

MEMORANDUM

To: Jay Sweeney, Chief Finance and Administrative Officer
Stan Eliason, Harbormaster

From: Michael Harmon, P.E., Public Works Director
Stephen Weatherman P.E. Senior Engineer 

Date: July 17, 2018

Subject: Bond Authorization
Crescent Harbor Float Replacement – Phase I

Project Background

Crescent Harbor was designed and constructed by the State of Alaska, Department of Transportation and Public Facilities (ADOT&PF) in several phases, beginning in 1965 and completed in 1970.

Crescent Harbor has undergone numerous repair projects in the past 50 years. Supplemental floatation has been added at least three times over the past 27 years to increase the freeboard of the floats in an effort to get the structural members and fasteners out of the water. Numerous failing timber piling were replaced over the past several years. Approximately 50 percent of the timber finger floats on floats 1, 2 and 3 were replaced in 2002 and the electrical system was renovated in 2005. In spite of these repair projects, the facility is near the end of its safe and useable life. Float structural stringers are rotten such that multiple fasteners are required in each deck board in order to secure them down. Harbor staff have been forced to recently switch from deck nails to 6" long screws for this same reason. (see attached pictures and Text Extract of the Harbor Grant Application)

Current Project Status

The Alaska Legislature has approved A State of Alaska Municipal Harbor Facility Grant for \$5,000,000 to the City and Borough of Sitka for the municipally-owned Crescent Harbor facilities. (see attached Harbor Grant Application)

The updated cost estimate puts the replacement cost of the entire facility to be approximately \$18,000,000 (2017 dollars). This includes wooden floats 1 - 4 and concrete floats 5 and 6. The level of deterioration of the existing wood floats means the wooden floats have a higher priority for replacement. While supplemental floatation can be added to the concrete floats to extend their service life, once the timbers floats rot, the addition of supplemental floatation can force the floatation up through the rotten timber damaging the float and electrical cable tray. Following that line of thinking, Public Works and Harbor Staff have prepared a project to include a more robust Crescent Harbor project for 2019 to include replacement of the timber floats or as much scope as can be accomplished for \$14,025,000 total project cost. A \$14,025,000 project will fully use the value of the one-time Tier I grant. Since the program covers only up to \$5,000,000 in eligible construction costs, the City and Borough cost of the project would be \$8,250,000 to cover the remainder of construction and design, permitting, management and contingencies. It is assumed that a future Phase II project will replace the remainder of the harbor (i.e. concrete floats) in 2026.

Moffatt and Nichol in their condition assessment (attached) stated. "This visual inspection confirmed that findings and recommendations of the aforementioned inventories: In general, that the entire float system, associated gangways and timber access trestles have reached the end of their useful life and should be replaced in their entirety, in the near future."

Condition Assessment

Memorandum

To: Mayor Hunter and Assembly Members
From: Jay Sweeney, CFAO
Date: 7/17/2018
Re: Application for Harbor Revenue Bonds and Associated Resolution

In previous communications to the Assembly, as well as in the FY2019 Consolidated Operating Budget, Staff has identified a need to issue additional harbor revenue bonds to finance the reconstruction of Crescent Harbor. Accordingly, staff is requesting that the Assembly approve a Resolution to submit an application to the Alaska Municipal Bond Bank Authority to issue a harbor revenue bonds in the amount of \$8,025,000.

The first phase of Crescent Harbor was completed by the State of Alaska in 1965, with additional floats added in 1966, 1969, and 1970. Major repairs to finger floats was completed in 2002 and an electrical upgrade was completed in 2005. As is the case with other older municipal harbors, ownership of Crescent Harbor was transferred from the State of Alaska to the Municipality in an as-is state, without provision for repair or renovation.

The physical condition of Crescent Harbor has deteriorated to the point where in-house repairs are no longer sufficient to adequately maintain the facility. Harbor Department staff and Public Works Department engineers have determined that the harbor now presents an operational and safety risk due to floats sinking, decay of wooden beams, corrosion of metal fixtures, and failure of walk-down ramps to meet ADA accessibility requirements..

The Municipality plans to reconstruct Crescent Harbor in two phases: Phase 1 will entail the replacement of wooden floats 1, 2, 3, and 4 and the two walk-down ramps. Phase 2 will entail the reconstruction of the remainder of the Harbor (the concrete floats).

The current estimated cost of Phase 1 of renovating Crescent Harbor is \$14,025,000. Of this amount, the State of Alaska has awarded a Municipal Harbor Matching Grant to the Municipality in the amount of \$5,000,000. The remaining \$9,025,000 of the amount is planned to be provided through a combination of \$8,025,000 in harbor revenue bond proceeds, and the use of Harbor Fund working capital in the amount of \$1,000,000 (which has already been appropriated). It is important to note that the Municipal Harbor Matching Grant must be expended by December 31, 2019 (an 18-month period).

As of March 31, 2018, the Harbor Fund had total working capital of \$7,168,904 and undesignated working capital of \$4,975,583, with the remaining \$2,193,321 previously appropriated for capital purposes and unspent, and, in a modest repair reserve of \$324,307. Thus, Harbor Fund working capital is insufficient to provide the amount necessary to pay for the Municipal portion of the project, even if every available dollar was put towards the project. Bonding proceeds are necessary if reconstruction is going to occur within the time period for the Municipal Harbor Matching Grant.

The Municipal staff has also prepared a comprehensive fiscal model for the Harbor Fund, which was presented to the Assembly during the Fiscal Year 2019 budget process. The fiscal model represents the financial plan for the Harbor Fund. The fiscal model provides for the issuance of harbor revenue bonds to provide all but \$1,000,000 of the required municipal proceeds for the project.

Recommended moorage rates and planned future capital improvements, including the reconstruction of other Municipal harbors, are predicated on the fiscal model. Substantial deviation from the financial plan for the harbor system, by changing the financing plan for Crescent Harbor, will affect all future capital improvement funding plans.

To begin the process of coordinating a revenue bond issuance through the Alaska Municipal Bond Bank, an application is required. Staff is asking the Assembly to pass the attached Resolution authorizing the Administrator to complete the bonding request.

Please note that, to save on duplication and printing costs, some of the attachments which will be included with the signed application, such as the Consolidated Operating Budget and the CAFR, have not been included in your packets. All of the required supplemental information requested on the bond application can be found in these two official documents. In addition, the aforementioned Harbor Fund fiscal model can be found on the Municipal web site, as it is too large to effectively print on paper.

