Jamestown Harbor Commission Meeting
Wednesday, May 8, 2024 at 5:00 p.m.
Jamestown Town Hall
93 Narragansett Avenue, Jamestown, RI 02835

AGENDA

THIS MEETING WILL BE CONDUCTED IN PERSON ONLY.

THIS MEETING WILL BE LIVE STREAMED: To view the meeting with no interaction:
https://jamestownri.gov/how-do-i/watch-live-streamed-town-meetings

I. Call to Order and Roll Call

II. Approval of Meeting Minutes – Review, discussion, and/or potential action and/or vote;
   A. April 10, 2024

III. Open Forum
   A. Scheduled Requests to Address
   B. Non-Scheduled Requests to Address

IV. Executive Director's Report – S. Bois

V. Year-to-Date Financial Report

VI. Sub-Committee Reports
   A. Budget – S. Romano – Review, discussion, and/or potential action and/or vote;
   B. Facilities – W. Banks and J. McCarthy – Review, discussion, and/or potential action and/or vote;
   C. Mooring Implementation – M. Campbell - Review, discussion, and/or potential action and/or vote;
   D. Gould Island Restoration – W. Banks and M. Campbell – Review, discussion, and/or potential action and/or vote;

VII. Liaison Reports
   A. Conservation Commission – B. Laman – Review, discussion, and/or potential action and/or vote;
   B. Town Council – R. White – Review, discussion, and/or potential action and/or vote;

VIII. Old Business
   A. East Ferry Commercial Agreement – Review, discussion, and/or potential action and/or vote;

IX. Correspondence

X. New Business

A. Appointment of New Vice-Chair of Harbor Commission – Review, discussion, and/or Potential action and/or vote;
B. Appeal of Josh Furtado of Outhaul Permit Revocation – Review, discussion, and/or potential action and/or vote;
C. Request by Jack Civic to let Jesse Bazarnick use his Guest Mooring a Second Year – Review, discussion, and/or potential action and/or vote;
D. Appeal of Mary Brennan to place Undersized Vessel on Outhaul – Review, discussion, and/or potential action and/or vote;
E. Appeal of Wickford Yacht Club of Mooring Cancellation – Review, discussion, and/or potential action and/or vote;
F. Report from Foth Infrastructure on Ft. Getty Pier – Review, discussion, and/or potential action and/or vote;

XI. Open Forum – Continued (If Necessary)

XII. Adjournment

Pursuant to RIGL § 42-46-6(c) Notice of this meeting shall be posted on the Secretary of State's website, at the Town Hall, and at the Jamestown Police Station. Notice is also posted at the Jamestown Philomenian Library and on the Internet at www.jamestownri.gov.

ALL NOTE: If communications assistance or other accommodations are needed to ensure equal participation, please call 1-800-745-5555, or contact the Town Clerk at 401-423-9800, via facsimile to 401-423-7230, or email to rfagan@jamestownri.net not less than three (s) business days prior to the meeting.

Posted on the RI Secretary of State website on May 3, 2024.

TOWN OF JAMESTOWN
HARBOR COMMISSION

Approved:

A meeting of the Jamestown Harbor Commission (JHC) was held on Wednesday, April 10, 2024 at 5:00 p.m. in the Town Council Chambers of the Jamestown Town Hall, 93 Narragansett Avenue, Jamestown, Rhode Island.

I. Call to Order and Roll Call

Chairman Wayne Banks called the meeting to order at 5:01 p.m.

Present:
Wayne Banks, Chairman
Sue Romano, Commissioner
Mark Campbell, Commissioner
Tom Alexander, Commissioner
Jim Archibald, Commissioner

Absent:
Jessica McCarthy, Commissioner

Also in Attendance:
Steven Bois, Executive Director
Joan Rich, Harbor Clerk
Randy White, Town Council Liaison

II. Public Comment – Preliminary Determination Application for an Oyster/Scallop Farm CRMC – Ben Goetsch

A. Application of Kyle Lee Reichman for a site lease north of Dutch Island and west of Great Creek for Atlantic Oysters and Bay Scallops;

Ben Goetsch, the Aquaculture Coordinator for the Coastal Resources Management Council, explained the lease application process for an aquafarm in Rhode Island waters.

Kyle Reichman is the applicant for the aquafarm. He described his background, and he has applied to lease approximately 3 acres in Dutch Harbor, located about 750 feet offshore, in 20-25 feet of water. He will have 11 long lines with flip farm gear, which is low profile, and the site will be marked with highflyer radar buoys and solar navigational lights. He also discussed harvesting, storage, record keeping, and how he will access the site and how often he will do so.

Deb Lawlor of Stanchion Street questioned the location, as she feels it is close to the navigation/ anchorage area of Dutch Harbor. There was some discussion.

Richard Lawlor of Stanchion Street questioned the cost of the lease, and there was some discussion. He also requested Mr. Reichman add radar reflectors to the highflyers. There was some discussion.

III. Approval of Meeting Minutes – Review, discussion, and/or potential action and/or Vote;

A. March 13, 2024

Chairman Banks made a motion to approve the minutes of the meeting of March 13, 2024, and Commissioner Romano seconded. So voted: 4 aye, 1 abstain.

IV. Open Forum

A. Scheduled Requests to Address

B. Non-Scheduled Requests to Address

Chairman Banks stated he was going to move all public comment to the end of the meeting and asked those who planned to comment to keep their remarks to three minutes or less.

V. Executive Director's Report – S. Bois

A. The Ft. Getty structural report should be ready Friday or Monday, and will be followed up by a repair estimate.

B. About 50% of the vessels on moorings and outhauls do not have a current registration certificate uploaded to Online Mooring.

C. The changes generated by feedback from the public and CRMC on the Comprehensive Harbor Management Plan are complete.

D. Executive Director Bois will be hiring two summer interns this year, Shannon Beacher, who is a student at the Massachusetts Maritime Academy, and Ben Klossner, who is a student at the University of Rhode Island.

E. The harbormaster boat is undergoing scheduled maintenance at Ribcraft.

F. Executive Director Bois will begin scheduling meetings to go over the changes to the Harbor Management Ordinance.

G. Six people were interviewed for the Harbormaster position and Executive Director Bois hopes to have a decision on who will be hired next week.

H. Harbor staff are beginning to offer vacant moorings and kayak rack permits;

I. Dan Wurzbacher, who was Vice-Chairman of the Harbor Commission, has resigned;

J. Commissioner Jim Archibald will be assisting Executive Director Bois with managing the various town-owned docks;

Commissioner Romano questioned which road in Ft. Getty is the subject of the proposed parking ordinance change. There was some discussion.

VI. Year-to-Date Financial Report

Commissioner Romano stated she had some questions regarding the budget for Executive Director Bois and he suggested further discussion of the budget as the end of the fiscal year approaches on June 30. There was some discussion, with Commissioner Campbell asking when the proceeds of the sale of the Freedom would appear in the budget.

VII. Sub-Committee Reports

A. Budget – S. Romano – Review, discussion, and/or potential action and/or vote;

Commissioner Romano had nothing to report.

B. Facilities – W. Banks and J. McCarthy – Review, discussion, and/or potential action and/or vote;

Chairman Banks had nothing to report.

C. Mooring Implementation – M. Campbell – Review, discussion, and/or potential action and/or vote;

Commissioner Campbell stated he had nothing to report today, and the changes to mooring policy would be presented when the changes to the Harbor Management Ordinance are discussed at a later date.

D. Gould Island Restoration – W. Banks and M. Campbell – Review, discussion, and/or potential action and/or vote;

The Army Corps of Engineers meeting regarding the contamination and mitigation of Gould Island will now be held in June.

Commissioner Romano asked what the procedure will be to fill Dan Wurzbacher's spot on the Harbor Commission and the nomination of a new Vice Chairperson. There was some discussion.

VIII. Liaison Reports

A. Conservation Commission – B. Laman – Review, discussion, and/or potential action and/or vote;

Commissioner Laman was not present.

B. Town Council – R. White – Review, discussion, and/or potential action and/or vote;

Councilor White had nothing to report.

IX. Old Business

A. Proposed Amendments to the Comprehensive Harbor Management Plan – Review, discussion, and/or potential action and/or vote;

Executive Director Bois went over the changes to the Comprehensive Harbor Management Plan that were requested by CRMC. Commissioner Romano made a motion to approve the Comprehensive Harbor Management Plan and for it to go forward in the process, and Chairman Banks seconded. There was no discussion. So voted: 5 aye, 0 nay.

X. Correspondence

A. Letter and diagrams from Joseph Pinheiro regarding the Ft. Getty Pier;

Chairman Banks moved to accept the correspondence and diagrams submitted by Joseph Pinheiro regarding the Ft. Getty pier, and Commissioner Romano seconded. There was no discussion. So voted: 5 aye, 0 nay.

XI. New Business

A. Discussion and possible action to hear appeal of Josh Furtado of Outhaul Permit Revocation – Review, discussion, and/or potential action and/or vote;

Executive Director Bois stated he sent Josh Furtado a letter notifying him of four violations to the conditions of his outhaul permit on November 20, 2023. Mr. Furtado had thirty (30) days from the date of the letter in which to request an appeal, which he did not do within that time frame. Mr. Furtado did write a letter to the commissioners in January explaining his circumstances and Executive Director Bois offered him the opportunity to appeal upon a vote by the Harbor Commission. Commissioner Romano made a motion to invite Mr. Furtado to the May meeting to present his appeal, and Commissioner Archibald seconded. So voted: 5 aye, 0 nay.

B. East Ferry Commercial Agreement – Review, discussion, and/or potential action and/or vote;

Due to the use last summer of the touch and go docks by commercial charter operators to unload large groups of passengers, Executive Director Bois has developed a permitting system for the use the docks at East Ferry. The charter boats must use the concrete dock that the Jamestown/Newport Ferry uses to load and unload, but such charters would not be able to interfere with the ferry schedule. The charters must give the Harbor Office a schedule and contact the harbormasters and the ferry on the radio when they are planning on docking. The permit fees would be as follows:

Non-profit organization - $50.00/season
Vessels w/50 passengers or less - $750.00/season
Vessels w/51 or more passengers - $1,000.00/season

There was some discussion, and questions regarding enforcement and coordination between the harbormaster, charter operator, and ferries. The permit fees would go toward the harbor budget. Charmain Banks made a motion to approve the permitting system.

Paul Sprague of Mast Street commented that he believes trying to coordinate between the ferries, charter vessels, and the harbormasters could become an administrative nightmare, and he does not believe it is a safety issue for charter vessels to use the touch and go docks. He feels the safety issue is in the fairway with the number of vessels entering and exiting. He also stated that in Newport, the ferry has exclusive use of a slip to avoid such congestion, and other vessels are fined if they use the ferry slip.

Joseph Pinheiro of Beacon Avenue wanted clarification whether the smaller 6-pack charters would be required to purchase a permit, and they would not be required to.

Christian Infantolino of Reservoir Circle, who also represents the owners of the Jamestown/ Newport ferry, asked if any language would be added to the permit agreement regarding consequences of a violation. There was some discussion.

Donna Wood of Southwest Avenue asked if there would be a blackout period during the Folk and Jazz Festivals barring the charters from using the ferry dock, and she noted most summer

weekends are very busy for the ferry. She also clarified that the 60 feet for the Coastal Queen referenced earlier in the meeting was 60 feet off the east end of the concrete dock, not the east end of the wood pile pier.

Chairman Banks withdrew his earlier motion and moved to postpone voting on the permit agreement so language regarding consequences of violations can be added, and the new motion was seconded by Commissioner Romano. There was no more discussion. So voted: 5 aye, 0 nay.

C. Ft. Getty Pier Access Road Change – Review, discussion, and/or potential action and/or vote;

The parking ordinance for the access road to the Ft. Getty pier could be revised to limit parking to active loading and unloading only.

Richard Lawlor of Stanchion Street asked where people were supposed to park once they were done loading or unloading. Executive Director Bois stated there is parking available near the kayak racks and also on the grass area near the campsites.

Tony Pinheiro of Beacon Avenue stated he has been parking on the access road for 30 some years, and there has never been an issue with parking. It has traditionally been only for the commercial fisherman who use the pier and outhauls, and they are issued a special parking sticker.

Joseph Pinheiro of Beacon Avenue stated that the access road is parking by special permit, issued by the Recreation Department, although it is not really enforced. Recreational fishermen also park there, although he has never had a problem with parking.

Chief Campbell stated the potential ordinance change came out of meetings with the Recreation Department staff and the Town Administrator, along with input from Executive Director Bois, with the goal of easing congestion in that area. Chief Campbell has not seen the parking situation during the summer months yet and has relied on input from Town staff who have been here much longer. There was discussion about restricting parking to commercial fishermen and aquafarmers, and Paul Sprague suggested somehow blocking the road off just for the commercial fishermen and aquafarmers, and putting that area under the jurisdiction of the Harbor Department.

D. Ft. Getty Oyster Farmer Support – Review, discussion, and/or potential action and/or vote;

Executive Director Bois has spoken with the eight aquafarmers who have been affected by the closure of the Ft. Getty pier, and they have all been impacted by the closure. He suggested offering each of them the use of a mooring or possibly an outhaul, depending on the size of the boat, for this year so they can continue to operate their businesses. There was some discussion.

Joseph Pinheiro of Beacon Avenue stated he has reservations about possibly taking someone's mooring opportunity. He also stated he could anchor his boat as long as he was given an exception to the three-day anchoring regulation, and asked if he could keep his small work boat at the West Ferry harbormaster dock before the harbormaster boat goes in. There was some discussion, and that request was denied.

Chairman Banks made a motion to allow the aquafarmers to bump those on the wait list for West Ferry to be given temporary use of mooring and it was seconded by Commissioner Romano. There was no further discussion. So voted: 5 aye, 0 nay.

XII. Open Forum – Continued (If Necessary)

Richard Lawlor of Stanchion Street stated he felt that allowing the aquafarmers to bump those individuals currently on the wait list feels like a public subsidy of a for-profit business.

XIII. Adjournment

Commissioner Romano made a motion to adjourn which was seconded by Commissioner Campbell. So voted: 5 aye, 0 nay. The meeting adjourned at 6:23 p.m.

Attest,

_____

Joan Rich, Harbor Clerk

May 8 Executive Director Report

Fort Getty Analysis report in package, cost estimate $225k, TC discussion 6 May
HMP to TC on 20 May
Harbor Master, Bart Totten, Larry Goss, Katie Unger
HM Boat, 2007 RHIB Repairs approx. 6k
New HM RHIB Delivery mid June
Agreement from Conserv Comm, Audobon Property to proceed with float proposal
Working on package assembly, requesting special exception, preliminary decision

Exec Director Plans for May-June

Harbor Ordinance into TA review
HMO meetings/working groups with public coming
Open mooring permit distribution continuing, working the wait list with offers
Applicant with 4, coming up on list for his 5th
HM, HI training, season setup for docks, pumpout stations, moorings, outhauls,
Adding Jim Archibald as FG dock management advisor, vote during May
Touch and Go docks, pumpout stations install
Kayak rack repair at FG, Kayak rack construction at Park Dock, Atlantic Landscaping carpenter

May 8 Votes needed

Vice Chair assignment
East Ferry Commercial charter permits—consequences in the Harbor Guide, no separate ordinance needed
Josh Furtado appeal at May meeting
To approve second year us of Jack Civic guest mooring by Jesse Bazartnik
Mary Brennan with 11 foot dinghy on outhaul

Meeting Packet Enclosures;

East Ferry commercial charter agreement
Fort Getty boat ramp slide
Fort Getty kayak rack cost estimate
Jack email for 2nd year mooring use
Wickford Yacht Club appeal
Mary Brennan letter
Josh Furtado letter
Fort Getty Engineering report
HMO Fine schedule

Dutch Harbor Yacht club mooring fees Jamestown; 3 moorings, $1372 each, total $4116
TPG Dutch Harbor cost compared $7660 each, total would be $22,980

regular [illegible] mail sent to the address of record on the mooring permit from the harbor clerk.

