown Civic District	less than 1 mile	Walk
Port Townsend Farmers' Market	less than 1 mile	Walk/Bus
Rothschild House State Park	less than 1 mile	Walk
Fort Worden State Park & Conference Center	less than 2.5 miles	Bus/Cab/Walk
Port Townsend Marine Science Center		
McCurdy Pavilion		
Joe Wheeler Theater		
Coast Artillery Museum		
Commanding Officer's House		
Centrum		
Madrona Mind & Body		
Point Wilson Light House		
North Beach County Park	less than 3 miles	Bicycle/Cab
Cappy's Trails System	less than 3 miles	Bicycle
Larry Scott Memorial Trail	less than 3 miles	Bicycle
Kah Tai Lagoon Nature Park (wildlife viewing)	less than 3 miles	Bicycle/Bus/Cab

# Port of Port Townsend

Point Hudson Marina Jetty Replacement Project

RCO grant # 14-1588 dev

Pg. 2

<b>Tourist Attractions in the Vicinity of Port Townsend</b>	<b>Distance from Project</b>	<b>How to get there</b>
Fort Townsend State Park Cab	less than 6 miles	Bicycle/Bus/
Fort Flagler State Park or	less than 5 miles	via Dinghy,
Cab	less than 20 miles	Bicycle/Bus/
Fort Casey State Park Ferry	less than 8 miles	Walk/State
Indian Island County Park (walking/wildlife viewing) Cab	less than 12 miles	Bicycle/Bus/
Olympic National Forest (hiking/mountain biking)	less than 15 miles	Bicycle
Olympic National Park – Hurricane Ridge Visitor’s Center Bicycle	less than 55 miles	Bus, then

<b>Amenities &amp; Boater Services</b>	<b>Distance from Project</b>	<b>How to get there</b>
Hotels/Motels/B&Bs/Guest Houses (25+) Bicycle/Cab	within 2 miles	Walk/Bus/
Restaurants (20+)	within 1 mile	Walk
Marine Mechanics	within 100 yards	Walk
Marine Store/Chandlery (2)	within 100 yards	Walk

<b>Area Marinas</b>	<b>Distance from Project</b>	<b>How to get there</b>
Boat Haven (permanent moorage)	2 nautical miles	Boat
Port Hadlock	9 nautical miles	Boat
Port Ludlow	19 nautical miles	Boat
John Wayne	29 nautical miles	Boat
Friday Harbor, San Juan Island	30 nautical miles	Boat
Victoria, B.C. (Inner Harbour)	35 nautical miles	Boat
Edmonds	37 nautical miles	Boat
Anacortes	40 nautical miles	Boat
Bell Street (Seattle)	42 nautical miles	Boat