Per the Charter of the Sitka and Borough of Sitka, an election is not required to approve the issuance of revenue bonds.



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Anchorage, AK 99501
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July 22, 2014

Mr. Dan Tadic, PE, Municipal Engineer
City & Borough of Sitka
100 Lincoln Street
Sitka, AK 99835

Re: Crescent Harbor Condition Assessment & Replacement Cost Update

Dear Mr. Tadic:

On June 20, 2014 Moffatt & Nichol performed a routine topside visual inspection of Crescent Harbor, including: the Marginal Float; timber Floats 1 through 4; concrete Floats 5 through 7; two timber access trestles leading to paved parking areas along Lincoln Street; and three (3) gangways leading to these access trestles, and to the Heavy Load Dock. At your request, the Lightering Float and its dual ADA-accessible gangway landing system, the Heavy Load Dock, and two (2) paved parking areas along Lincoln Street were omitted from this assessment. The purpose of this inspection was twofold:

1. Review and confirm, or update the findings of two detailed condition assessment reports conducted over the past 11 years.^{1,2} As you know, I served as Project Manager and Engineer of Record for the 2002 Crescent Harbor Improvements (Phase I), and subsequently authored the 2003 condition assessment² including Floats 5-7 in Crescent Harbor (Phase II.)
2. Prepare updated Opinions of Probable Construction Cost (OPCC) and Estimated Total Project Cost for phased, in-kind harbor replacement to FY2015 capital dollars.

We understand the City & Borough of Sitka (CBS) is applying for a 2015 State of Alaska Harbor Matching Funds Grant, administered by the Alaska Department of Transportation and Public Facilities (ADOT&PF) to begin the phased replacement of the inner harbor structures and associated gangways and access trestles at Crescent Harbor. As a formerly State-owned harbor, this project qualifies for a Tier 1 grant. CBS intends to proceed with the first phase of the harbor's reconstruction in 2016, subject to receipt of these matching funds.

This visual inspection confirmed the findings and recommendations of the aforementioned inventories: in general, that the entire float system, associated gangways and timber access trestles have reached the end of their useful service life and should be replaced in their entirety, in the near future. A series of upgrades completed throughout Floats 1-4 in 2002,

¹ *Sitka Harbor System Master Plan: Condition Inventory & Moorage Rate Recommendations*, PND Engineers, May 2012.

² *Condition and Needs Assessment: Old Thomsen Harbor, Crescent Harbor (Phase II) and Sealing Cove Harbor*, Reid Middleton, Inc., October 2003.

intended to extend the service life of the timber float system by an additional 10-12 years, have served their purpose. Observations throughout the harbor substantiating the recommendation for total replacement include:

- Overall loss of freeboard (a.k.a. "hogging" of floats), indicating deteriorated and/or waterlogged flotation.
- Acute, isolated loss of freeboard and float stability in certain areas, notably the ends of fingers where torsional stiffness and mainwalk-to-finger hinge integrity has deteriorated by timber deterioration, hardware loosening and wear from cyclic loading over time.
- General wear of deck boards (Marginal Float and Floats 1-4) and concrete panels (Floats 5-7) consistent with their 30-year-plus service life; due to pedestrian traffic, snow removal equipment, fungal attack and accumulated vegetative growth.
- Damage to bullrails and cleats associated with impact, occasional overload and general day-to-day use.
- Aging and loss of integrity of structural timbers, fascia and rub strips where lost flotation led to submersion and susceptibility to accelerated decay.
- General looseness and wear of modular float connections, creating trip hazards and differential movement between mainwalk modules.
- Loss of section of both original and replacement piling due to corrosion and wear.
- General wear and deterioration of gangways, transition plates and landing floats due to age and wear (and noting that the current gangways are not ADA-accessible.³)
- Loss of timber bearing pile section and associated structural timber integrity for the access trestles, due to marine borer growth, fungal attack, dry rot and general decay.
- An electrical and harbor lighting system that is functional but which does not meet all current harbor users' needs, and which is not compliant with current electrical code⁴.

Although CBS will use the opportunity to revise the float geometry to better serve the recreational and commercial fishing fleet in the present and foreseeable future, the approach used for this cost evaluation assumes "in-kind replacement", with the following exceptions:

- Replacement gangways (3) will be ADA-accessible (i.e., 80-feet in length); longer than those currently in service.
- New floats will be of modular timber construction with galvanized steel guide piling.
- New access trestles will be of timber construction on galvanized steel bearing piles and pile bents.

³ Americans with Disabilities Act Accessibility Guidelines (ADAAG), 2010.

⁴ National Electrical Code (NEC) or NFPA 70, 2014.



- Replacement shore power pedestals, lighting and water systems (potable and fire water) will meet current code requirements.

Project cost items followed those developed in the 2012 condition assessment¹, with unit costs updated to 2013 figures based on bid tabulations from the recently completed ANB Harbor Float Replacement project. A generally accepted construction cost escalation factor of 2.5-percent annually⁵ was then applied to convert estimates to FY2015 dollars. A 15-percent level of contingency; an additional 10-percent to cover Professional Planning, Permitting and Design Services and Project Management; and a further 5-percent to cover Construction Administration were included for budgetary purposes.

We have estimated the total in-kind replacement costs (FY2015 dollars) for Crescent Harbor as follows, with further detail summarized in the attached, phased OPCC:

- Phase 1 – Floats 1-4, Marginal Float, 3 gangways and 2 access trestles: \$12.1 Million
- Phase 2 – Floats 5-7 and Marginal Float: \$4.1 Million

We understand CBS intends to apply for a Tier 1 Matching Funds Grant through ADOT&PF with a desired project budget of \$11 Million (i.e., \$6 Million CBS; \$5 Million State of Alaska.) The estimated \$12.1 Million project may be developed with deductive bid alternates to control the harbor's construction within available project funding. It is quite conceivable that given a favorable bid climate and cost-effective Professional Services, all of the planned Phase 1 improvements may be completed within a budget of \$11 Million.

In summary, and consistent with the recommendations in the referenced condition assessment reports^{1,2} we recommend and endorse the phased reconstruction of Crescent Harbor floats, gangways and access trestles as soon as funds can be secured for their replacement. Please contact me if you have any questions concerning this visual inspection or these findings.