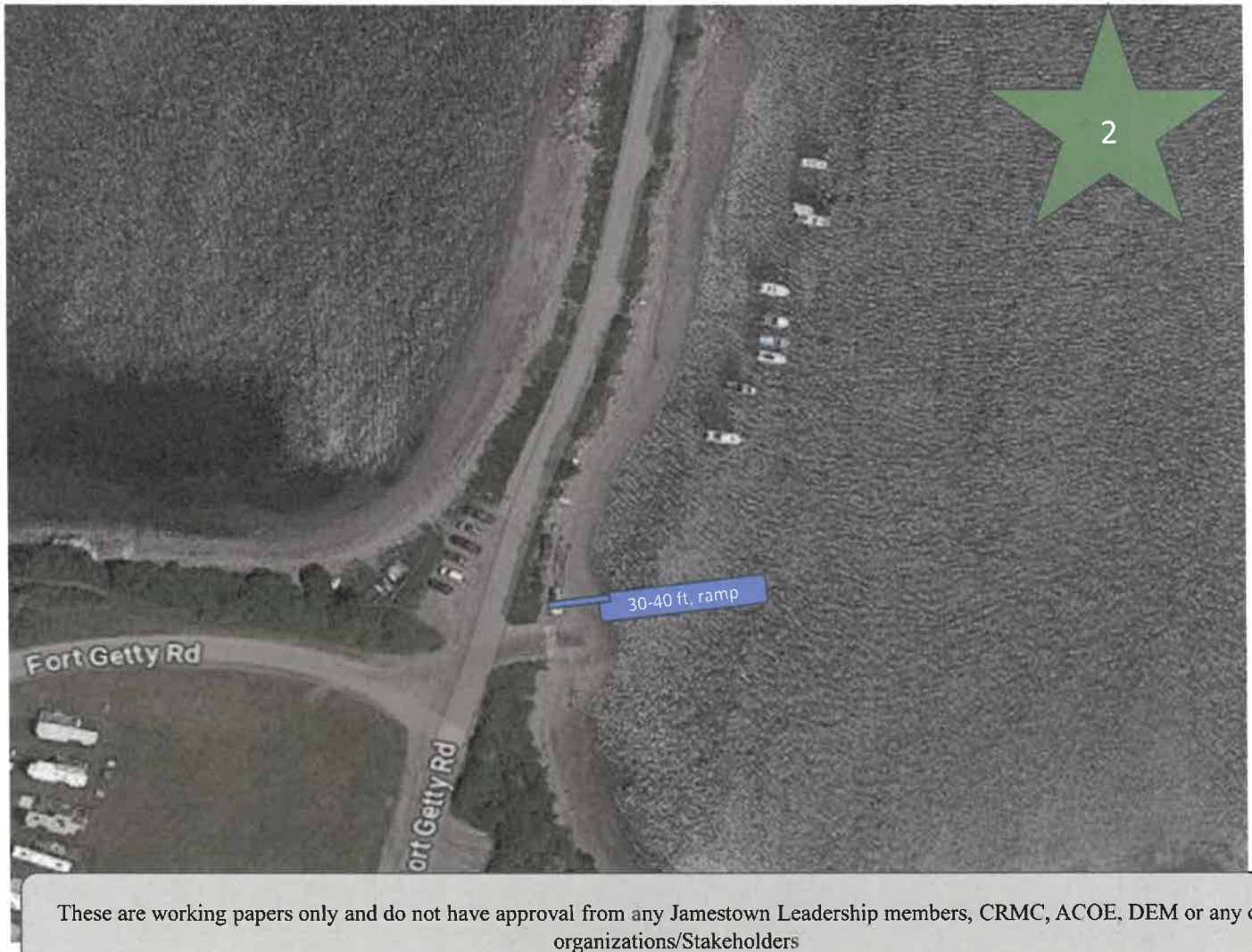
Occupation: "Occupation" of a mooring or outhaul for a "day" as used in subsection 78-26(m)(4) or (5), or 78-26(p)(1) hereof requires that the vessel be secured thereto overnight.

1. Build TG Float Fort Getty

Boat Launch Touch n Go
20 min limit

Temporary anchor,
Easily removable

- 25 March: Spoke to Peter O'Rourke
- Spoke 28 March, Rich Lucia
- Type 1 waters rule evaluation
- Show Public benefit
- Richard Lucia, rlucia@crmc.ri.gov
- Brief Key stakeholders
  - Audobahn
  - Conservation Commission
- Request Special exception
- May need DEM impact assessment
- Get HC Approval
- Get TC Approval
- Use FOTH for Special exception for float, new structure
- Request preliminary determination
- Ask if Historical structure?
- Create Engineer plans, address special use, public use



These are working papers only and do not have approval from any Jamestown Leadership members, CRMC, ACOE, DEM or any other organizations/Stakeholders

Atlantic
Lawn & Garden

Contract #10087

Southern Rhode Island's Landscape Design, Construction and Maintenance Company Since 1997

129 Narragansett Avenue - Jamestown, RI 02835

(401) 423-6425

Town Of Jamestown
Michael Gray
93 Narragansett Ave
Jamestown RI 02835

Contract Title	Contract Date
Kayak Racks 6'W x 14'L (Fort Getty)	04/26/2024
Charge Type	**Sales Rep**
Time & Material (T&M)	Chuck Benda

Contract Items

Item	Description	Qty	Rate	Total	Tax
Trucking	Pick up and deliver materials	1.00	$100.00	$100.00	✔
Carpentry	Mobilize and set up Dig 2' deep 12" round holes at corners of rack Cut wood and build rack Pour concrete around posts Clean up	16.00	$75.00	$1,200.00	✖
Lumber	PT 2" x 8" x 14'	6.00	$24.11	$144.66	✔
Lumber	PT 2" x 8" x 12'	3.00	$23.06	$69.18	✔
Lumber	PT 6" x 6" x 12'	2.00	$56.50	$113.00	✔
Miscellaneous Hardware	2 packs of 12 5" Timber Screws, 3-1/2" 5lbs Decking screws	1.00	$100.00	$100.00	✔
Miscellaneous Hardware	7" x 1/2" carriage Bolts	16.00	$6.25	$100.00	✔
Portland Cement/Concrete	-(94lb bag) Portland Type II Cement	3.00	$26.70	$80.10	✔
Crushed Natural Stone 3/4"	-(yd) Crushed natural stone 3/4"	0.50	$75.93	$37.97	✔
Concrete Sand	-(yd) Concrete Sand	0.25	$65.00	$16.25	✔

Subtotal:	$1,961.16
Sales Tax (7.000%):	$53.28
Proposed Total:	$2,014.44
Deposit Due:	$1,007.22

Contract Terms

Atlantic Lawn & Garden (ALG) is happy to provide you with this estimate. This proposal may be withdrawn by us if not accepted within 30 days. ALG takes pictures of the work done. These images are used to document work, spot any issues and for advertising. You can see the images at any point via your customer portal. If you don't want us taking pictures of your property please contact us so we can disable image collection.

T&M = TIME & MATERIAL. All items specified in T&M proposals are to be billed by the unit price as defined. All labor rates are based on man hours (1 man per hour = 1 man hour). The total shown is our best guess and subject to change. Pricing on material items are subject to change based upon market pricing at time of project installation.

A 50% deposit on the estimated total is due upon signing with the remaining balance due upon project completion.

Total open balance due within 30 days of invoice date. Any unpaid balance after a 30 day period is subject to a 1.5% interest fee and a $5 statement surcharge. A credit card fee will be applied for payments made with cards.

Does not include painting , staining or permite

Company Signature

Chuck Benda
(401) 862-2123

Customer Signature

Jamestown Harbor Office

250 Conanicus Avenue
Jamestown, RI 02835
401-423-4340

Date:

East Ferry Concrete Dock use ordinance for commercial vessels:

This document defines the occupancy terms for commercial vessels wishing to conduct touch and go operations in the East Ferry area of Jamestown. Commercial vessel operators wishing to pick up or drop off passengers must use the Concrete Floating Dock only, for their operations and will be awarded a one-year conditional use permit which may be renewed only with the approval of the Jamestown Harbor Commission. Commercial vessels shall not use the recreational touch and go docks at any time.

Concrete Pier use restrictions:

- No vessel may land at the Jamestown concrete ferry dock without a permit. Permits are not transferrable to other vessels.
- Commercial vessels shall not arrive or remain during scheduled Jamestown ferry service use periods.
- ALL passengers must be loaded/unloaded using the concrete ferry dock
- Vessels with ports of origin outside of the Narragansett Bay may be prohibited after review by the Harbor Executive Director.
- No commercial vessels may use Jamestown as "port of origin" for ticketing passengers without an additional agreement from the Town. Their passengers MUST board at other ports.
- No commercial vessels may advertise pickup opportunities at Jamestown via website or other information dissemination methods.
- Commercial Vessels shall not place equipment, signage, or other materials anywhere in East Ferry dock areas.
- Commercial vessels must contact the Harbor Master on VHF Channel 16 or by cell phone when inbound East Ferry, to announce arrival time and departure time.
- Commercial vessels are encouraged to deconflict with the Ferry Service via channel 16 or channel 71.
- Vessel Captains shall remain on board the vessel when the vessel is attached to the concrete pier.
- Commercial vessels may not fill water tanks while attached to the concrete dock
- Fines will be imposed for the first violation in accordance with Appendix A of the Jamestown Harbor Management Ordinance, permit cancellation may result for any second violation

Concrete Pier Fees Per Season 1 April-31 October

- Non-profit educational vessels with 50 or less passenger capacity: $ 50.
- Commercial vessels with 50 or less passenger capacity: $ 750.
- Commercial vessels with 51 or more passenger capacity: $ 1000.

Other information for commercial vessel situational awareness

- Ferries which provide exclusive Public Utility trips do not pay a permit fee for pick up and drop off operations
- The harbor master shall have the authority to terminate commercial vessel operation in the harbor areas for safety, weather conditions, or unprofessional behavior.
- Commercial operators shall provide vessel and captain licenses with application, in accordance with US Coast regulations.

Jamestown Harbor Office
250 Conanicus Avenue
Jamestown, RI 02835
401-423-4340

Town Liability Disclosure:

Commercial Permit holder agrees that the Town has made no warranty or representation as to the fitness of its facilities for the use for which they were designed and provided. Permit holder agrees that the Town is not responsible for any injury or damage or loss to the boat, permit holder or permit holder's guests, servants, agents or representatives from whatever cause. Permit holder further agrees to save harmless, protect and indemnify the Town from and against any and all losses, costs, damages, claims, suits, actions at law and judgments, including but not limited to attorney's fees, which may arise or grow out of, without limiting the generality hereof, any injury to, or death of persons, damages to property, or any other matter or thing, from the use of the facilities, caused by acts of God, fire, windstorm, explosion, flood, burglary, theft or by any other casualty.

Permit holder and the Town expressly agree that only a permit is hereby created for the period of January 1 through December 31. Permit holder agrees that the Town assumes no duty or responsibility either express or implied regarding the care, maintenance or control of the boat, or for sinking or damages to boats. Permit holder agrees that the lines for securing the boat shall be provided by the permit holder and shall be of such size and quality as to secure the boat safely for the protection of others.

Boats having tenders on davits, boarding ladders, bow and/or stern sprits, etc. shall be secured in such a manner that none of these will be a hazard or block free passage along any pier or walkway. The Town is not responsible for losses of or damages to boats. Boat owners are responsible for damage to dock structures and pilings.

In the event of an emergency, the Town reserves the right to move boats to other mooring places. It is expected that boat owners keeping their boats at the Town facility during the hurricane season will have made arrangements for the safe mooring of their boats on the approach of a storm. In the event of a storm, the Town, at the discretion of its Harbormaster, reserves the right to evacuate the unattended boats at the boat owner's expense and risk.

A permit sticker will be provided by the Town and issued to the permit holder when the application process is complete. The permit sticker is to be placed on the vessel adjacent to the registration stickers, in clear view.

Ft. Getty Pier permit holders must park at the designated parking area, south of the boat ramp. There is no parking on the access road leading to the Ft. Getty pier. Only the permit holder will receive an entrance pass to Ft. Getty park.

I have read and I accept Fort Getty User Terms and Conditions as dictated here

_____

Permit holder name printed

_____

Permit holder signature

Steven G. Bois
Executive Director, Jamestown Harbor Commission

Sec. 78-35. Appendix B; fines schedule.

The penalties for violations of the enumerated sections correspond to fines described. The following violations may be handled administratively through the method as prescribed in this article, provided however this list is not exclusive and jurisdiction may be conferred with regards to other violations.

Town Ordinances		
Statute		Fine
Section 78-25 (a)(b)(c)	Rights-of-way to Waters	$50.00 pbm*
Section 78-26(j)(2)	Anchorage restrictions: Moorings	$50.00 pbm*
Section 78-27(b)(1)	Vessel operation	$75.00 pbm*
Section 78-27(b)(1)	Excessive speed	
	1 to 10 mph	$25.00 pbm*
	11 to 15 mph	$50.00 pbm*
	16 to 20 mph	$75.00 pbm*
	21 to 25 mph	$100.00 pbm*
	26 plus	add $5.00 per mph
Section 78-27(b)(2)	Obedience to order of harbormaster or police	$100.00 pbm*
Section 78-27(b)(3)	Operation within prohibited area	$75.00 pbm*
Section 78-27(c)(1)	No wake and vessel speed in mooring zone	$75.00 pbm*
Section 78-27(c)(2)	Operation near a public bathing area	$50.00 pbm*
Section 78-27(c)(3)	Water skiing violations	$50.00 pbm*
Section 78-27(c)(6)	Unauthorized use of mooring	$50.00 pbm*
Section 78-27(d)(1-2)	Pollution, discharge, or dumping into waters	$100.00 pbm*
Section 78-27(e)	Prohibited use of town floats and docks	$50.00 pbm*
Section 78-27(g)	Anchorage restrictions: Vessels	$50.00 pbm*

*Note—pay by mail.

General Laws of Rhode Island		
G.L. 1956, § 46-22-3	Numbers not displayed	$50.00 pbm*
G.L. 1956, § 46-22-5	Required equipment	$50.00 pbm*
G.L. 1956, § 46-22-8	Excessive noise	$50.00 pbm*
G.L. 1956, § 46-22-9	Passing vessels (reasonable care)	$50.00 pbm*
G.L. 1956, § 46-22-9.2	Flotation devices: Children	$50.00 pbm*
G.L. 1956, § 46-22-9.8	Approved boating safety course	$50.00 pbm*
G.L. 1956, § 46-22-22	Failure to submit an accident report	$100.00 pbm*
G.L. 1956, § 46-22-24	Interference in diving area	$100.00 pbm*

(Ord. of 6-17-2004, app. B; Ord. of 11-7-2011)

Jamestown Harbor Office
250 Conanicus Avenue
Jamestown, RI 02835
401-423-7190

November 20, 2023

Mr. Josh Furtado
[redacted]
Jamestown, Rhode Island 02835

Re: Harbor Ordinance Violations

Dear Mr. Furtado:

This letter serves as notice that you are in violation of the following ordinances governing outhaul use in West Ferry and Fort Getty:

1. HO 78-26(e)(2) – Failure to provide evidence of vessel ownership to the Harbor Department for permit renewal;
2. HO 78-26(h)(1) – Assignment of temporary use of outhaul permit to a vessel owner without approval from the Harbormaster;
3. HO 78-26(m)(2) – Failure to respond to the Harbormaster's notice;
4. HO 78-26(m)(4) – Occupying a mooring or outhaul with the vessel permitted for that mooring for a total of fewer than twenty (20) days during the course of a calendar year.