Sincerely,

MOFFATT & NICHOL



Shaun McFarlane, PE
Business Unit Leader



Attachment: Phased Opinion of Probable Construction Cost

⁵ <http://www.iciinc.com/blog/construction-cost-escalation-trends-predictions/>



Crescent Harbor - Sitka, AK
Opinion of Probable Construction Cost (OPCC)
Phase 1

Item No.	Description	Approx. Quantity	Unit	Unit Cost	Extended Cost (Rounded)
1	MOBILIZATION/ DEMOBILIZATION	1	LS	\$ 735,000	\$ 735,000
2	DEMOLITION AND DISPOSAL	1	LS	\$ 305,000	\$ 305,000
3	DOMESTIC WATER AND FIRE SYSTEM	1	LS	\$ 445,000	\$ 445,000
4	CONSTRUCTION SURVEYING	1	LS	\$ 21,000	\$ 21,000
5	TIMBER APPROACH DOCK	2	EA	\$ 53,000	\$ 106,000
6	80' COVERED ALUMINUM GANGWAY	3	EA	\$ 126,000	\$ 378,000
7	SIGNAGE	1	LS	\$ 7,400	\$ 7,000
8	HEADWALK FLOAT 10' x 820'	8200	SF	\$ 85	\$ 697,000
9	WEST HEADWALK FLOAT 10' x 80'	800	SF	\$ 85	\$ 68,000
10	FLOAT 1, 10' x 412.5	4125	SF	\$ 85	\$ 351,000
11	FLOAT 2, 10' x 425'	4,250	SF	\$ 85	\$ 361,000
12	FLOAT 3, 10' x 400'	4,000	SF	\$ 85	\$ 340,000
13	FLOAT 4, 10' x 385'	3875	SF	\$ 85	\$ 329,000
14	8' x 75' END FLOAT	1	EA	\$ 63,000	\$ 63,000
15	GANGWAY LANDING FLOAT, 16' x 20'	2	EA	\$ 33,500	\$ 67,000
16	3' x 17' FINGER FLOAT	40	EA	\$ 5,400	\$ 216,000
17	4' x 32' FINGER FLOAT	9	EA	\$ 13,400	\$ 121,000
18	4' x 34' FINGER FLOAT	4	EA	\$ 14,300	\$ 57,000
19	5' x 40' FINGER FLOAT	10	EA	\$ 21,000	\$ 210,000
20	5' x 42' FINGER FLOAT	9	EA	\$ 22,100	\$ 199,000
21	6' x 50' FINGER FLOAT	21	EA	\$ 31,500	\$ 662,000
22	8' x 75' FINGER FLOAT	11	EA	\$ 63,000	\$ 693,000
23	10' x 10' TRANSFORMER FLOAT	3	EA	\$ 10,500	\$ 32,000
24	STEEL PIPE PILE, 12-3/4 DIA x 0.5"	137	EA	\$ 7,900	\$ 1,082,000
25	PREDRILLED PILE SOCKETS	69	EA	\$ 4,700	\$ 324,000
26	ANODES	274	EA	\$ 1,600	\$ 438,000
27	FURNISH LEVELING BILLET	50	EA	\$ 160	\$ 8,000
28	INSTALL LEVELING BILLET	50	EA	\$ 320	\$ 16,000
29	LIFE RING AND CABINET	11	EA	\$ 1,050	\$ 12,000
30	FIRE EXTINGUISHER AND CABINET	11	EA	\$ 1,250	\$ 14,000
31	SAFETY LADDERS	20	EA	\$ 650	\$ 13,000
32	ELECTRICAL SYSTEM	1	LS	\$ 932,000	\$ 932,000
33	SPARE ELECTRICAL EQUIPMENT	1	LS	\$ 26,000	\$ 26,000
Estimated Bid Price					\$ 9,328,000
Contingency				(15%)	\$ 1,399,000
Opinion of Probable Construction Cost					\$ 10,727,000
Planning, Permitting, Design and Bid Documents				(10%)	\$ 933,000
Contract Administration, Construction Inspection & Other Indirect Costs				(5%)	\$ 466,000
Estimated Total Project Cost (Phase 1)					\$ 12,126,000
<i>Note: All estimates are in 2015 USD and rounded to the nearest thousand dollars. Estimates are based on Sitka Harbors Master Plan (2012 USD); modified per recent ANB Harbor OPCC & bid results, and annual construction cost escalation.</i>					

Crescent Harbor - Sitka, AK
Opinion of Probable Construction Cost (OPCC)
Phase 2

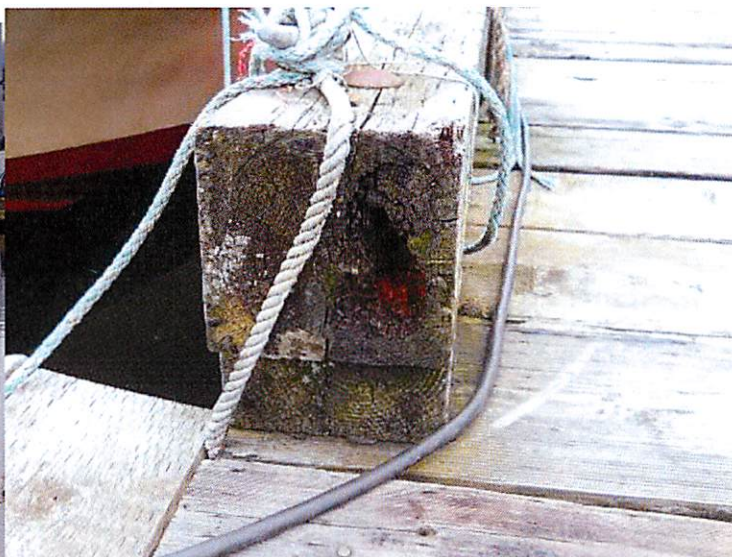
Item No.	Description	Approx. Quantity	Unit	Unit Cost	Extended Cost (Rounded)
1	MOBILIZATION/ DEMOBILIZATION	1	LS	\$ 420,000	\$ 420,000
2	DEMOLITION AND DISPOSAL	1	LS	\$ 116,000	\$ 116,000
3	DOMESTIC WATER AND FIRE SYSTEM	1	LS	\$ 143,000	\$ 143,000
4	CONSTRUCTION SURVEYING	1	LS	\$ 16,000	\$ 16,000
5	SIGNAGE	1	LS	\$ 5,300	\$ 5,000
6	HEADWALK FLOAT 10' x 270'	2,700	SF	\$ 85	\$ 230,000
7	EAST HEADWALK FLOAT 10' x 112'	1120	SF	\$ 100	\$ 112,000
8	FLOAT 5, 10' x 318'	3180	SF	\$ 85	\$ 270,000
9	FLOAT 6, 10' x 304'	3040	SF	\$ 85	\$ 258,000
10	FLOAT 7, 10' x 192'	1920	SF	\$ 85	\$ 163,000
11	3' x 17' FINGER FLOAT	15	EA	\$ 5,400	\$ 81,000
12	4' x 24' FINGER FLOAT	36	EA	\$ 10,100	\$ 364,000
13	10' x 10' TRANSFORMER FLOAT	1	EA	\$ 10,500	\$ 11,000
14	STEEL PIPE PILE, 12-3/4 DIA x 0.5"	38	EA	\$ 7,900	\$ 300,000
15	PREDRILLED PILE SOCKETS	19	EA	\$ 4,700	\$ 89,000
16	ANODES	76	EA	\$ 1,600	\$ 122,000
17	FURNISH LEVELING BILLET	25	EA	\$ 160	\$ 4,000
18	INSTALL LEVELING BILLET	25	EA	\$ 320	\$ 8,000
19	LIFE RING AND CABINET	5	EA	\$ 1,050	\$ 5,000
20	FIRE EXTINGUISHER AND CABINET	5	EA	\$ 1,250	\$ 6,000
21	SAFETY LADDERS	8	EA	\$ 650	\$ 5,000
22	ELECTRICAL SYSTEM	1	LS	\$ 433,000	\$ 433,000
23	SPARE ELECTRICAL EQUIPMENT	1	LS	\$ 16,000	\$ 16,000
Estimated Bid Price					\$ 3,177,000
Contingency				(15%)	\$ 477,000
Opinion of Probable Construction Cost					\$ 3,654,000
Planning, Permitting, Design and Bid Documents				(10%)	\$ 318,000
Contract Administration, Construction Inspection & Other Indirect Costs				(5%)	\$ 159,000
Estimated Total Project Cost (Phase 2)					\$ 4,131,000
<i>Note: All estimates are in 2015 USD and rounded to the nearest thousand dollars. Estimates are based on Sitka Harbors Master Plan (2012 USD); modified per recent ANB Harbor OPCC & bid results, and annual construction cost escalation.</i>					

Pictures of Harbor Decay

Showing finger float listing



Showing rot in bull rail



Showing rot in bull rail

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Showing loss of flotation in finger float, wood frame in contact with water



Showing finger float loss of flotation

Typical design standard is 1' 8" of freeboard from top of deck



Showing float frame below water level

This is due to loss of flotation



Showing float frame below water level

This is due to loss of flotation

This situation accelerates decay of float.



Showing float frame almost into water

Typical design standard is 1' 8" of freeboard from top of deck



Showing float frame below water level

This is due to loss of flotation. Marine growth accelerates the rotting of the wood frame



Text Excerpt of Harbor Grant Application

APPENDIX A

BLOCK 1—PROJECT SUMMARY

The City and Borough of Sitka (City) is requesting a Tier I harbor grant in the amount of \$5,000,000. The grant will be used to assist with the replacement of a portion of the existing rapidly aging and failing infrastructure at Crescent Harbor. The City plans to provide matching grant funds from the proceeds of bonding. The grant project includes the first phase of an anticipated two phase complete replacement of the existing facility.

Crescent Harbor was originally designed by the State of Alaska Department of Transportation and Public Facilities (ADOT&PF) and constructed in several phases. The initial construction occurred in 1965, and over the past 50+ years the facility has undergone numerous expansion and repair projects.

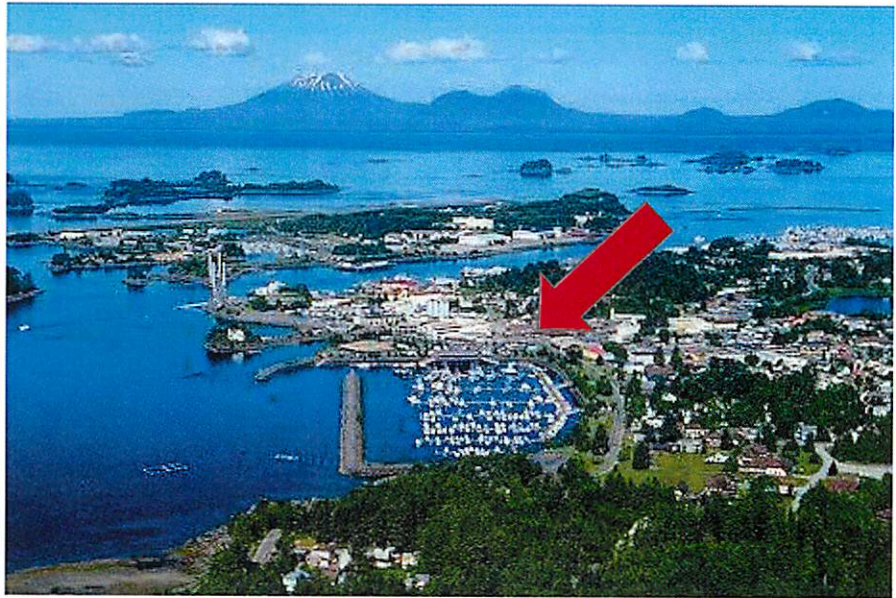
The first phase of construction in 1965 consisted of construction of floats 1 and 2 and the headwalk. Also constructed under this phase was the gangway and access float from the high load dock. A second construction phase occurred in 1966 which included construction of floats 3 and 4 and additional headwalk. In 1969 the third phase of construction occurred which included installation of gangway access to float 4 and construction of concrete floats 5 and 6 and additional concrete headwalk. In 1970 the final expansion phase of the harbor occurred, which included installation of float 7 and its access from float 6. A repair project occurred in 2002 which replaced approximately 50 percent of the timber finger floats on floats 1, 2 and 3. The electrical system was renovated in 2005.