As a result of these violations, your permit for the 2024 season will not be renewed. You may appeal these violations to the Jamestown Harbor Commission if you wish by filing a written appeal with the Harbor Clerk within thirty (30) days of the date of this letter.

Very truly yours,

Steven Bois
Jamestown Harbor Director

cc: Edward Mello, Town Administrator
James Campbell, Chief of Police

On Thu, Jan 11, 2024 at 11:44 AM Steven G. Bois <sbois@jamestownri.net> wrote:

Hello Josh,

We mailed you the enclosed permit revocation notice on 20 November which

let you know that we will not renew your permit for 2024, because of the violations stated.

That letter was sent by registered mail to the address you have in your online mooring account.

The letter explained that you had 30 days from that date to appeal to the Harbor

Commission if you wanted to contest the violations, and that date has passed.

I also checked with RI DEM, Boat Registration office and I was told that they have

no record that you have ever had a power boat registration in the state of Rhode Island.

You are free to attend the next Harbor Commission meeting in February if you would like

to appeal my decision but again, your timeline has passed. If you choose to do so, I recommend

That you bring proof of prior power boat registrations if you have them. You can request that

DEM do a registration record search if you like.

Best regards

Thank you

Best regards

Jamestown Harbor Executive Director

401-423-1212 Office

401-314-5830 Personal Cell

On Fri, Jan 12, 2024 at 8:42 AM Guava [redacted] wrote:

Dear Members of the Jamestown Harbor Commission,

I hope this letter finds you well. I am writing to you in a state of distress regarding the recent decision to not renew my outhaul permit for the upcoming 2024 season. I deeply regret missing the appeal period due to the notice being sent to my PO box, which I infrequently check.

I wish to bring to your attention some key aspects of my situation, which I hope warrant a reconsideration of this decision. My history with the harbor is not just that of a permit holder; the outhaul has been a big part of my family's life on this island. This outhaul has been a cherished part of our connection to Jamestown, a constant through years of joy and struggle and I will do what it takes to maintain this aspect of our lives.

I respect the issues cited for the non-renewal of my permit, but ask that such a severe consequence be reconsidered. The absence of evidence of vessel ownership for my current renewal, for instance, stems from my recent rush to purchase and register a new boat by the renewal deadline. I have been negotiating with a marina on Nantucket and was planning to pick up the boat and paperwork this weekend so that I could make the renewal deadline with the new registration. As far as past boats, with the exception of last year, I've always kept a boat on the outhaul for full seasons. The boats I've kept in the past were often co-owned, and this arrangement was never an issue with previous harbor masters.

More than just a place for my boat, I consider Dutch a community and try to be a good steward and a good neighbor. I often check on boats during storms and alert neighbors if there's an issue. I've even waded into the water during storms to keep a neighbor's boat off the rocks after finding their tackle broken. I even have a painting of the view from our Outhaul hanging in my home. I understand the need to adhere to policy and logistics and understand the value going forward, but this would be a very personal loss for my family.

In regards to last season, a misunderstanding with the harbormaster over the temporary use of my outhaul contributed to my non-compliance with the 20-day occupancy rule. I was under the impression that the harbormaster would oversee the temporary assignment of my spot, a promise that went unfulfilled.

On a more personal note, my family has navigated through significant financial hardships recently, which impeded our ability to swiftly purchase a new boat last year. It's a journey that has been challenging, but we are in a good place now and feel more resilient than ever. The prospect of losing this outhaul is not just a logistical issue for us; it feels like losing a big part of our life on the island.

I understand the harbor's stance on stricter adherence to ordinances, and I fully intend to align myself with these regulations moving forward. However, I humbly ask that you consider the history, the efforts, and the commitment I have shown towards this community.

I am more than willing to discuss this matter further and would have a new registration in my name for this years renewal by next week. Your understanding and reconsideration in this matter would mean the world to me and my family.

Thank you for taking the time to read my letter. I eagerly await the opportunity to continue being an active and compliant member of our cherished harbor community.

Sincerely,

Joan Rich

From: Josh Furtado [redacted]
Sent: Friday, January 12, 2024 1:07 PM
To: Steven G. Bois
Cc: Joan Rich; Wayne Banks; Mark Campbell
Subject: Re: Question

Hi Steve,

Thanks for your response and for clarifying the situation regarding the potential use of my outhaul by a waitlist member last season. Regardless, I appreciate the effort you put into working on an ordinance change to facilitate such arrangements.

I must admit that my interpretation of our previous conversations was influenced by my hopeful outlook, stemming from the financial challenges I was facing at the time. The idea of a possible solution being worked on gave me a sense of relief, and I might have been overly optimistic in interpreting it as a promise of assistance. For this misunderstanding, I apologize.

Given the current circumstances, I am earnestly seeking any alternative to losing my outhaul permit. I understand the importance of adhering to the rules and regulations of the harbor, and I am committed to being a proactive and compliant member of our harbor community.

Any compassion you can show would be met with immense gratitude and make me a fierce advocate of the Harbor Commission's initiatives. My wife and kids were devasted when I told them about your email this morning. The outhaul is more than just a mooring spot for my family; it represents a connection to the Jamestown community that we deeply cherish.

Any consideration for a less severe consequence would be greatly appreciated.

Thank you once again for your time and understanding. I am willing to discuss this further and explore any other potential solutions that might be available.

Regards,

Josh

On Fri, Jan 12, 2024 at 12:04 PM Steven G. Bois <sbois@jamestownri.net> wrote:

Josh

Just to be clear

I made no promise to offer your outhaul to a wait list member.

I told you I was working on an ordinance change that would allow that but I did not get it approved by Harbor Commission until August and was not approved by Town Council until October. There were no interested members by then and the season was over. You were told that.

Best regards

Thank you

Best regards

Jamestown Harbor Executive Director

401-423-1212 Office

401-314-5830 Personal Cell

401-265-3990 Harbor Master Cell

From: Josh Furtado [redacted]
Sent: Friday, January 12, 2024 8:51 AM
To: Steven G. Bois <sbois@jamestownri.net>
Cc: Joan Rich <jrich@jamestownri.net>; Wayne Banks [redacted]; Mark Campbell [redacted]
Subject: Re: Question

I was serious about the painting btw!

Dutch is a special place.

Joan Rich

From: Steven G. Bois
Sent: Wednesday, January 24, 2024 9:17 AM
To: Guava
Cc: Joan Rich; Wayne Banks; Mark Campbell
Subject: RE: Question

Hello Josh

I will not support any of these proposals

Thank you
Best regards
Jamestown Harbor Executive Director
401-423-1212 Office
401-314-5830 Personal Cell
401-265-3990 Harbor Master Cell

From: Guava <[redacted]
Sent: Tuesday, January 23, 2024 3:07 PM
To: Steven G. Bois <sbois@jamestownri.net>
Cc: Joan Rich <jrich@jamestownri.net>; Wayne Banks <[redacted]; Mark Campbell
[redacted]
Subject: Re: Question

> **CAUTION:** This email originated from outside the Jamestown email system. Please do not click links or open attachments unless you recognize the sender and determine the content is safe.

Just following up on my previous emails to see if anyone had any thoughts on what I proposed.

Please let me know if there is an option that would allow me to maintain the outhaul.

Thanks

Best Regards,

On Thu, Jan 18, 2024 at 10:45 AM Guava <[redacted]> wrote:

> Would the commission be willing to consider a scenario where I can renew this year, but would be willing to loan my spot to someone on the waitlist for the season as an alternate consequence given the fact that I have never received a previous ordinance violation on my record? Perhaps we could even work on that as a longer-term initiative with the Dutch outhauls, where each year a spot is rotated through to someone on the waitlist either on a volunteer or rotational basis? It would only impact each outhaul spot once every 20 years, but would be appreciated by people on the waitlist.
>
> I love thinking creatively about things, would love to get involved to support the commission if possible.
>
> Please let me know if my proposed solution is an option you would consider.

Joan Rich

From: John Civic <[redacted]>
Sent: Monday, April 15, 2024 4:32 PM
To: Steven G. Bois
Subject: Guest Mooring, [redacted]

4/15/24

Steve Bois, Executive Director
Jamestown Harbor Commission
Jamestown, RI 02835

Dear Steve,

I would like to formally ask that Jesse Bazarnick, a local oysterman, be allowed to use my guest mooring, for his aquaculture work boat "Bertha". The duration of time requested would be for 2-3 months, up to the entire 2024 season as well as the the entire 2025 season, if necessary. This request is prompted by the unfortunate issues associated with the pier at Ft. Getty and the negative impacts on the fishermen. Please pass this correspondence on to the Harbor Commission for their consideration at your earliest convenience.

Best regards,

Jack Civic DVM
[redacted]
Jamestown, RI 02835

--
Jack Civic
[redacted]

February 6, 2024

Edward A. Mello and the
Honorable Jamestown Town Council Members
Town of Jamestown
250 Conanicus Avenue
Jamestown, RI 02835

Dear Town Administrator Mello and Town Council Members,

We are writing to express our concerns with the proposed changes by the Harbor Management Commission to the West Ferry outhauls.

We have been communicating with the Harbormaster and Commission since last December regarding proposed changes to the West Ferry Outhauls. From what we understand, we are approved for outhaul #11 (which we have had for many years) but changes to the ordinance have been passed by the Harbor Commission. Apparently the Harbor Commission still must vote to send the changes to the Town Council and a public forum may be scheduled to discuss the changes, and then the changes must ultimately be passed by the Town Council before they can take effect.

We are unable to attend meetings in person and wanted to go on record with the Council regarding our concerns prior to the public forum.

We owned and lived in 238 Narragansett Avenue next to DHBY for approximately 30 years, relocating to Wakefield 2 years ago. In the early 1990's, we placed our name on a mooring list and waited our turn. We now have a wonderful mooring. For many years we purchased launch services through DHBY to access the mooring. At one point there was a disagreement with a previous DHBY owner, who consequently denied us launch service. In order to access our mooring we placed our name on the outhaul list since access to our mooring was denied.

We waited patiently for approximately 15 years for an outhaul space to become available and finally received approval for an outhaul 3 or 4 years ago. We purchased a 11 foot Puffin rowing dinghy specifically for the outhaul and access to our mooring. During our 30 years living at West Ferry most of the boats on the outhauls were a mix of dinghies, smaller skiff/quahogging/ work vessels and smaller sail and outboard boats. The varied mix of boat sizes made out hauls work for everyone, as smaller vessels were intermingled with larger, and during stormy weather most boats rode out the storms un-damaged.

As you are aware, there is not a lot of width at the outhauls and with the proposed mandatory 13 foot or greater length means wider/ beamier boats and increased risk of potential collision problems during storms.

We renewed both our mooring and outhaul in January 2024 and paid the associated fees. The harbor clerk has informed us that our 11 foot vessel on the outhaul (Puffin rowing dinghy) may become non compliant because it is less than 13 feet in length.

This is concerning to us. We specifically purchased a smaller rowing dinghy and at no point in time were told that our vessel was an inappropriate size for the outhaul. In addition, we were Jamestown residents for 30 years and were very active citizens serving the town on various boards and committees for many years. For various reasons we sold our home, and now we may be considered non compliant because we moved off of the island. For all the years we lived on the Island both residents and non residents had access to the West Ferry outhauls. We waited our turn for 15 years for an outhaul to become available. We feel that we should not be penalized because it took so long for our names to move on the list, perhaps now to be replaced by a person who may only have resided in Jamestown for a short time.

We appreciate your consideration of our comments. We realize the pressure and demand for water access and are firm believers that the water is a resource to be enjoyed by all. However, we do feel that the current outhaul holders should not be penalized and lose their outhaul or be forced to purchase a new boat because others with larger vessels desire a space. It's almost like a parking garage refusing to park mini coopers because they want box trucks in the spaces. The revenue to the town does not change with boat size.

It is our request that you grandfather existing vessels of outhaul permit holders and have the new regulations apply to new applicants.

Thank you for your consideration.

Sincerely,

William and Mary Brennan

William and Mary Brennan

cc:Jamestown Harbor Commission Members, Jamestown HarborMaster, Jamestown Harbor Clerk

WICKFORD YACHT CLUB
BOX 352, NORTH KINGSTOWN, R.I. 02852

Wickford Yacht Club

165 Pleasant Street

Wickford, RI 02852

March 4, 2024

Joan Rich

Jamestown Harbor Clerk

250 Conanicus Avenue

Jamestown, RI 02835

Dear Ms. Rich:

Pursuant to Section 78-30 of the Jamestown Harbor Ordinance, Wickford Yacht Club (Club) appeals the decision of the Jamestown Harbor Director to revoke one of the renewal permits issued to the Club for a mooring in Dutch Harbor.

The Harbor Director listed two reasons for his decision. The first was the Club's failure to list the vessels' names allowed to use the permitted mooring. The Club compiles the list of vessels owned by its members on an annual basis in connection with its membership renewal process. That process was recently completed. Accordingly, a list of the vessel names permitted to use the mooring is enclosed.

The second reason listed by the Harbor Director was failure to use the mooring for at least 20 days during the calendar year. As previously explained to the Harbor Director, The Club has an agreement with Dutch Harbor Boat Yard to provide launch service to these three moorings. In confirming that the cost of this launch service was justified, the Club last year surveyed its members to determine how often these moorings and the launch were used. The survey revealed that the moorings were used a total of 135 times and the launch 70 times. On average, therefore, each mooring was used 45 times, over twice the minimum required by Section 78-26(m)(4).

According to the Club's records, it has held these permits in Dutch Harbor since at least 2009. The members of the Club enjoy these moorings very much. The launch service was initiated to facilitate the ability of members to go into Jamestown to both shop and dine while their boats were on the moorings. The fact that there were 70 launch trips last season reflects not only how

often our members used the moorings, but also how often they shopped and dined in Jamestown establishments.

Accordingly, the Club respectfully requests the Jamestown Harbor Management Commission to reverse the decision of the Harbor Director to revoke one of the Club's mooring permits in Dutch Harbor.

Sincerely,

Rex Brewer, Commodore

Wayne Banks, Chairman

Steven Bois, Harbor Director

Jamestown Harbor Office
250 Conanicus Avenue
Jamestown, RI 02835
401-423-4340

February 8, 2024

Mr. Rex Brewer, Commodore
Wickford Yacht Club
165 Pleasant Street
North Kingstown, Rhode Island 02852

Dear Mr. Brewer:

This letter serves as notice that the Harbor Department in Jamestown will be canceling one of your three mooring permits currently located in the Dutch Harbor area for the 2024 season. Harbor Master observations during the 2023 season showed those moorings were vacant for the majority of the spring, summer and fall months.

Your Harbor Ordinance Violations are:

1. HO 78-26, (e) (3) Failure to list the vessel names allowed to use the permitted moorings with the Harbor Office;

2. HO 78-26, (m) (4) Occupying a mooring or outhaul with the vessels permitted for that mooring for less than 20 days during the calendar year.

The wait list in the Dutch Harbor area currently has 108 boaters with active applications and an approximate wait time of 16 years. My role as the Jamestown Harbor Executive Director is to ensure that vacant moorings located in town-owned areas are used efficiently.

You are free to appeal these violations and our decision to provide open moorings to the public to the Jamestown Harbor Commission. You must file a written appeal with the Harbor Clerk within 30 days following this notice.

Best regards,

Steven Bois
Jamestown Harbor Director

CC: Edward Mello, Town Administrator
James Campbell, Chief of Police
Wayne Banks, Harbor Commission Chairman
Joan Rich, Harbor Clerk

Foth

Report of Findings
Fort Getty Pier Inspection
Jamestown, Rhode Island

Town of Jamestown
Jamestown, Rhode Island

April 2024

Project ID: 24J006.00

Solving our clients' toughest
science and engineering challenges.

114 Touro Avenue
Newport, RI 02840
(401) 236-0360
foth.com

April 22, 2024

Steve Bois
Jamestown Harbor Executive Director
93 Narragansett Ave
Jamestown, RI 02835

Re: Report of Findings – Fort Getty Pier Inspection, Jamestown, Rhode Island

Dear Mr. Bois:

Foth Infrastructure & Environment, LLC (Foth) is pleased to provide you with the report of findings and repair recommendations herein for the top-side and underwater dive inspection performed on Fort Getty Pier located at 1050 Fort Getty Road, Jamestown, RI 02835. The core of our business is rooted in the long-standing professional relationships we have with many of our clients. We look forward to the opportunity to continue to work with you with the execution of this project. Please contact Carlos Peña at carlos.pena@foth.com if you have any further questions.

Sincerely,

Foth Infrastructure & Environment, LLC

Carlos G. Peña, P.E.
Senior Client Manager – Ports & Harbors
Licensed in MA, NY, LA, TX

Harrison Chouinard
Civil Engineer – Ports & Harbors

cc: Scott Skuncik, P.E. (Foth)

Enclosures

Report of Findings
Fort Getty Pier Inspection

Project ID: 0024J006.00

Prepared for
Town of Jamestown
93 Narragansett Ave
Jamestown, RI 02835

Prepared by
Foth Infrastructure & Environment, LLC

April 2024

114 Touro Ave. • Newport, RI 02840 • (401) 236-0360
foth.com

Report of Findings
Fort Getty Pier Inspection

Table of Contents

Appendices

Report of Findings
Fort Getty Pier Inspection

Executive Summary

Foth Infrastructure & Environment, LLC. (Foth) partnered with Fathom Resources, LLC. (Fathom) and VCS Engineering's Non-Destructive Testing Division (VCS-NDT) to perform a waterfront facilities investigation and assessment of the timber pier at Fort Getty located in Jamestown, Rhode Island. The inspections were conducted on March 1, 2024, and April 5, 2024, and were led by an on-site engineer within Foth's Ports & Harbors group.

The existing pier structure, located in a Federal Emergency Management Agency (FEMA) VE (EL 18) zone and reported by the Town of Jamestown (Town) to have been constructed prior to 1920, was last inspected in 2014 by the RT Group and is entirely constructed of creosote treated timber, consisting of plumb and batter piles, fender piles, pile caps, horizontal stringers, deck boards, and wales (Appendix B). Pile embedment depths were confirmed, addressing initial concerns regarding assumed high rock ledge for the area, which could have limited pile driving depths. The underwater inspection focused on the condition of plumb and batter piles, fender piles, and pile caps and assessed marine borer activity. The limited visual topside inspection included stringers where deck boards were removed, remaining deck boards, and wales. The purpose of the routine inspection was to assess the general condition of the existing structure, assign condition ratings, and provide recommendations for future maintenance and repairs, as described in the American Society of Civil Engineers (ASCE) Manuals and Reports on Engineering Practice No .130, Waterfront Inspection and Assessment (ASCE 130).

The following conditions are based on the observations and findings at the time of inspection:

- The Plumb and Batter Piles are overall in ***Poor*** condition.
- The Fender Piles are overall in ***Poor*** condition.
- The Pile Cap is overall in ***Fair*** condition.
- The Stringers are overall in ***Fair*** condition.

The dive inspection located numerous failed batter pile connections, piles leaning in various directions, heavily corroded hardware, and evidence of an entirely failed cross-bracing system (Appendix C). The divers performed timber cores and found no marine borer activity in either the areas just below low tide or above the seabed on a representative number of timber piles.

Non-destructed acoustical pile soundings (Appendix E) were taken to confirm the embedded length of a representative number of exterior and interior pier piles. The acoustical testing confirmed the pile lengths and confirmed sufficient embedment length below the required point of pile fixity of 5 feet (5').

The limited topside investigation found that the stringers are in fair condition with lifting and splitting deck boards, damaged fender piles and ladders and missing cap log sections.

The existing pier is approximately 100 years old. The remaining life of the structure is unknown. The recommended repairs are intended to restore the pier to safe operating conditions to support pedestrian loads for a short-term solution. These repairs are not intended to be a long-term solution.

Foth recommends the Town begin planning for the replacement of the pier. During the planning process, the existing pier shall continue to be monitored and inspected on a regular basis, at an interval not to exceed two years. If any further deterioration of the pier is observed or the pier suffers a significant coastal storm or other impactful event, the Town shall notify Foth, so an inspection may occur to confirm if the pier is still safe for pedestrian operations.

1. Introduction

1.1 Background / Objectives

Foth Infrastructure and Environment, LLC (Foth) was contracted by The Town of Jamestown (Town) to perform a routine waterfront facilities inspection on the Fort Getty Pier located at 1050 Fort Getty Road Jamestown, Rhode Island. Foth was contracted to perform the inspection in February 2024.

Foth performed the routine waterfront facilities inspection on March 1, 2024. Weather conditions during the inspection were partly cloudy with temperatures between 23°F and 42°F and wind speeds between 5 and 16 miles per hour (mph) from the southwest.

An additional pier inspection was conducted on April 5, 2024, by Fathom to assess marine borer activity and by VCS Engineering's Non-Destructive Testing Division (VCS-NDT) to confirm the embedded length of a representative number perimeter and interior pier piles. Weather conditions during the inspection were sunny with westerly winds at 15 mph and the temperature at 38 degrees.

Dates of Inspection:	March 1, 2024 & April 5, 2024	
Foth Team:	Scott Skuncik, PE	Market Leader
	Harrison Chouinard	Civil Engineer – Ports & Harbors
	Carlos Peña, PE	Senior Client Manager
Fathom:	Ward McIntyre	President
	Scott Magilton	Dive Supervisor
	Mark Wegiel	Dive Tender
	John Morgan	Diver
VCS-NDT	William Horne	Vice President
	Keith Holder	Operations Manager

The Fort Getty Pier (circa 1920) is generally in poor/fair condition relative to its reported original design to support dockage of large vessels and use to support military (World War Two [WW II]) operations. The timber pier is missing all pile cross-bracing, and most batter piles are disconnected in the main pier section. Several deck boards are broken, loose, or missing, and the ladders are in poor condition and need to be replaced. The mooring bollards are in poor condition and need to be replaced.

The Town inquired whether the existing pier structure could provide casual pedestrian public access and continue to support local commercial fisherman operations. An additional inspection was performed on April 5, 2024, and found no marine borer activity and confirmed the embedded length of a representative number of timber piles. Foth performed a structural analysis on April 16, 2024, and determined the pier can continue to support 100 pound per square foot (psf) live load (Pedestrian Loading) and berthing and mooring loads for generic 35-ft fishing vessels with recommended repairs, maintenance, and future condition inspections every two years and following any significant coastal storm or other reported impactful event.

This report addresses the condition of the existing Fort Getty pier in Jamestown, Rhode Island. The objectives of this investigation are to determine the overall condition of the structure and recommend repairs and maintenance.

This report has been prepared for the exclusive use of The Town of Jamestown. Any other use, publication, or the like of any data contained herein by other parties without the express consent of Foth is prohibited. The report was prepared by Harrison Chouinard and Carlos G. Peña, P.E. Questions or concerns regarding this report or the contents contained herein should be directed to Foth Infrastructure & Environment, LLC and addressed to Carlos Peña at (508) 801-4506.

1.2 Scope of Work

The investigation was focused on observing the existing ± 6,242 square foot (SF) pier structure and determining the overall condition of structural members above and below the waterline. The inspection included a visual and tactile structural evaluation and water depth readings. An overview of the underwater inspection locus can be seen in Figure 1, below.

Foth mobilized a six-person inspection team to examine the above and below water conditions of the existing pier. Operations were staged from a dive boat along the pier, and work proceeded without operation interference. The dive was conducted using scuba tanks with equipment including full diver-to-surface communication and a helmet-mounted video camera/light combination, providing a live video feed (which was also recorded) to the trailer. The dive was conducted in accordance with Fathom's safety guidelines, as well as all pertinent Association of Diving Contractors International (ADCI), Occupational Safety and Health Administration (OSHA), and United States Geological Survey (USGS) regulations.

A Level I visual and tactile dive inspection was performed on 100% of the accessible pier structure from pile caps down to the mudline, including pile caps, plumb and batter piles, and fender piles (Appendix C). The topside portion of the inspection was done entirely by land and included visible pile caps, stringers, and deck boards. The divers performed timber cores and found no marine borer activity in either the areas just below low tide or above the seabed on a representative number of timber piles.

Non-destructed acoustical pile soundings were taken to confirm the embedded length of a representative number of exterior and interior pier piles. The acoustical testing confirmed the pile lengths and confirmed sufficient embedment length below the required point of pile fixity of 5', as reported in the VCS-NDT report dated April 11, 2024 (Appendix E).

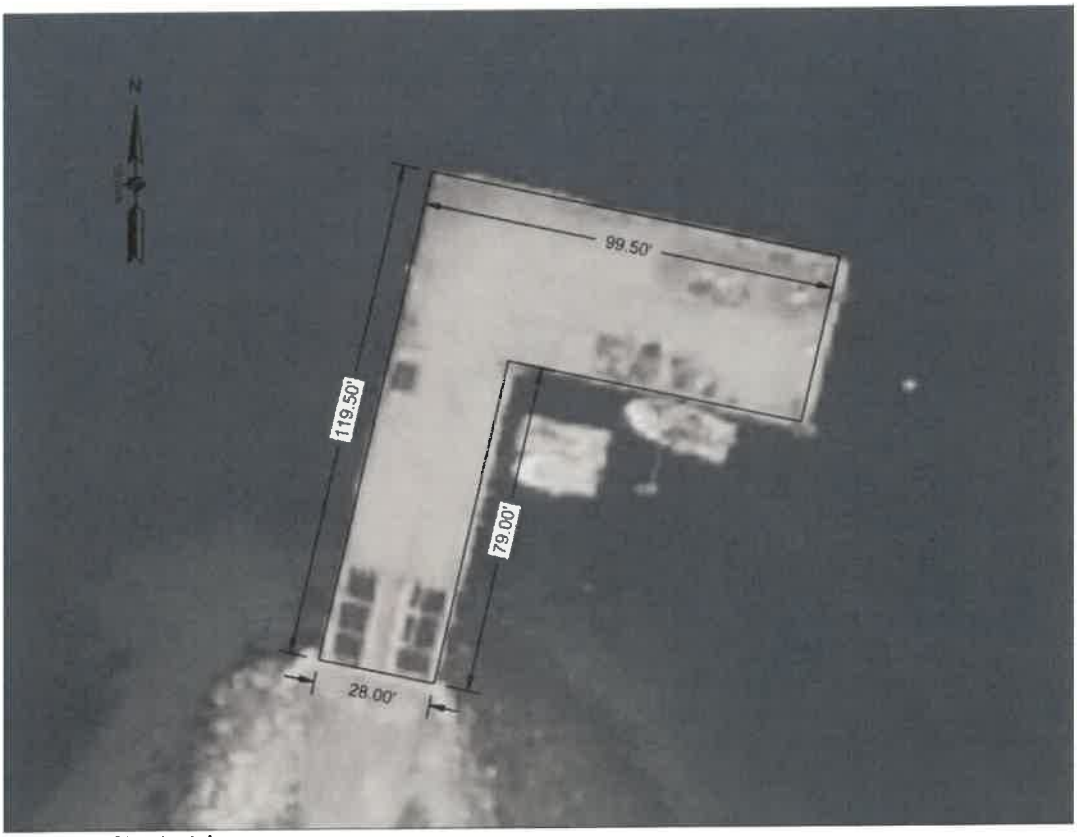


Figure 1 - Site Aerial

2. Findings

2.1 Visual Findings

The visual inspection began at the seaward end of the pier in the northeast corner and moved to the west. The below water inspection continued in east-west directions, moving landward.

There are two pile layouts that make the structure. The 79-ft-long approach way consists of nine bents of five piles at 7-ft center-to-center, and the ± 40-ft by 100-ft seaward portion of the pier consists of six bents of 14 to 15 piles at ± 7-ft center-to-center spacing. All perimeter piles around the seaward portion of the pier had a connected batter pile, many of which have failed connections to the plumb pile.

Other general conditions observed at the waterline during the visual inspection of the Fort Getty pier include scaling approximately 1.5 inches deep on plumb and batter piles, splits approximately 1 inch deep at the top of plumb piles, and corroded and failed hardware connections. Rot and section loss of varied severity was also typically found behind the vertical brackets at the top of each plumb pile.

The fender system consists of 9-inch x 7-inch timber walers with 12-inch-diameter timber fender piles. The fender piles were typically observed to have loose or missing hardware connections, with some piles being broken or abandoned at the waterline.

Observed topside conditions included rot at nail holes in stringers, end rot in stringers, and lifting and splitting deck boards with minor checking and localized rot observed in some of the pile caps.

2.2 Water Depths

Water depths were taken periodically along the entire length of the pier. The water depths along the seaward face of the pier ranged from 12 ft to 15 ft, relative to Mean Lower Low Water (MLLW).

3. Structural Evaluation & Assessment

3.1 FEMA Flood Zone

The Fort Getty Pier is in a Federal Emergency Management Agency (FEMA) VE (EL 18) zone, as referenced to Map No. 44005C0157J, dated September 4, 2013. The average pier deck elevation is 4.5 ft relative to North American Vertical Datum of 1988 (NAVD88), and the Town of Jamestown reported the pier was submerged during a coastal storm event in the winter of 2024. The tides (feet) at the project, as referenced to the Newport, RI Station 8452660 (Epoch 1983-2001), are as follows:

Datum	NAVD88	MLLW
FEMA VE Zone	18	20.04
Pier Deck	4.5	6.54
MHHW	1.81	3.85
MHW	1.57	3.61
Mean Sea Level	-0.30	1.74
MLW	-1.90	0.14
MLLW	-2.04	0.00

3.2 Inspection Ratings

The condition assessment ratings (Appendix A, Table 2-14) were assigned to each type of structural element inspected during the investigation. The condition assessment reflects the overall condition of the structural members based on a visual non-destructive inspection outlined in this report. The assessments ratings range from Good (no visible damage), Satisfactory (limited minor to moderate defects), Fair (sound structural elements with minor to moderate defects or deterioration), Poor (advanced deterioration on widespread portions of structure but does not significantly reduce load bearing capacity), Serious (advanced deterioration may have significant affect on load-bearing capacity), and Critical (very advanced deterioration with localize failure of primary structural components).

3.3 Damage Ratings

Element level damage ratings (Appendix A, Table 2-15) were assigned to each structural element inspected during the investigation. The rating reflects the condition of the individual element only and is independent of the element's structural importance and the type of inspection being conducted. The damage rating varies per element, and general rating terms are as follows: NI (Not Inspected), ND (No Defects), MN (Minor), MD (Moderate), MJ (Major), and SV (Severe).