Crescent Harbor provides moorage for 365 vessels ranging in length from approximately 17-ft to 75-ft. The makeup of the fleet includes both commercial and charter fishing vessels as well as pleasure craft. Access to the float system is



Extreme rot exhibited in timber piling. CBS has been methodically replacing timber piling as funding allows.

provided by three 50-ft long steel gangways which are significantly shorter than is required to meet Americans with Disabilities Act (ADA) requirements. The harbor consists of both concrete and timber floats. The 10-ft wide headwalk gives access to seven mainwalk floats, each supporting finger floats of varying lengths. The float system is anchored in place by both steel and timber piles. The floats are equipped with water, fire, electrical, and lighting utilities.



An overall view of downtown Sitka with Crescent Harbor indicated by the arrow.

The facility is at the end of its useful life. Freeboard has dropped to as little as 7 inches across the harbor which has resulted in significant rot of structural timber and corrosion of metal fasteners. Float structural timbers are so rotten that multiple fasteners are required in each deck board in order to secure them. Harbor staff have been forced to recently switch from deck nails to 6" screws for this reason. Hinge connection assemblies are extremely worn due to constant steel-on-steel wearing resulting in section loss and reduced capacity of the connection hardware. In addition, the harbor electrical system does not meet the requirements of National Electric Code which requires ground fault protection of all circuits. An Inspection Report completed in 2014 by Moffatt & Nichol confirms that the facility has reached the end of its useful life and must be replaced in its entirety. Due to the high estimated replacement cost, it is anticipated that the replacement will be broken into two phases.

The City and Borough of Sitka plans to work with the US Army Corps of Engineers to undergo an expedited permitting process. The City plans to complete work associated with replacement of the float system under a US Army Corps of Engineers Nationwide Permit 3—Maintenance.

APPENDIX B

BLOCK 4—SCOPE, SCHEDULE, AND COST ESTIMATE

Scope:

The Crescent Harbor Float Replacement—Phase I project will replace as much of the existing deteriorated infrastructure as the budget will allow. The City and Borough of Sitka anticipates that the first phase of the project will include the following upgrades and modifications:

- Replace timber floats 1-4 and associated fingers and headwalk float
- New 7' x 80' ADA compliant gangways (3)
- Reconstruct approach trestles to accommodate increased gangway length (2)
- Replace existing potable water, fire, electrical and lighting utilities with upgraded systems which meet current code requirements
- Revise slip sizes as required to accommodate current and future vessel requirements

Please see the attached conceptual design drawing.

Schedule:

The construction schedule will depend on the City and Borough of Sitka's ability to acquire State matching grant funding. The City and Borough of Sitka plans to utilize match funding from some the proceeds of bonding. Assuming a Letter of Award is received no later than August 1, 2018 and an agreement is signed by October 15, 2018, estimated construction completion would be March 15, 2020. A copy of the proposed schedule is attached.

Cost Estimate:

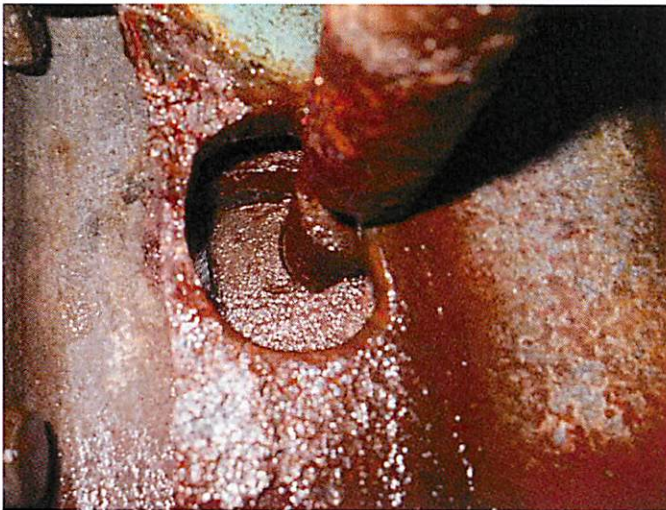
Enclosed please find the project cost estimate. The estimate provides cost summaries for estimated construction bids, indirect costs, and a total recommended project budget.

APPENDIX C

BLOCK 6—BILL OF SALE

BLOCK 12—BILL OF SALE

On the following pages, please find supporting documentation detailing the ownership of Crescent Harbor by the City and Borough of Sitka. Note: Crescent Harbor (Floats A-D, 1-4), High Load Dock, Lightering Float, and Boat Launch were deeded to the City in 2001. Crescent Harbor (Floats E-F, 5-7) was deeded to the City, along with Thomsen Harbor and Sealing Cove Harbor, in 2004.



Failure of hinge assembly



Timber pile rot

APPENDIX D

BLOCK 7—CAPITAL IMPROVEMENT PROJECT

On the following pages, please find supporting documentation demonstrating that the Crescent Harbor Float Replacement project is identified in the Sitka Harbor System Master Plan (2012) and is a high priority for the City and Borough of Sitka. Since development of the Master Plan, the City has updated its Capital Plan to include a more robust first phase of the Crescent Harbor Float Replacement project due to the advanced deterioration of the facility and the desire to maximize the use of a one-time Tier I grant. The entire Harbor Master Plan, as well as other supporting documentation, are provided on a CD within the front sleeve of the application binder.

As evidence of a proactive approach to maintaining its harbor system, the City and Borough of Sitka developed the Sitka Harbor System Master Plan in 2012. The Master Plan helps prioritize and budget for maintaining and replacing harbor infrastructure over the full life cycle of the harbor system. The planning process was conducted in two parts and is reported in that manner. Part I provides a comprehensive condition inventory, estimation of remaining service life and replacement costs for all harbor related



Damaged glulam

marine and upland facilities operated by the CBS Port and Harbors Department. Part II provides guidance on the moorage rates required to fund the full life cycle costs of the harbor system's operations, maintenance, and replacement needs. The Sitka Port and Harbors Commission unanimously approved the rate increases recommended in the Master Plan in 2012. The Sitka Assembly has also approved annual rate increases in each year since.

The following Inspection Report completed by Moffatt & Nichol (2014) further presents the need for immediate reconstruction of this critical infrastructure.

APPENDIX E

BLOCK 8—50% MATCH FUNDING

The City and Borough of Sitka anticipates funding the match required for the Municipal Harbor Facility Grant with proceeds from bonding. As was the case for the Municipal Harbor Facility Grant-funded ANB Harbor Float Replacement project, a revenue bond (which does not require a vote of the general public) will not be pursued until a grant has been awarded.

Please see the following statements detailing funding availability. Full copies of all supporting documentation are provided on a CD within the front sleeve of the application binder.

A Moorage Rate Recommendation for the Sitka Harbor System was prepared by Northern Economics and City Finance Department Staff as part of the Harbor System Master Plan in 2012. The rate study report provides guidance on the moorage rates required to fund the full life cycle costs of the harbor system's operations, maintenance and replacement needs. Given today's low interest rates, borrowing plays a significant role in the overall rate plan for the Sitka Harbor System and will be utilized to help fund this project.

The Sitka Port and Harbor Commission unanimously supported the proposed rate increases recommended in the Harbor Master Plan in 2012 (see attached letter from Commission Chair, Grant Miller). The Sitka Assembly has supported annual rate increases each year since.

APPENDIX F

BLOCK 9—PROPERTY LOSS INSURANCE

On the following pages, please find supporting documentation detailing that the City and Borough of Sitka holds adequate liability insurance. The policy is underwritten by Venneberg Insurance, Inc. The City and Borough of Sitka is self-insured for risks associated with property loss.

Please see attached sheets for further information detailing the insurance held by the City and Borough of Sitka.



Loss of freeboard



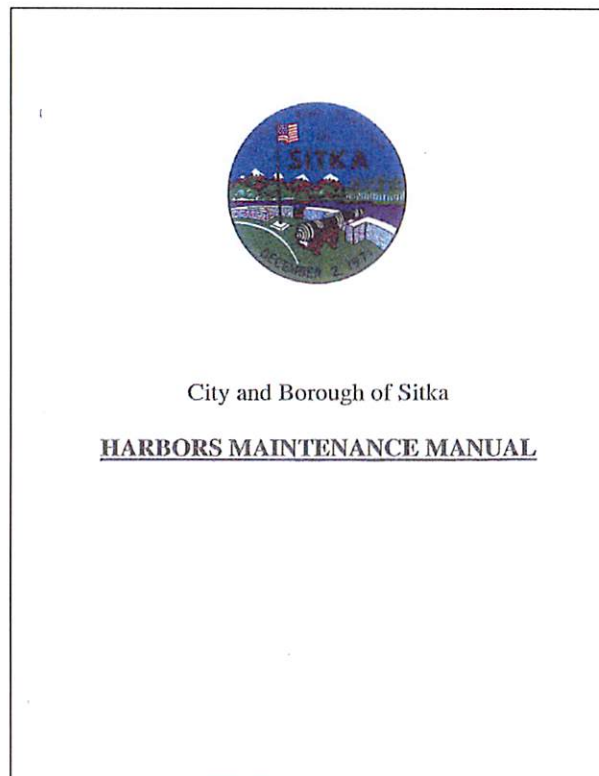
Staff have been forced to utilize multiple fasteners and ultimately transition from deck nails to screws to secure deck boards as a result of the rotten timbers sills and stringers

APPENDIX G

BLOCK 10—PREVENTATIVE MAINTENANCE PLAN

The City and Borough of Sitka Port and Harbors Department has developed a *Harbor Maintenance Manual* to assist Staff in the maintenance and operation of the City-owned harbor facilities. This manual was developed by the Sitka Harbor Department for the purpose of establishing guidelines for ongoing harbor maintenance and operations. The document serves as a guide to systematically developing, monitoring, and evaluating the condition of the harbor facilities. The manual is attached in its full form.

The City and Borough of Sitka understands the importance of a preventative maintenance program and its effect on the quality and safety of their public harbor facilities.



The City and Borough of Sitka's proactive approach to harbor maintenance was noted prominently by PND in the Harbor Master Plan document (2012)

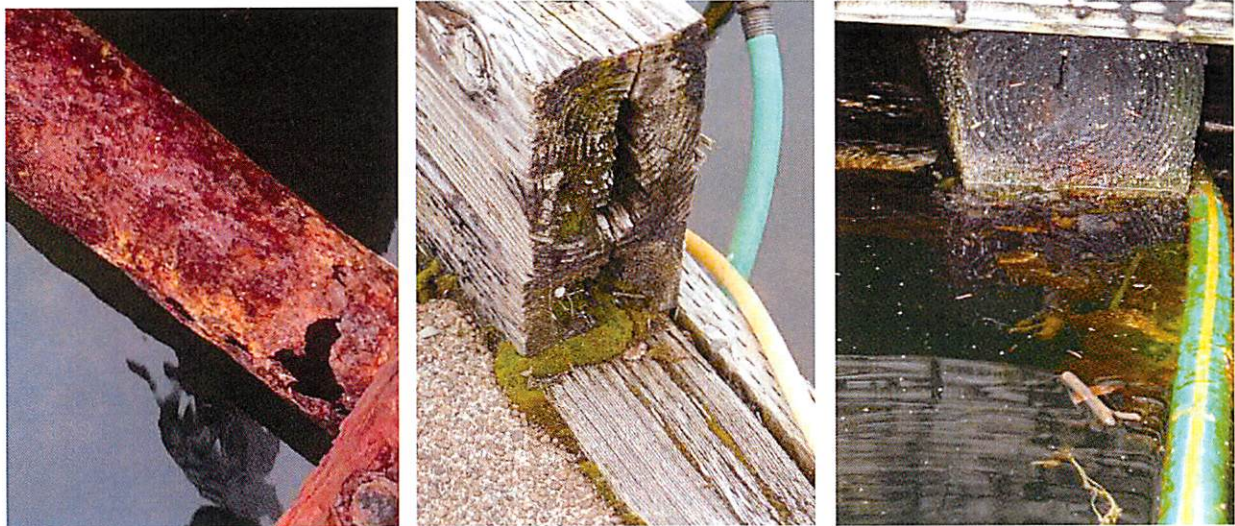
APPENDIX H

BLOCK 14—FINANCE PLAN

On the following pages, please find the City and Borough of Sitka's Harbor Fund Operating Budget for FY18.

The attached Chapter 13.06 of the Sitka General Code establishes moorage fees and related revenues collected by the Harbor Fund.