3.3.1 Plumb Piles

A total of 131 timber plumb piles were inspected and given a **Moderate** damage rating according to the ASCE Manuals and Reports on Engineering Practice No. 130, Waterfront Facilities Inspection and Assessment (ASCE 130). The plumb piles were given this rating due to:

- Remaining diameter loss up to 15%
- Checks and splits wider than 0.5 inch
- Cross-section area loss up to 15%
- Corroded hardware

3.3.2 Batter Piles

A total of 42 batter piles were inspected and given the following damage ratings according to ASCE 130.

Rounding of corners up to 1 inch deep:

- Approximately 18 (43%) of the batter piles were given a **Major** damage rating. The batter piles were given this rating due to:
  - Loss of connections
  - Remaining diameter loss up to 15%
  - Checks and splits wider than 0.5 inch
  - Cross-section area loss up to 25%
- Approximately 24 (57%) of the batter piles were given a **Moderate** damage rating. The batter piles were given this rating due to:
  - Remaining diameter loss up to 15%
  - Checks and splits wider than 0.5 inch
  - Cross-section area loss up to 25%

3.3.3 Fender System

A total of ± 19 (56%) fender piles were inspected and given a **Major** damage rating according to ASCE 130 due to:

- Failed mechanical connections
- Timber cracked and checked greater than 0.5 inch wide
- Abrasion damage greater than 2 inches deep

Approximately 15 (44%) of fender piles were abandoned, missing, or broken.

3.3.4 Stringers

The stringers were inspected where deck boards had been removed and were given a **Minor** damage rating according to ASCE 130 due to:

- Checks, splits, and gouges less than 0.5 inch wide
- Evidence of fungal decay

3.3.5 Pile Caps

From the little observation that could be made to the pile caps, a **Minor** damage rating was assigned according to ASCE 130 due to:

- Checks and splits wider than 0.5 inch
- Cross-section area loss up to 15%
- Corroded hardware

3.4 Condition Assessment Ratings

Based on the observations and damage ratings provided, condition assessment ratings were provided to each group of structural elements. Condition Assessment Rating criteria used from ASCE 130 (Table 2-14) can be found in Appendix C.

3.4.1 Timber Piles

The ± 177 plumb and batter piles are in ***Poor*** condition due to advanced deterioration or overstressing observed on widespread portions of the structure but does not significantly reduce the load-bearing capacity of the structure. Repairs may need to be conducted with moderate urgency.

3.4.2 Fender System

The timber fender system along the perimeter of the structure is in ***Poor*** condition due to advanced deterioration observed on widespread portions of the structure but does not significantly reduce the load-bearing capacity of the structure. Repairs may need to be conducted with moderate urgency.

3.4.3 Stringers

The stringers at the approach and seaward end of the pier are in ***Fair*** condition due to minor deterioration observed on widespread portions of the structure but does not significantly reduce the load-bearing capacity of the structure. Repairs may need to be conducted with moderate urgency.

3.4.4 Pile Caps

The pile caps are in ***Fair*** condition upon visual inspection due to limited minor to moderate defects or deterioration observed but no overstressing observed. No repairs are required.

4. Structural Analysis & Recommendations

4.1 Inspection Findings & Recommendations

Foth performed a structural analysis (Appendix F) Fort Getty Pier, which included an inspection of the pier on March 1, 2024. The results of the inspection were utilized for the structural analysis. The following outlines the assumptions of the structural analysis, the results of the analysis, and the recommendations for the structure.

4.1.1 Analysis Assumptions

Codes and Standards

- RISBC-1 Rhode Island Building Code
- 2018 International Building Code (IBC)
- Minimum Design Loads and Associated Criteria for Buildings and Other Structures, ASCE/ SEI 7-16
- United Facilities Criteria (UFC) Design: Piers and Wharves, UFC 4-152-01, 24 January 2017
- American Wood Council National Design Specification (NDS) for Wood Construction & Supplement 2018

Timber Members

- All timber members assumed to be Southern Pine No. 1 under wet service conditions.
- Piles were originally 12-inch diameter; analysis assumed a 15% loss of diameter.
- Pile caps were originally 12 inches by 12 inches; analysis assumed a 25% cross-section loss.
- Exterior stringers were originally 12 inches by 12 inches; analysis assumed there was no section loss.
- Interior stringers were originally 6 inches by 12 inches; analysis assumed there was no section loss.
- Decking was originally 2 inches by 10 inches; analysis assumed there was no section loss.

Pile Fixity

- Pile fixity was assumed to be 5D below the recorded mudline, where "D" is the diameter of the pile.
- The mudline elevation was based on conditions at the time of inspection on March 1, 2024.

Load Definition

- Load combinations in accordance with UFC Design: Piers and Wharves, UFC 4-152-01.
- Dead load = self-weight of construction materials and other structural components.
- Uniform Live Load = 100 psf on the pier (Pedestrian Loading).
- Buoyancy load = uplift force applied at a rate of 64 pounds per cubic foot (pcf) for normal seawater.
- Wind and Wave loads calculated in accordance with ASCE 7-16. The structure was assumed to be risk category II.

- Berthing and Mooring loads calculated for a generic 35-ft fishing vessel. Loads applied perpendicular to the face of the pier.
- Mooring loads in accordance with wind and current loading from UFC, Moorings, dated 12 March 2020. A Type IIB standard storm mooring was assumed.
- Seismic load is not a controlling factor per engineering judgment.
- The pier was analyzed during normal operating conditions with water level at Mean Low Water (MLW) and during storm conditions, when the pier is completely submerged.

Analysis Methodology

- RISA-3D by RISA Tech, Inc. was used for the analysis. RISA-3D is a structural analysis software that analyzes timber members in accordance with international design codes.
- Analysis followed Allowable Stress Design (ASD) methodology with service load combinations.

4.2 Results

4.2.1 Wave Loads

- Wave loading in accordance with ASCE 7 assumes that the net force resulting from a breaking wave act at the still water elevation and that 70% of the wave height lies above the local still water elevation. Based on the still water elevation of 10.5 ft NAVD88 for 1% Annual Chance Flood from the Flood Insurance Study 44005CV000C for Newport County, Rhode Island, the breaking wave will be above the existing pier and will not exert force on the pier.
- Further analysis of wave loading through coastal modeling is required to more accurately calculate the wave force exerted on the existing pier. Based on the historical performance of the pier, it is assumed that the existing structure has adequate capacity to resist the environmental wave forces.

4.2.2 Mooring Loads

- Mooring loads were calculated for a generic 35-ft fishing vessel in accordance with UFC, Moorings, dated 12 March 2020. A Type IIB storm mooring with a 64-knot wind and a 2.0-knot current was assumed. The resulting mooring load transverse to the vessel was 2.5 kips, and the resulting mooring load longitudinal to the vessel was 1.65 kips.
- Eight vessels were assumed to be moored to the pier at once: two on the west side, two on the north side, one on the east side, two on the south side, and one on the east side closest to shore. Each vessel is assumed to be moored to two cleats.
- Any other vessels moored nearby are assumed to not induce load on the pier but moor to nearby piling.
- The pier was analyzed for mooring of the eight vessels with wind from the north, south, east, and west.
- It is assumed that if winds above 64 knots are expected, vessels will not moor to the pier.

4.2.3 3D Analysis

- The 3D analysis of the structure indicates that for the assumptions and load cases outlined above, the existing structure has adequate capacity to support pedestrian loading, mooring, and berthing from a 35-ft generic fishing vessel and submersion during storms if the recommended repairs are completed.

- The maximum expected structural utilization for the piles is 77% of capacity, assuming the piles are 10.2 inches in diameter, a 15% reduction from the original 12-inch-diameter piles.
- The analysis is limited to the items outlined herein. If additional loading of the pier is anticipated, further analysis is required.

4.3 Recommendations

Foth recommends the following repairs and improvements to the pier, based on the inspection and the structural analysis, to restore operations to support pedestrian loads.

- Timber Decking
  - Timber decking that is lifting, splitting, or deteriorated shall be removed and replaced in kind.
  - Existing decking that is in acceptable condition shall be detached from stringers. Nails shall be removed and replaced with timber decking screws.
  - All timber decking shall be installed with stainless steel timber decking screws.
- Stringers
  - Stringers shall be inspected during timber deck removal. Stringers that are decayed and deteriorated shall be removed and replaced in kind.
- Safety ladders should be repaired and/or replaced.
- Bollards/Cleats
  - Existing bollards shall be removed, as the connections to the pier are deteriorated and the capacity of the bollards is unknown and may overstress and not be acceptable for the existing pier condition. Timber members used for bollard attachment that are deteriorated shall be removed and replaced.
  - New cleats may be installed. Cleats shall be 18-inch to 24-inch two-bolts steel cleats, MacElroy CSC-45 or equal.
  - Further analysis and detailing of cleat connections is required to ensure adequate load transfer to the structure and that no members are overstressed.
- New timber rail should be installed in kind, where missing, to form continuous rail around pier.
- Failed timber fender piles should be removed.
- Piles
  - Where section loss of the piles is noted, it shall be documented at the time of repairs.
  - Replace top of timber piles (posting) with section loss of more than 40%.

The existing pier is approximately 100 years old. The remaining life of the structure is unknown. The recommended repairs are intended to restore the pier to safe operating conditions to support pedestrian loads for a short-term solution. These repairs are not intended to be a long-term solution.

Foth recommends the Town begin planning for the replacement of the pier. During the planning process, the existing pier shall continue to be monitored and inspected on a regular basis, at an interval not to exceed two years and following any significant coastal storm or other reported impactful event. If any further deterioration of the pier is observed, the Town shall notify Foth, so an inspection may occur to confirm if the pier is still safe for pedestrian access and commercial fishing operations.

Appendix A

ASCE Engineering Practice Manual No. 130, Tables 2-14 & 2-15

Table 2-14. Condition Assessment Ratings

Rating		Description
6	Good	No visible damage or only minor damage noted. Structural elements may show very minor deterioration, but no overstressing observed. No repairs are required.
5	Satisfactory	Limited minor to moderate defects or deterioration observed but no overstressing observed. No repairs are required.
4	Fair	All primary structural elements are sound but minor to moderate defects or deterioration observed. Localized areas of moderate to advanced deterioration may be present but do not significantly reduce the load-bearing capacity of the structure. Repairs are recommended, but the priority of the recommended repairs is low.
3	Poor	Advanced deterioration or overstressing observed on widespread portions of the structure but does not significantly reduce the load-bearing capacity of the structure. Repairs may need to be carried out with moderate urgency.
2	Serious	Advanced deterioration, overstressing, or breakage may have significantly affected the load-bearing capacity of primary structural components. Local failures are possible, and loading restrictions may be necessary. Repairs may need to be carried out on a high-priority basis with urgency.
1	Critical	Very advanced deterioration, overstressing, or breakage has resulted in localized failure(s) of primary structural components. More widespread failures are possible or likely to occur, and load restrictions should be implemented as necessary. Repairs may need to be carried out on a very high-priority basis with strong urgency.

2.6.2 Condition Assessment Ratings

The Condition Assessment Rating should be assigned upon completion of the Routine Inspection and remain associated with the structural unit (as defined in Section 3.1.1) until the structure is rerated following a quantitative engineering evaluation and repairs, or upon completion of the next

Table 2-15. Post-event Damage Ratings

Rating	Description
A	No significant event-induced damage observed; no further action is required
B	Minor to moderate event-induced damage observed, but all primary structural elements are sound. Repairs may be required, but the priority of repairs is low
C	Moderate to major event-induced damage observed that may have significantly affected the load-bearing capacity of primary structural elements. Repairs are necessary on a priority basis
D	Major event-induced damage has resulted in localized or widespread failure of primary structural components. Additional failures are possible or likely to occur. Urgent remedial attention is necessary

scheduled Routine Inspection. The ratings should be assigned against distinct structural units, groups of units, and the overall facility.

A scale of 1 to 6 is used for the rating system, as shown in Table 2-14. A rating of 6 represents a structure in good condition, whereas a rating of 1 represents a structure in critical condition. Other suitable rating systems may be substituted for a particular owner's purpose as appropriate.

Understanding that ratings are used to describe the existing in-place structure relative to its condition when newly built is important. The fact that the structure was designed for loads that are lower than the current standards for design shall have no influence on the ratings.

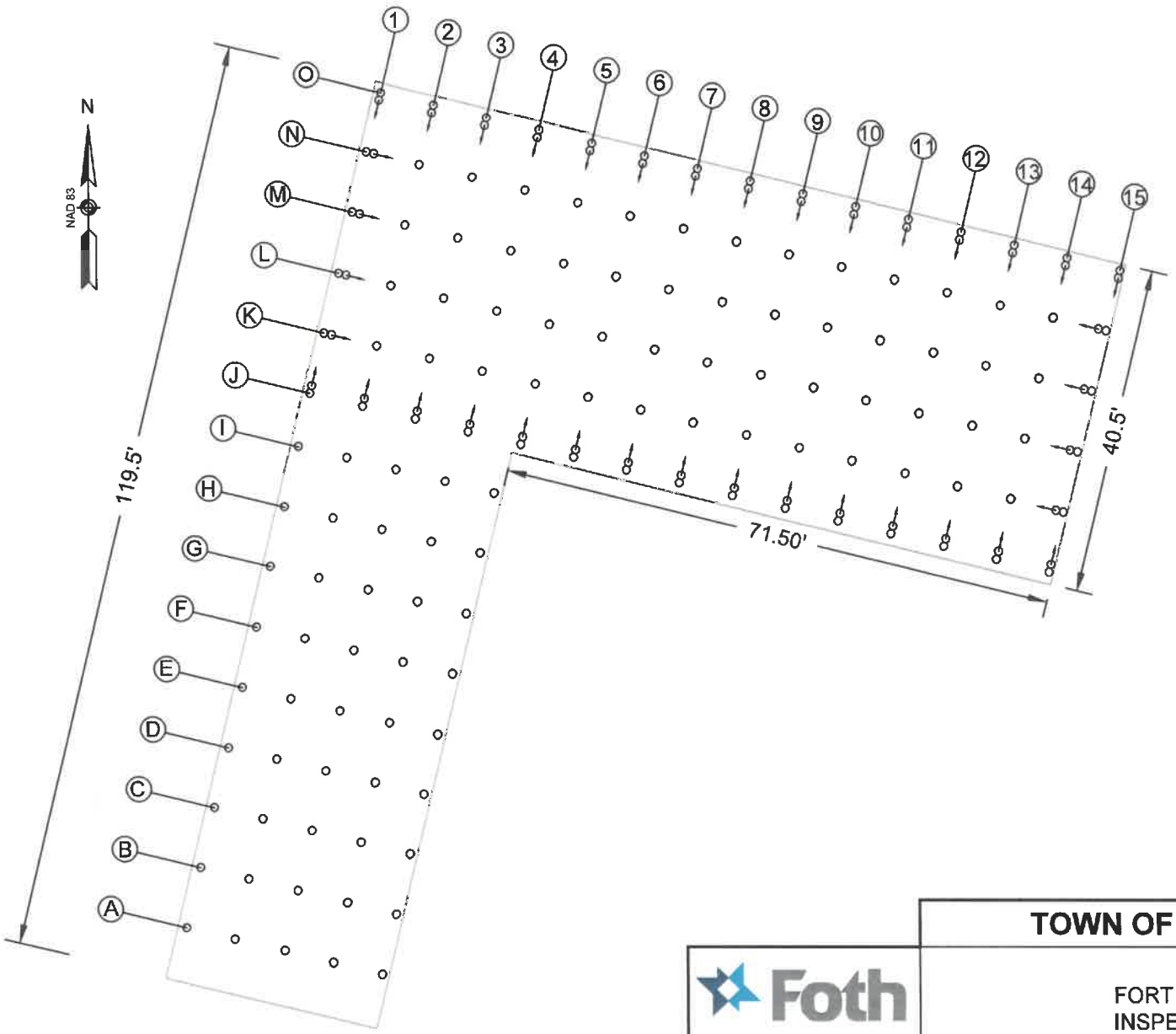
Equally important is understanding that the correct assignment of ratings requires both experience and an understanding of the structural system. Judgment must be applied in considering

- Scope of damage (total number of defects),
- Severity of damage (type and size of defects),
- Distribution of damage (local vs. general),
- Types of components affected (their structural "sensitivity"),
- Location of defect on component (relative to point of maximum moment/shear), and
- Serviceability.