The Harbor Master Plan, which was completed in 2012, provides moorage rate recommendations required to fund the full life-cycle cost of all Sitka Municipal Harbor infrastructure. The Sitka Port and Harbor Commission unanimously approved the moorage rate recommendations from the Master Plan in 2012. The Sitka Assembly has unanimously approved annual rate increases in recent years with another rate increase appearing on the upcoming Assembly agenda.



Loss of freeboard and advanced stages of rot and corrosion are evident throughout the harbor.

APPENDIX I

BLOCK 15—SAFETY ISSUES

In spite of the best efforts by CBS to maintain the facility, Crescent Harbor is riddled with safety issues and potential dangers to patrons due to its age. The City and Borough of Sitka Harbor Department maintains a daily Sitka Harbor Maintenance File and takes a proactive approach to maintaining infrastructure to ensure public safety, however the facility has reached the end of its useful life and that goal is becoming more difficult to achieve.

Replace Floats—

The floats are in poor condition exhibiting corroded hinge connections, loss of freeboard, rotting structural timber, and spalling/cracking concrete. The float system has reached the end of its safe and useful life. Significant efforts have been taken to keep the floats in service until funds are available to reconstruct the facility. It is imperative that this important facility be replaced immediately before a catastrophic failure occurs.

New Covered Aluminum Gangways—

Currently, the transition plates between the gangway and trestles pose a tripping hazard. New covered gangways will protect the walking surfaces from accumulation of rain, snow, etc. improving safety for users. The new gangways will also be ADA compliant.



Trip hazard at gangway transition plate

Electrical System—

Faulty electrical equipment can lead to fires and this risk increases as the infrastructure at Crescent Harbor ages and deteriorates. The proposed project will update electrical wiring and electrical components to current NFPA standards. The proposed project will include a fire suppression system as well as new fire extinguishers on the floats. Furthermore, the entire electrical system will be installed to new NEC requirements to include ground fault protection to reduce the risk of electrocution drowning death.

Provide Adequate Water System—

The float water system consists of a float supported HDPE water main which feeds float mounted pedestals. The pedestals are equipped with two 3/4" garden hose type bibs and one 2" fire hose connection. Numerous leaks have been repaired over the past several years. The proposed project will replace the water system in its entirety to decrease the risk of unnecessary leaks and ice that could lead to slip/fall incidents.

Provide Adequate Float Lighting—

The existing bollard level lighting on the floats is insufficient. The proposed project will replace existing light fixtures and improve light fixture spacing to maintain safe illumination levels to lower the risk of slip/fall incidents, decrease the risk of theft and vandalism, and aid in year-round operational safety.

Provide Adequate Water Rescue Equipment—

The City will provide adequate water rescue equipment including life rings and safety ladders.

Improve Public Safety and Threat to Marine Mammals—

The City and Borough of Sitka will continue to participate in NOAA's "Don't Feed the Sea Lions" program and plans to place signage within the harbor reminding users not to feed sea lions. Sea lions have been known to bite Alaskan harbor users. Sea lions hauling out on aging docks can pose safety risk to pedestrians causing uneven walking surfaces, lower freeboard, etc.

No-wake Zones—

Crescent Harbor will continue to operate as a no-wake zone. Signs will be placed at the harbor entrance. Harbor personnel will continue to inform and enforce no-wake zones in an effort to maintain slow operation within the limits of the facility.

Kids Don't Float—

The City and Borough of Sitka will continue to work with a local non-profit organization to participate in the Kids Don't Float program. Signage and spare personal flotation devices will be available at the harbor.

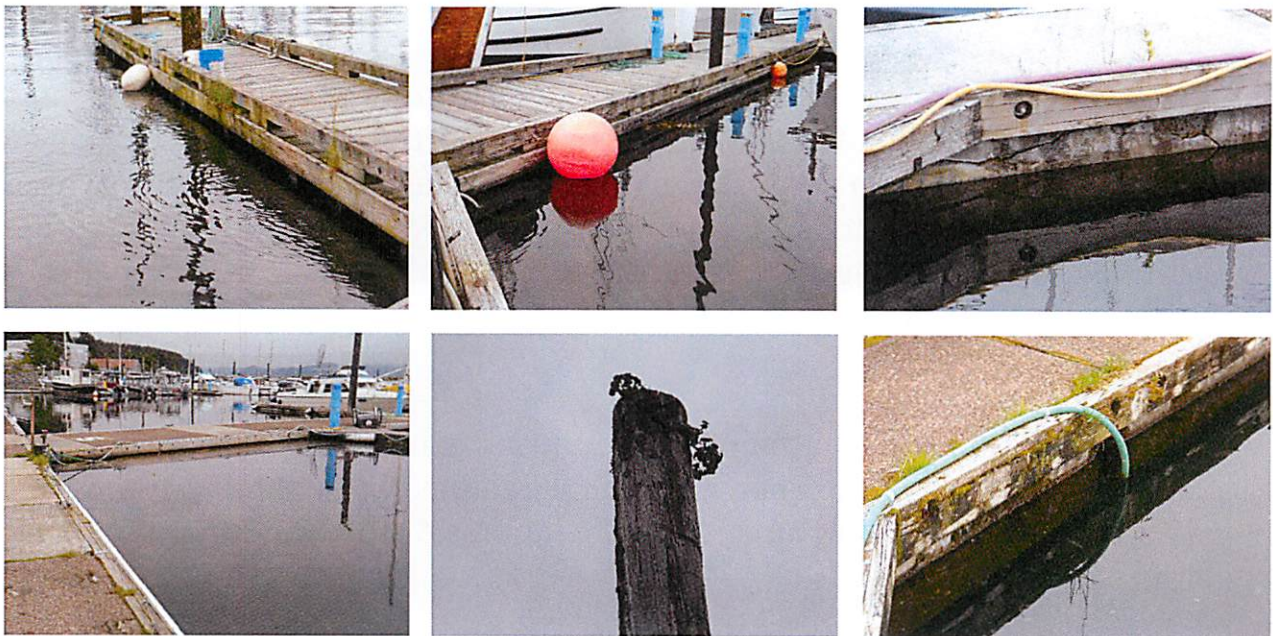
APPENDIX J

BLOCK 11—MAINTENANCE ACTIVITY LOG

BLOCK 16—PAST MAINTENANCE EXPENDITURES

On the following pages, please find supporting documentation detailing the past maintenance activities and expenditures of the City and Borough of Sitka for Crescent Harbor.