The qualifications of individuals assigning ratings are important in ensuring that the ratings are assigned consistently and uniformly in accordance with sound engineering principles and the guidelines provided herein. The team leader, with oversight from the project manager, should verify that the assigned ratings are appropriate.

Appendix B

Plans & Figures



Thursday, March 28, 2024 7:35:13 AM
DWG Filename: fort getty inspection plan.dwg Layout: layout1
DWG Folder Location:

Foth

0 10 20
SCALE

TOWN OF JAMESTOWN

FORT GETTY PIER
INSPECTION PLAN

Date Completed: 3/13/24		Revision Date:	
Drawn By: HAC	Checked By: SRS	Project No: 24J006.00	

Appendix C

Fort Getty Inspection Photo Log

Foth

Photographic Log

Client's Name:	Site Location:	Project No.
Town of Jamestown	Fort Getty Pier, Jamestown, Rhode Island	24J006.00

Photo No.	Date:
1	3/1/24

Direction Photo Taken: South

Photo Taken By: HAC

Description: South end of pier with deck boards removed

Photo No.	Date:
3	3/1/24

Direction Photo Taken: Northwest

Photo Taken By: HAC

Description: Typical mooring hardware and deck construction

Photo No.	Date:
2	3/1/24

Direction Photo Taken: North

Photo Taken By: HAC

Description: Overview of pier from south end

Photo No.	Date:
4	3/1/24

Direction Photo Taken: Northeast

Photo Taken By: HAC

Description: Overview of seaward portion from end of approach way

Foth

Photographic Log

Client's Name:	Site Location:	Project No.
Town of Jamestown	Fort Getty Pier, Jamestown, Rhode Island	24J006.00

Photo No.	Date:
5	3/1/24

Direction Photo Taken: West

Photo Taken By: HAC

Description: Typical pier construction at missing fender pile location

Photo No.	Date:
7	3/1/24

Direction Photo Taken: South

Photo Taken By: HAC

Description: Wale and ladder condition at southeast corner of seaward portion of pier

Photo No.	Date:
6	3/1/24

Direction Photo Taken: North

Photo Taken By: HAC

Description: East end of seaward portion of pier with missing fender piles

Photo No.	Date:
8	3/1/24

Direction Photo Taken: West

Photo Taken By: HAC

Description: Typical construction of seaward portion of pier

Foth

Photographic Log

Client's Name:	Site Location:	Project No.
Town of Jamestown	Fort Getty Pier, Jamestown, Rhode Island	24J006.00

Photo No.	Date:
9	3/1/24

Direction Photo Taken: North

Photo Taken By: HAC

Description: Typical stringer and vertical bracket condition at approach way

Photo No.	Date:
11	3/1/24

Direction Photo Taken: North

Photo Taken By: HAC

Description: Typical decking condition

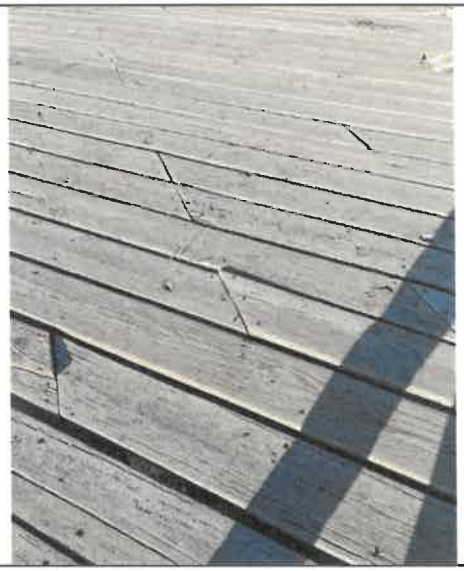


Photo No.	Date:
10	3/1/24

Direction Photo Taken: Northwest

Photo Taken By: HAC

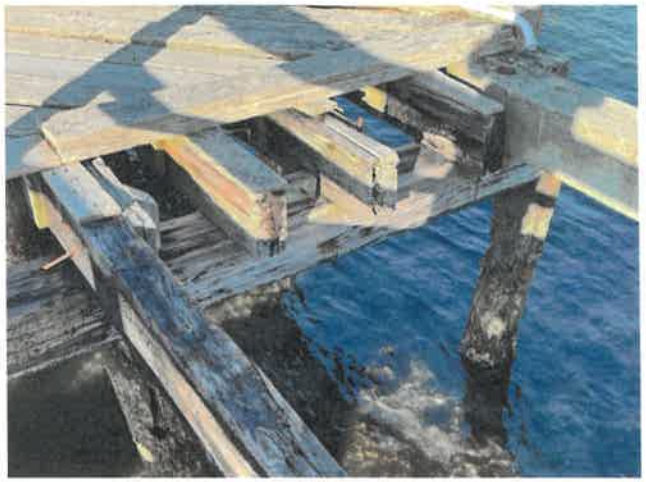
Description: Stringer condition at mooring hardware

Photo No.	Date:
12	3/1/24

Direction Photo Taken: Northeast

Photo Taken By: HAC

Description: Typical condition at approach way



Foth

Photographic Log

Client's Name:	Site Location:	Project No.
Town of Jamestown	Fort Getty Pier, Jamestown, Rhode Island	24J006.00

Photo No.	Date:
13	3/1/24

Direction Photo Taken: East

Photo Taken By: HAC

Description: Typical pile cap condition at approach way

Photo No.	Date:
15	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Typical abandoned hardware holes & corrosion (Pile 15M)

Photo No.	Date:
14	3/1/24

Direction Photo Taken: Southeast

Photo Taken By: HAC

Description: Typical stringer construction and approach way condition

Photo No.	Date:
16	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Typical pile condition, scaling & corrosion (Pile 15M)

Foth

Photographic Log

Client's Name:	Site Location:	Project No.
Town of Jamestown	Fort Getty Pier, Jamestown, Rhode Island	24J006.00

Photo No.	Date:
17	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Typical fender pile with missing hardware (Pile 15L)

Photo No.	Date:
19	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Pile in severe condition due to section loss (Pile 15K)

Photo No.	Date:
18	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Loose timbers on bottom

Photo No.	Date:
20	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Broken fender pile at waterline (Pile 80)

Foth

Photographic Log

Client's Name:	Site Location:	Project No.
Town of Jamestown	Fort Getty Pier, Jamestown, Rhode Island	24J006.00

Photo No.	Date:
21	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Typical large splits and checks (Pile 40)

Photo No.	Date:
23	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Close up of hardware at (Pile 10)

Photo No.	Date:
22	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: End rot in pile cap, corroded/failing vertical bracket, typical splits in pile (Pile 10)

Photo No.	Date:
24	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Typical void space behind vertical bracket (Pile 12N)

Foth

Photographic Log

Client's Name:	Site Location:	Project No.
Town of Jamestown	Fort Getty Pier, Jamestown, Rhode Island	24J006.00

Photo No.	Date:
25	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Wale and stringer condition (Pile 1M)

Photo No.	Date:
27	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Typical condition of pile near cap (Pile 5K)

Photo No.	Date:
26	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Large split (Pile 1M)

Photo No.	Date:
28	3/1/24

Direction Photo Taken:

Photo Taken By: Fathom

Description: Typical hardware and framing (Pile 3G)

Foth

Photographic Log

Client's Name:	Site Location:	Project No.
Town of Jamestown	Fort Getty Pier, Jamestown, Rhode Island	24J006.00

Photo No.	Date:
29	4/5/24

Direction Photo Taken: North-East

Photo Taken By: CGP

Description: VCS-NDT crew performing acoustical pile soundings

Photo No.	Date:
31	4/5/24

Direction Photo Taken: North

Photo Taken By: CGP

Description: FR divers performing timber cores to assess marine borer damage

Photo No.	Date:
30	4/5/24

Direction Photo Taken: North

Photo Taken By: CGP

Description: General view of pier and inspection area

Photo No.	Date:
32	4/5/24

Direction Photo Taken: North

Photo Taken By: CGP

Description: General view of pier and inspection area

Appendix D

Dive Inspection Field Notes

Table 1
Fort Getty Pier Dive Inspection Field Notes

Pile	Remark
14O	Abandoned batter pile connection, heavy growth, plumb pile skewed NE
13O	Abandoned batter pile connection, mid-fender pile connection abandoned, plumb pile skewed NE, heavy marine growth, 3"D x 6"L gouge, 1/4"W x 4'L scaling at top of pile
12O	Heavy scaling at top of pile, fender pile 2 abandoned connections, 5"W x 3"H gouge in fender pile, timber debris on bottom
11O	Abandoned batter pile connection, 2" W x 4" H hole in shell, mid-fender pile connection abandoned, plumb pile skewed NE
10O	Abandoned batter pile connection, mid-fender pile connection abandoned, 1.5" section loss at ML
9O	Loose fender pile connections, timber debris on bottom
8O	Abandoned batter pile connection, mid-fender pile connection abandoned, 5"W x 1"H x 5+"D split, heavy scaling at top of pile
7O	Abandoned batter pile connection, fender pile broken at WL, split at bolt connection in pile cap, heavy scaling at WL
6O	Abandoned batter pile connection, 5+"D hole behind bracket, 5"D x 6"W x 7"H hole 5' above ML, 4"D x 1"W x 2.5'L split, fender pile 2 abandoned connections, timber debris on bottom
5O	Abandoned batter pile connection, fender pile missing, heavy scaling, abandoned hardware holes, 3/4"W x 2.5'L x 1"D split 4' above ML
4O	Abandoned batter pile connection, missing fender pile hardware, 1/4"W x 2"D x 2'L split, 1/2"W x 3"D x 2'L split
3O	Soft inside of fender pile, 1/2"W x 3"D x 1'L split, 1"W x 2.5"D x 1.5'L split, shimmed at top of pile, 1.5" section loss 2' above ML
2O	1/2"W x 4"D x 3"L split, 1/2"W x 3"D x 8"L split, fender pile disconnected at WL, heavy scaling at WL
1O	Abandoned batter pile connection, corroded pile cap, splits at top of pile, scaling at WL
14N	Abandoned batter pile connection
13N	Heavy scaling, plumb pile skewed NE
12N	1/2"W x 2"D x 2'L split, loose timber debris on bottom
11N	Corrosion hole behind vertical bracket, 1/2" gap at top of pile (unable to determine if bearing)
10N	Corrosion hole behind vertical bracket, scaling at WL
9N	Scaling at WL
8N	Pile shimmed, scaling at WL
7N	Pile shimmed, 1/2" hole, 1/8" check in top of pile
6N	1/8"W x 1/2"D x 2"L split, scaling at WL
5N	3/4"W x 4"D x 4'L split, corroded at vertical bracket, scaling at WL
4N	3"W x 5+"D x 1.5'L split, 2"W x 2"H x 5"D gouge, corrosion behind vertical plate, scaling at WL
3N	1/8"W x 1"D x 1'L split, scaling at WL
2N	Scaling at WL
1N	Fender pile missing, 1/4"W x 2"D x 1'L split, abandoned hardware holes
14M	Abandoned batter pile connection, pile shimmed
13M	1/2"W x 1"D split, scaling at WL
12M	4"W x 2"D x 3'L split, 3/4" gouge in scaling

Pile	Remark
11M	Scaling at WL
10M	1/2"W x 1"D split, plumb pile skewed NE
9M	Split at abandoned hardware hole, scaling at WL
8M	Scaling at WL, timber debris on bottom
7M	Mid-fender pile connection abandoned, scaling at WL, abandoned hardware holes
6M	2.5"W x 4.5"H x 3"D split, 2.5'L split, scaling at WL, abandoned hardware holes
5M	1/4"W x 4"H x 2"D split, 1/2"W x 4'L check
4M	Heavy scaling at WL
3M	1.5"W cavity at vertical bracket on both sides, 2"W split, scaling at WL
2M	3"D scaling at WL
1M	10"W x 2.5'L hollow section of pile, 6"W split, corroded pile cap
15L	Abandoned batter pile connection
14L	Scaling at WL
13L	1/2" split, scaling at WL
12L	Scaling at WL
11L	1/4"W x 1"D split, heavy scaling at WL
10L	1.5"D scaling at WL
9L	1/2"W x 2"D x 2'L split, 1"D split, scaling at WL
8L	1/2"W x 9"D split at vertical bracket, 2"W x 4"D hollow section top of pile, scaling at WL
7L	1"D splits, scaling at WL
6L	4"W split, 1"W x 2"D x 2.5'L split, scaling at WL
5L	Scaling at WL
4L	3" split, 1'L hollow section 4' from top of pile
3L	5"H x 3"D gouge adjacent hardware hole, 3"W x 1'L hollow section top of pile, gap at top of pile (unable to determine if bearing), heavy scaling
2L	2"W split, 1.5"W x 5"D split at vertical bracket, 2" split at hardware hole, scaling at WL
1L	1"W split, fender pile has abrasion and holes with missing hardware, scaling at WL
15K	Abandoned batter pile connection, scaling at WL
14K	1"W void adjacent vertical bracket, scaling at WL
13K	Scaling at WL
12K	Scaling at WL, timber debris on bottom
11K	Gouge in pile cap adjacent bracket, heavy scaling with abandoned hole
10K	Scaling at WL
9K	Scaling at WL
8K	Scaling at WL, vertical bracket broken
7K	1/2"W x 3"D x 5'L split, 3"W x 3"D gouge behind vertical bracket, 1/2"W x 3"D x 3'L split
6K	Scaling at WL
5K	1/2"W x 2"D split, split at abandoned hardware hole, heavy scaling
4K	1/2"D corrosion hole behind vertical plate, scaling at WL
3K	Scaling at WL
2K	Scaling at WL
1K	split at abandoned hardware hole
14J	Abandoned batter pile connection, scaling at WL
13J	Abandoned batter pile connection

Pile	Remark
12J	Scaling at WL
11J	Abandoned batter pile connection
10J	Fender pile broken with failed connections, bottom bolt on vertical bracket missing both sides of pile
9J	Missing bracket on outside face
8J	Fender pile loose, only 1 connection
7J	1/2"W x 3"D x 6"L split, 1/2"W x 3"D x 9"L split, 1/2"W x 3"D x 1'L split, 2" gouge adjacent bracket
6J	Scaling at WL
5J	Scaling at WL
4J	Abandoned batter pile connection, 2"D split 4' below pile cap, scaling at WL
3J	Scaling at WL
2J	Small voids behind vertical brackets, scaling at WL
1J	Scaling at WL
5I	Scaling at WL
4I	Scaling at WL
3I	2"W x 5"H void behind vertical plate, scaling at WL
2I	1/2"W x 3"D split, scaling at WL
1I	Corrosion around hardware, loose connections
5H	Abandoned hardware holes, scaling at WL, split in pile cap (unable to dimension)
4H	Scaling at WL
3H	Corrosion behind vertical bracket, scaling at WL
2H	Scaling at WL
1H	Scaling at WL
5G	Scaling at WL
4G	Scaling at WL
3G	1"W splits, scaling at WL
2G	Scaling at WL
1G	1"W splits, scaling at WL
5F	1"W splits, scaling at WL
4F	Angled bracket (pictured)
3F	2"D corrosion behind vertical bracket
2F	Scaling at WL
1F	1.5"D corrosion behind vertical bracket
5E	2"D split, abandoned hardware holes
4E	3/4"W x 1'L hollow section, 1"W splits, skewed
3E	1.5"W x 2"D x 2.5'L split, 1/2"W x 1"D x 1'L check
2E	2"W x 3/4"D x 3'L check, 4" diameter loss mid-pile
1E	Vertical bracket heavily corroded
5D	Scaling at WL
4D	Scaling at WL
3D	1/2"W x 3"D x 2'L check
2D	1"D splits, scaling at WL
1D	Hollow at 1.5"W hole 1.5' above ML, scaling at WL
5C	Scaling at WL

Pile	Remark
4C	2"W x 2"D gouge, hollow behind vertical bracket, 1"W x 3"D x 2'L check, scaling at WL
3C	Deteriorated shell, sounds hollow
2C	Scaling at WL
1C	Scaling at WL
5B	3"W x 5+"D x 3'L hollow gouge, 2"W x 2.5"D x 2'L check, abandoned hardware hole, scaling at WL
4B	Scaling at WL
3B	Scaling at WL
2B	Scaling at WL
1B	Scaling at WL
5A	Hollow adjacent vertical bracket, soft around vertical bracket, scaling at WL
4A	Hollow and soft next to bracket 2.5"D embedment, deep gouging, heavy scaling
3A	Hollow and soft next to bracket, scaling at WL
2A	1.5"D scaling at WL, soft shell, necking at WL
1A	2+"D scaling at WL, hollow and soft near middle

Appendix E

VSC-NDT Report

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info@VCS-NDTDivision.com

FORT GETTY PIER
TIMBER PILE LENGTH INVESTIGATION
JAMESTOWN, RHODES ISLAND

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Vice President – VCS-NDT Division

M24023-RI
April 11, 2024

Introduction

Foth Infrastructure & Environmental LLC (Foth) was retained to conduct an inspection of the historic WW1 era Fort Getty Pier located in Jamestown, Rhode Island. To assist Foth with their evaluation, VCS Engineering Inc. – NDT Division (NDT Division) conducted sonic reflection measurements on selected timber piles supporting the pier. Fieldwork conducted by NDT Division was performed on April 5th, 2024, with boat access assistance from Foth personnel and Fathom Resources (commercial diving company)

Test Methods & Results

Location and Survey Control

The site shown in Figure 1 is the location of the historic Fort Getty Pier in Jamestown, Rhode Island. The historic Fort Getty Pier consists of 15 pile bents labeled A through O. Bents A through I consist of 5 rows of piles and Bents J through O consist of 15 rows of piles; additional fender piles are present around the perimeter along Bents J and O and Rows 1 and 15. In total there are 135 piles and 38 fender piles.

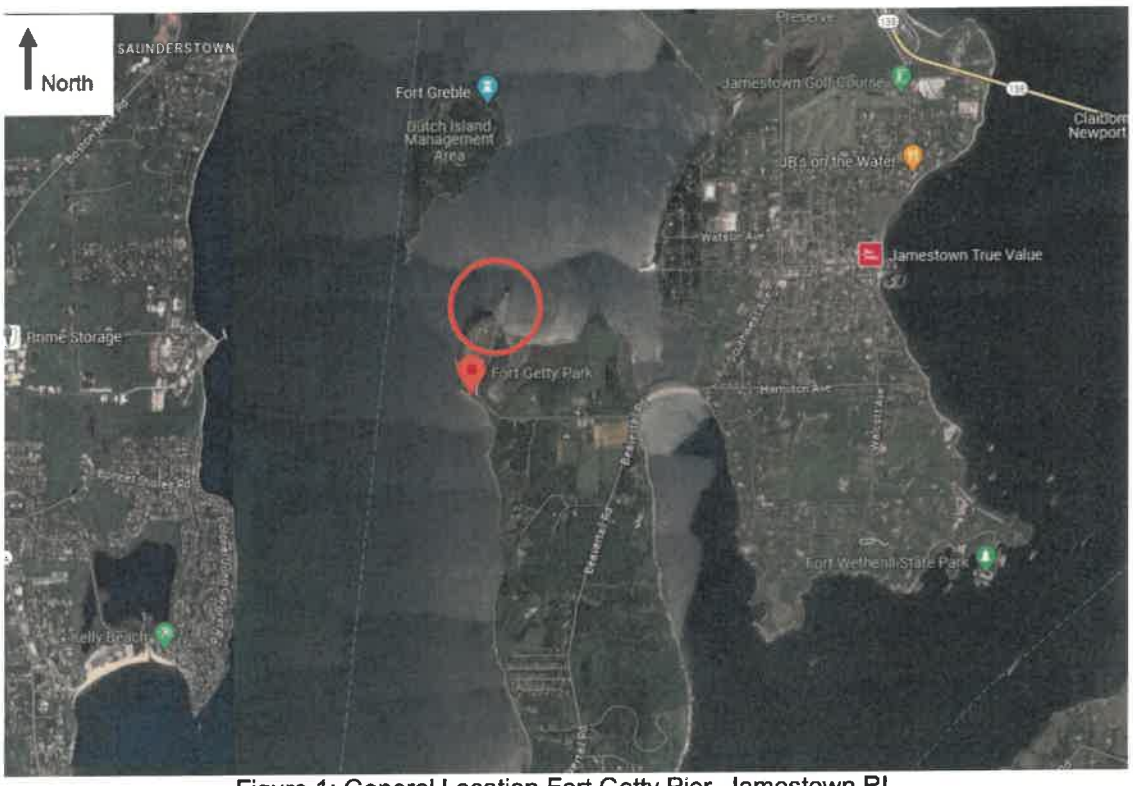

Figure 1: General Location Fort Getty Pier, Jamestown RI.

NDT Division conducted sonic reflection measurements on a total of 18 individual timber piles consisting of 14 piles supporting the structure and 4 fender piles. All piles tested were selected by Foth. Individual pile information including the distance from the top of pile to the mud line were manually measured using a tape at each test location. Figure 2 below is the inspection plan provided by Foth with the approximate location of each pile tested shown as a red circle and each fender pile identified with a purple circle.

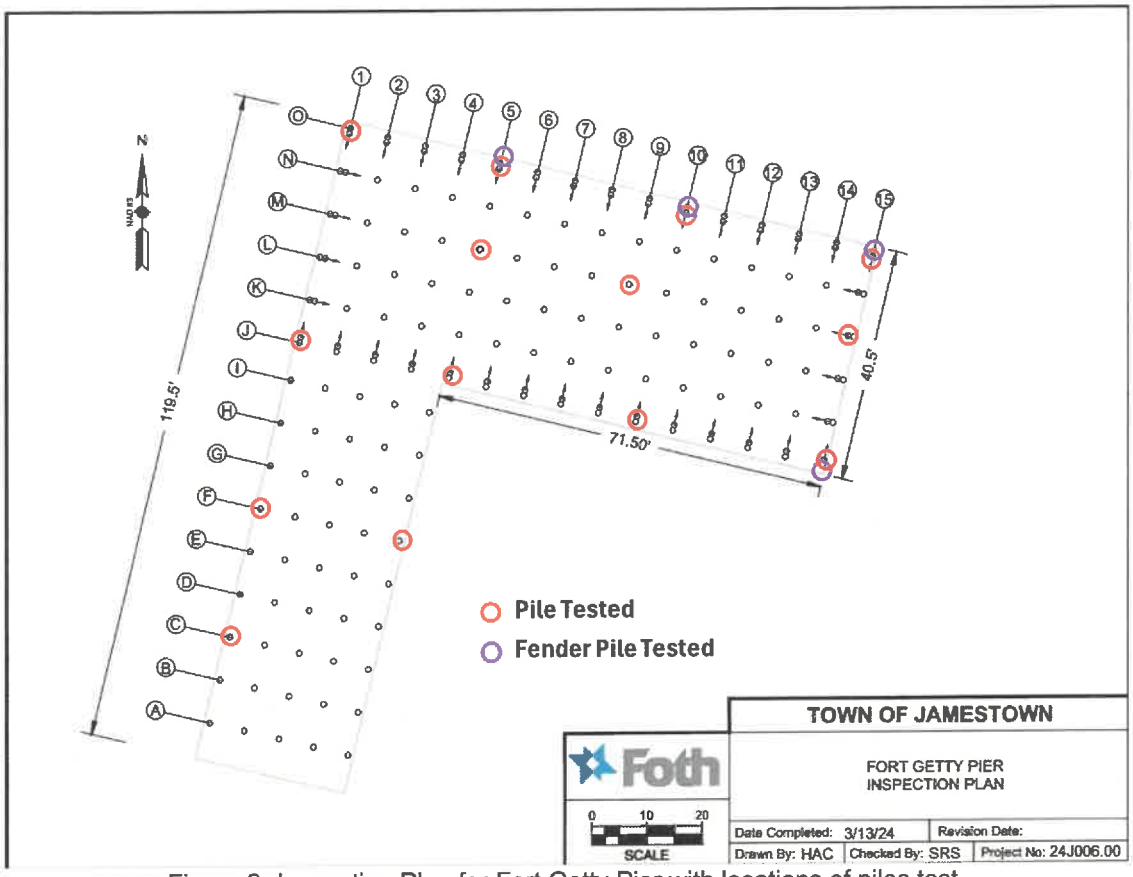

Figure 2: Inspection Plan for Fort Getty Pier with locations of piles test.

Pile Length Test - Pulse Echo Reflection Method to Determine Pile Lengths

The length of steel, wood, and concrete piles can be determined using the Pile Integrity Test (PIT). PIT methods are covered under ASTM D5882-16 *Standard test method for low strain impact integrity testing of deep foundations*. The type of pile integrity test performed was the pulse-echo method (PEM), also known as the reflection method. This measurement method determines the time required for a stress wave generated with a projectile or hammer impact to travel from the top of a pile to the bottom of the pile and be reflected back to the top. Through the understanding of the wave velocity and measuring the time of travel of the reflected wave, the pile length can be determined. Using this non-destructive measurement technique, the length of an timber, concrete or steel pile, caisson, sheet pile, or other embedded long structure can be determined. In addition, if there is any major damage or other significant defects along the pile length they can be detected.

To conduct the testing on a pile, the top or side near the top of the pile must be accessed. Ideally, the top of the pile is the best location for reflection testing, however, due to various structure's geometry, accessing the top is not always feasible. Then if needed, the surface of the pile is cleaned with a wire brush to remove any excessive rust, dirt, ice, or other surface materials so that the sensors can make good contact with the pile material. The sensor array is then held against the pile surface and a stress wave is initiated in the pile using either a hammer or projectile impact from the air gun powered by regulated compressed nitrogen. The measurement is repeated five times to ensure that a consistent bottom reflector is obtained. If a bottom reflector is not clearly identified the sensors are

moved to a new contact point on the pile and the acquisition process is repeated until a repeatable bottom reflector is recorded. In some cases, the reflectors cannot be identified in the field.

Data recorded at a sensor next to the impact point is used to establish "zero" time as the instant energy is introduced into the pile. The two-way travel time of the compressional wave is the time difference between zero time and the received reflected signal to the sensor. The length of the pile is determined using Equation 1 which takes the two-way travel time and divides it by 2 to get the time of flight from the test location to the bottom of the pile. To convert the time of flight into a distance, it is then multiplied by the compressional wave velocity of the material. The typical compressional wave velocity for timber piles is 13,000 ft/sec. Data from the multiple "records" are used to determine the average pile length.

$$L_P = \frac{t}{2} * V_P \quad \text{Equation 1}$$

L_p = Pile length (ft)
t = Two-way time of travel for reflected wave (sec)
V_p = Compressional wave velocity of pile material (ft/sec)

Testing results using this method are expected to be within +- 5 % of the actual pile length. Depths reported from the sonic reflection method are from the top of the pile or the bottom of the pile cap. Often multiple reflections can be observed in the reflection data. Cracked, broken, bent, or severely deteriorated zones in the pile will disrupt the energy propagation causing a reflection that may be interpreted as an "end of pile" reflector or as an intermediate reflector. Typically, the end of the pile reflector is the strongest response coupled with a frequency change in the signal. Shallower weaker reflectors identified as intermediate reflectors within the overall signal can be due to several conditions:

1. A significant change in soil density, soil layering, or encountering the mudline for a marine pile.
2. The pile is deteriorated, cracked, or broken at a shallow depth but enough energy has propagated the full length, resulting in the two reflection depths an intermediate reflector and a full-length reflector.
3. It sometimes can occur that multiple reflections are present in the data that will be increments of two or three times the pile length. This is the signal reflecting back and forth between the top and bottom of the pile multiple times. These multiple reflections can be incorrectly interpreted as a deeper pile than truly exists.

Table 1 includes the physical measurements top of pile to sensor and top of pile to mud line which are obtained using a tape measurement at the time of the survey. The sonic reflection depths are measured from the sensor location to the end of pile, therefore:

The pile length calculations are calculated by:
Reflection Length + Top of Pile to Sensor = Pile Length

The embedment depth was calculated by:
Pile Length – Top of Pile to Mud Line = Embedment

These calculated pile lengths and embedment lengths are shown below in Table 1, and the table and inspection plan showing the pile length results are shown in Appendix 1.

Table 1: Physical measurements, sonic reflection depths, and calculated embedment lengths

Pile ID	Dist. Top of Pile to Mudline (feet)	Dist. To Top of Pile to Sensors (feet)	Reflector Length (feet)	Pile Length (from top of pile) (feet)	Calculated Embedment (feet)	Intermediate Reflector Length (feet)	Comment
F1	10.0	0.5	16 - 17	16.5 - 17.5	6.5 - 7.5		
J1	11.3	0.5	20 - 21	20.5 - 21.5	9.2 - 10.2		
O1	15.2	1.0	27 - 28	28.0 - 29.0	12.8 - 13.8		
O5F	20.9	5.2	29 - 30	34.2 - 35.2	13.3 - 14.3		
O5	14.0	0.5	22 - 23	22.5 - 23.5	8.5 - 9.5		
O10F	21.7	5.5	26 - 27	31.5 - 32.5	9.8 - 10.8		
O10	15.0	0.5	24 - 25	24.5 - 25.5	9.5 - 10.5	14-15	Potential Break at mudline
O15F	24.2	5.9	23 - 24	28.9 - 29.9	4.7 - 5.7		< 5 foot embedment
O15	18.1	0.5	24 - 25	24.5 - 25.5	6.4 - 7.4		
M15	15.7	0.5	32 - 33	32.5 - 33.5	16.8 - 17.8		
J15F	21.5	5.9	29 - 30	34.9 - 35.9	13.4 - 14.4		
J15	15.6	1.0	24 - 25	25.0 - 26.0	9.4 - 10.4		
J10	13.2	1.0	13 - 14	14.0 - 15.0	0.8 - 1.8		Potential Break at mudline
J5	12.9	0.5	25 - 26	25.5 - 26.5	12.6 - 13.6	14-15	Potential Break at mudline
F5	11.0	1.0	19 - 20	20.0 - 21.0	9.0 - 10.0		
M9	14.2	0.5	18 - 19	18.5 - 19.5	4.3 - 5.3		< 5 foot embedment
C1	6.0	1.0	21 - 22	22.0 - 23.0	16.0 - 17.0		
M5	13.0	0.5	19 - 20	19.5 - 20.5	6.5 - 7.5		

For the 14 piles tested the average pile length is 22.9 (4.8 standard deviation) feet with an average embedment of 9.4 (4.4 standard deviation) feet.

For the 4 fender piles tested the average pile length is 32.9 (2.7 standard deviation) feet with an average embedment of 10.8 (4.1 standard deviation) feet.

- The measured length of J10 is within 1-2 feet of the measured mud line, this is a strong indication that the pile is potentially broken.
- Piles O15F and M9 have embedment length less than 5 feet this is an indication that these piles are potentially broken.
- Piles O10 and J5 have strong intermediate reflectors which are within 1-2 feet of the measured mudline and pile lengths which could be a 2nd reflector from this level.

Thank you for the opportunity to work with you on this project, and if you have any questions, please don't hesitate to contact me directly.

Sincerely,

Keith A. Holster

Keith Holster
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VCS-NDT Division
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Office (978) 563-1327
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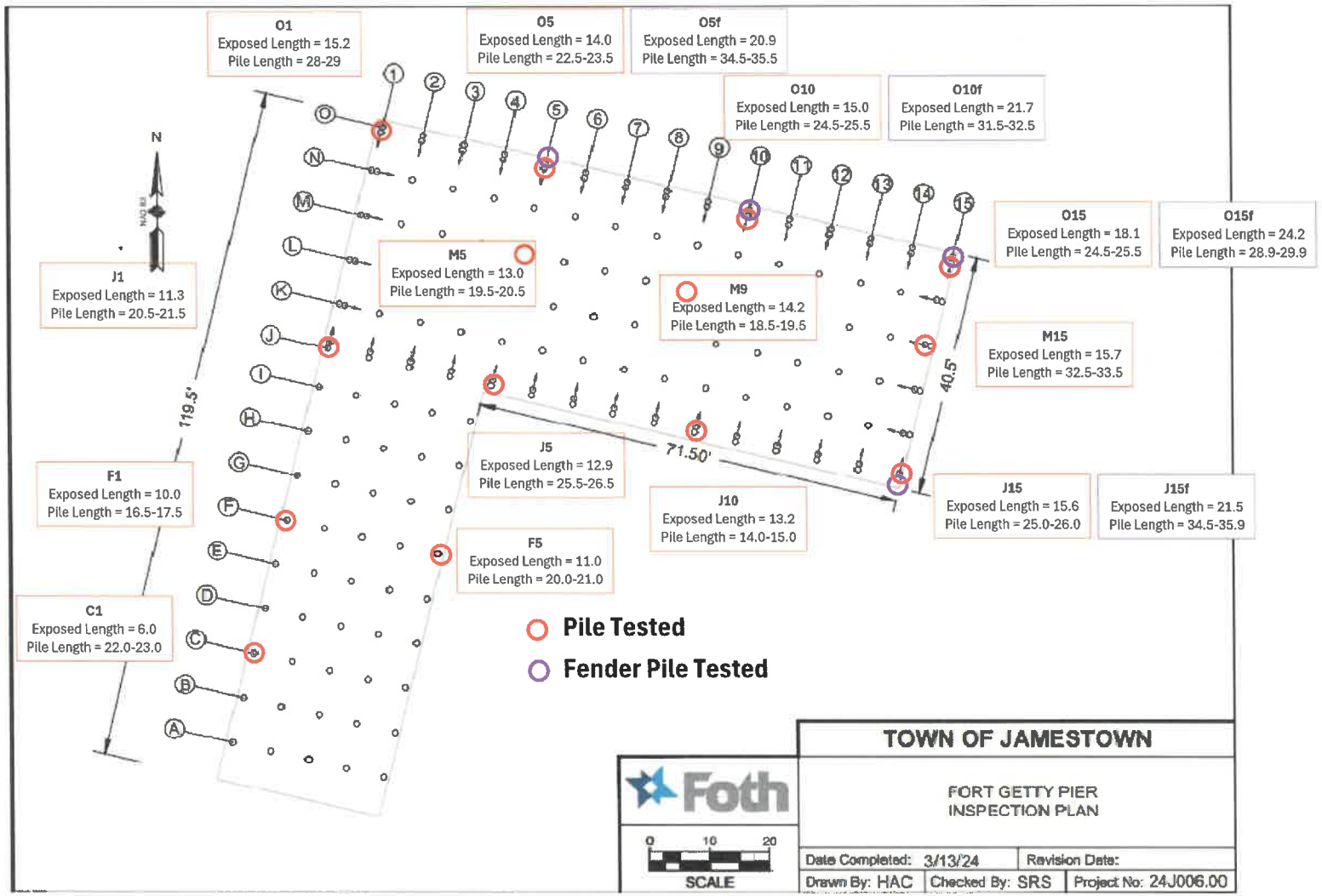
APPENDIX 1 – Table and Plan with Results

Pile ID	Dist. Top of Pile to Mudline (feet)	Dist. To Top of Pile to Sensors (feet)	Reflector Length (feet)	Pile Length (from top of pile) (feet)	Calculated Embedment (feet)	Intermediate Reflector Length (feet)	Comment
F1	10.0	0.5	16 - 17	16.5 - 17.5	6.5 - 7.5		
J1	11.3	0.5	20 - 21	20.5 - 21.5	9.2 - 10.2		
O1	15.2	1.0	27 - 28	28.0 - 29.0	12.8 - 13.8		
O5F	20.9	5.2	29 - 30	34.2 - 35.2	13.3 - 14.3		
O5	14.0	0.5	22 - 23	22.5 - 23.5	8.5 - 9.5		
O10F	21.7	5.5	26 - 27	31.5 - 32.5	9.8 - 10.8		
O10	15.0	0.5	24 - 25	24.5 - 25.5	9.5 - 10.5	14-15	Potential Break at mudline
O15F	24.2	5.9	23 - 24	28.9 - 29.9	4.7 - 5.7		< 5 foot embedment
O15	18.1	0.5	24 - 25	24.5 - 25.5	6.4 - 7.4		
M15	15.7	0.5	32 - 33	32.5 - 33.5	16.8 - 17.8		
J15F	21.5	5.9	29 - 30	34.9 - 35.9	13.4 - 14.4		
J15	15.6	1.0	24 - 25	25.0 - 26.0	9.4 - 10.4		
J10	13.2	1.0	13 - 14	14.0 - 15.0	0.8 - 1.8		Potential Break at mudline
J5	12.9	0.5	25 - 26	25.5 - 26.5	12.6 - 13.6	14-15	Potential Break at mudline
F5	11.0	1.0	19 - 20	20.0 - 21.0	9.0 - 10.0		
M9	14.2	0.5	18 - 19	18.5 - 19.5	4.3 - 5.3		< 5 foot embedment
C1	6.0	1.0	21 - 22	22.0 - 23.0	16.0 - 17.0		
M5	13.0	0.5	19 - 20	19.5 - 20.5	6.5 - 7.5		

	AVG	STDEV	AVG	STDEV
Fender	32.9	2.7	10.8	4.1
Pile	22.9	4.8	9.4	4.4


O1
Exposed Length = 15.2
Pile Length = 28-29
O5
Exposed Length = 14.0
Pile Length = 22.5-23.5
O5f
Exposed Length = 20.9
Pile Length = 34.5-35.5
O10
Exposed Length = 15.0
Pile Length = 24.5-25.5
O10f
Exposed Length = 21.7
Pile Length = 31.5-32.5
O15
Exposed Length = 18.1
Pile Length = 24.5-25.5
O15f
Exposed Length = 24.2
Pile Length = 28.9-29.9
N
J1
Exposed Length = 11.3
Pile Length = 20.5-21.5
M5
Exposed Length = 13.0
Pile Length = 19.5-20.5
M9
Exposed Length = 14.2
Pile Length = 18.5-19.5
M15
Exposed Length = 15.7
Pile Length = 32.5-33.5
119.5'
40.5'
71.50'
J5
Exposed Length = 12.9
Pile Length = 25.5-26.5
J10
Exposed Length = 13.2
Pile Length = 14.0-15.0
J15
Exposed Length = 15.6
Pile Length = 25.0-26.0
J15f
Exposed Length = 21.5
Pile Length = 34.5-35.9
F1
Exposed Length = 10.0
Pile Length = 16.5-17.5
F5
Exposed Length = 11.0
Pile Length = 20.0-21.0
C1
Exposed Length = 6.0
Pile Length = 22.0-23.0
Pile Tested
Fender Pile Tested
Foth
0 10 20
SCALE
TOWN OF JAMESTOWN
FORT GETTY PIER
INSPECTION PLAN
Date Completed: 3/13/24
Revision Date:
Drawn By: HAC
Checked By: SRS
Project No: 24J006.00

Appendix F

Foth Structural Analysis & Recommendations

Foth

Memorandum

TO: Carlos G. Peña, P.E.

CC: Alex I. Mora, P.E.

FR: Kristi Mehrman, P.E.

DATE: April 19, 2024

SUBJECT: Town of Jamestown Fort Getty Pier Structural Analysis and Recommendations – Revision 1

Foth Infrastructure & Environment, LLC. (Foth) performed a structural analysis of the timber pier at Fort Getty located in Jamestown, Rhode Island. Foth performed an inspection of the pier on March 1, 2024. The results of the inspection were utilized for the structural analysis. The following outlines the assumptions of the structural analysis, the results of the analysis, and the recommendations for the structure.

Analysis Assumptions

Codes and Standards

- RISBC-1 Rhode Island Building Code
- 2018 International Building Code (IBC)
- Minimum Design Loads and Associated Criteria for Buildings and Other Structures, ASCE/SEI 7-16
- United Facilities Criteria (UFC) Design: Piers and Wharves, UFC 4-152-01, 24 January 2017
- American Wood Council National Design Specification (NDS) for Wood Construction & Supplement 2018

Timber Members

- All timber members assumed to be Southern Pine No. 1 under wet service conditions.
- Piles were originally 12" diameter, analysis assumed a 15% loss of diameter.
- Pile caps were originally 12"x12", analysis assumed a 25% cross section loss.
- Exterior stringers were originally 12"x12", analysis assumed there was no section loss.
- Interior stringers were originally 6"x12", analysis assumed there was no section loss.
- Decking was originally 2"x10", analysis assumed there was no section loss.

Pile Fixity

- Pile fixity was assumed to be 5D below the recorded mudline, where D is the diameter of the pile.
- The mudline elevation was based on conditions at the time of inspection on March 1, 2024.

Load Definition

- Load combinations in accordance with Unified Facilities Criteria (UFC) Design: Piers and Wharves, UFC 4-152-01.

- Dead load = self-weight of construction materials and other structural components.
- Uniform Live Load = 100 pounds per square foot (PSF) on the pier (Pedestrian Loading).
- Buoyancy load = uplift force applied at a rate of 64 pounds per cubic foot (PFC) for normal seawater.
- Wind and Wave loads calculated in accordance with ASCE 7-16. The structure was assumed to be risk category II.
- Berthing and Mooring loads calculated for a generic 35' fishing vessel. Loads applied perpendicular to the face of the pier.
- Mooring loads in accordance with wind and current loading from Unified Facilities Criteria (UFC), Moorings, dated 12 March 2020. A Type IIB standard storm mooring type was assumed.
- Seismic load is not a controlling factor per engineering judgement.
- The pier was analyzed during normal operating conditions with water level at Mean Low Water (MLW) and during storm conditions when the pier is completely submerged.

Analysis Methodology

- RISA-3D by RISA Tech, Inc. was used for the analysis. RISA-3D is a structural analysis software that analyzes timber members in accordance with international design codes.
- Analysis followed Allowable Stress Design (ASD) methodology with service load combinations.

Results

Wave Loads

- Wave loading in accordance with ASCE 7 assumes that the net force resulting from a breaking wave act at the still water elevation and that 70% of the wave height lies above the local still water elevation. Based on the still water elevation of 10.5' NAVD88 for 1% Annual Chance Flood from the Flood Insurance Study 44005CV000C for Newport County, Rhode Island, the breaking wave will be above the existing pier and will not exert force on the pier.
- Further analysis of wave loading through coastal modeling is required to more accurately calculate the wave force exerted on the existing pier. Based on the historical performance of the pier, it is assumed that the existing structure has adequate capacity to resist the environmental wave forces.

Mooring Loads

- Mooring loads were calculated for a generic 35' fishing vessel in accordance with Unified Facilities Criteria (UFC), Moorings, dated 12 March 2020. A Type IIB storm mooring type with a 64-knot wind and a 2.0-knot current was assumed. The resulting mooring load transverse to the vessel was 2.5 kips and the resulting mooring load longitudinal to the vessel was 1.65 kips.
- Eight (8) vessels were assumed to be moored to the pier at once; two on the west side, two on the north side, one on the east side, two on the south side, and one on the east side closest to shore. Each vessel is assumed to be moored to two (2) cleats.
- Any other vessels moored nearby, are assumed to not induce load on the pier, but moor to nearby piling.
- The pier was analyzed for mooring of the eight vessels with wind from the north, south, east, and west.

- It is assumed that if winds above 64 knots are expected, vessels will not moor to the pier.

3D Analysis

- The 3D analysis of the structure indicates that for the assumptions and load cases outlined above, the existing structure has adequate capacity to support pedestrian loading, mooring, and berthing from a 35' generic fishing vessel, and submersion during storms if the recommended repairs are completed.
- The maximum expected structural utilization for the piles is 77% of capacity, assuming the piles are 10.2" in diameter, a 15% reduction from the original 12" diameter piles.
- The analysis is limited to the items outlined herein, if additional loading of the pier is anticipated, further analysis is required.

Recommendations

Foth recommends the following repairs and improvements to the pier based on the inspection and the structural analysis to restore operations to support pedestrian loads.

- Timber Decking
  - Timber decking that is lifting, splitting, or deteriorated shall be removed and replaced in kind.
  - Existing decking that is in acceptable condition shall be detached from stringers. Nails shall be removed and replaced with timber decking screws.
  - All timber decking shall be installed with stainless steel timber decking screws.
- Stringers
  - Stringers shall be inspected during timber deck removal. Stringers that are decayed and deteriorated shall be removed and replaced in kind.
- Safety ladders shall be repaired and/or replaced.
- Bollards/Cleats
  - Existing bollards shall be removed as the connections to the pier are deteriorated and the capacity of the bollards is unknown and may overstress and not be acceptable for the existing pier condition. Timber members used for bollard attachment that are deteriorated shall be removed and replaced.
  - New cleats may be installed. Cleats shall be 18" to 24" two bolts steel cleats, MacElroy CSC-45 or equal.
  - Further analysis and detailing of cleat connections is required to ensure adequate load transfer to the structure and that no members are overstressed.
- Install new timber rail in kind, where missing, to form continuous rail around pier.
- Remove failed timber fender piles.
- Piles
  - Where section loss of the piles is noted, it shall be documented at the time of repairs.
  - Replace top of timber piles (posting) with section loss of more than 40%.

The existing pier is approximately 100 years old. The remaining life of the structure is unknown. The recommended repairs are intended to restore the pier to safe operating conditions to support pedestrian loads for a short-term solution. These repairs are not intended to be a long-term solution.

Foth recommends the Town begin planning for the replacement of the pier. During the planning process, the existing pier shall continue to be monitored and inspected on a regular basis, at an interval not to exceed two (2) years and following any significant coastal storm event or other reported impactful event. If any further deterioration of the pier is observed, the Town shall notify Foth, so an inspection may occur to confirm if the pier is still safe for pedestrian access and commercial fishing operations.