The CBS Harbor Department takes a proactive approach to harbor maintenance and recently spent over \$100,000 to complete replacement of rotted timber piles and a severely corroded water service to the harbor. In total, CBS has expended over \$400,000 in the past 5 years to keep Crescent Harbor safe and usable. In spite of these significant recent expenditures, the facility has exceeded its remaining safe and usable life and must be replaced in its entirety.



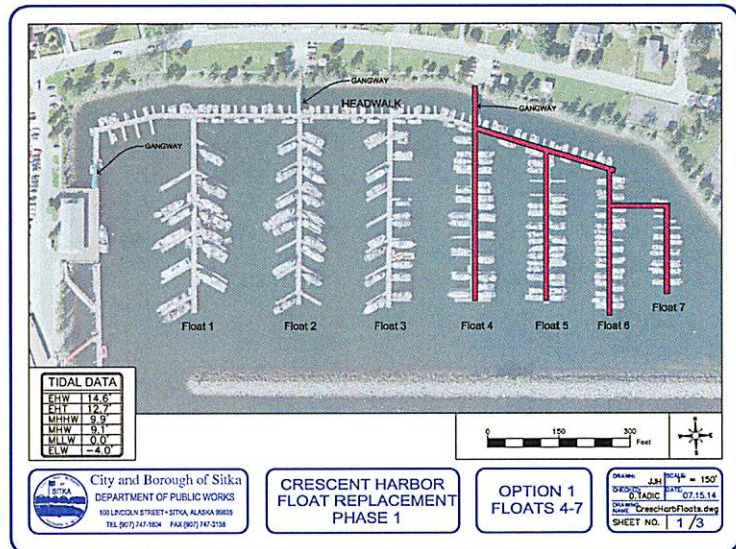
Advanced stages of rot are evident throughout the Crescent Harbor. The facility has exceeded its useful life and must be replaced . Obtaining State of Alaska matching funds is critical to the community to maintain a sustainable harbor system.

APPENDIX K

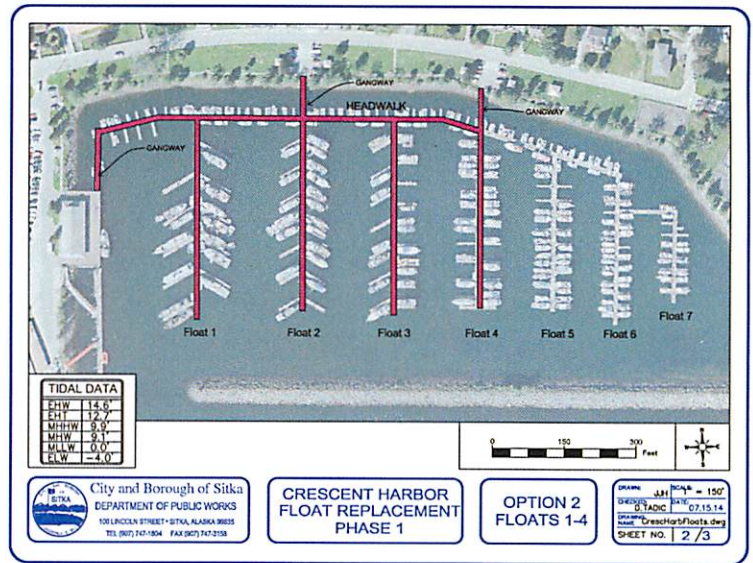
BLOCK 17—RANGE OF OPTIONS

The City and Borough of Sitka considered three options for replacement of the Crescent Harbor: Option 1, replace concrete floats 5-7 and timber float 4 immediately with a future second phase to include the remainder of the timber float replacement; Option 2, replace timber floats 1-4 with a future second phase to include concrete float replacement; and Option 3, a no-build option. See attached meeting minutes from a discussion of options between Public Works and Harbor Staff.

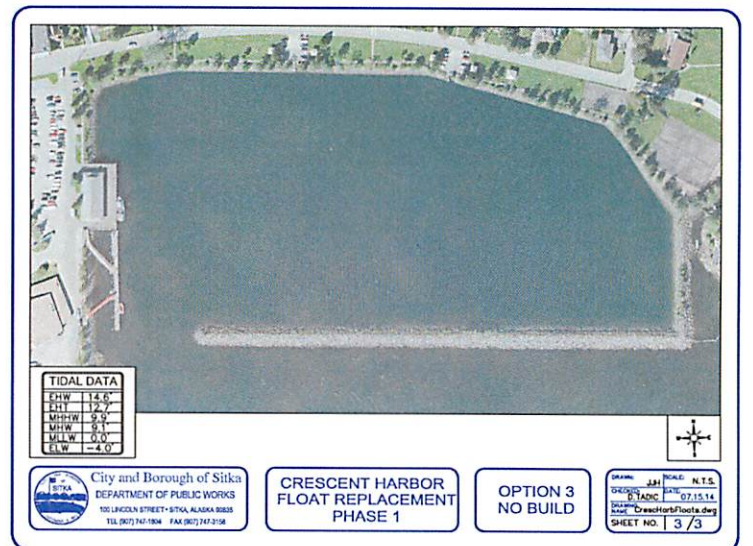
Option 1—This option would follow the Master Plan (2012) recommendation. Concrete floats 5-7, timber float 4, and associated headwalk float would be replaced immediately with a future second phase to include the remainder of the timber float replacement. Domestic water and fire protection systems would be upgraded and a modern electrical system would be provided. New galvanized steel pipe piles with anodes would be included. The floats would be equipped with safety features such as life ring cabinets and self rescue ladders.



Option 2—This option would prioritize the timber float replacement to include the associated headwalk float with a future second phase to include the concrete floats. Domestic water and fire protection systems would be upgraded and a modern electrical system would be provided. New galvanized steel pipe piles with anodes would be included. The floats would be equipped with safety features such as life ring cabinets and self rescue ladders. This is the preferred option.



No-Build Option— Sitka maintains the largest and most vibrant public small boat harbor system in the Pacific Northwest. A no-build option would force the City and Borough of Sitka to decommission the facility due to safety concerns thereby resulting in further congestion in an already over-crowded harbor system. A no-build option would not meet the needs of the CBS Harbor Department or the Southeast Alaska boating community.



APPENDIX L

BLOCK 18—RESOLUTION OF SUPPORT

On the following pages, please find Resolutions of Support from the Assembly of the City and Borough of Sitka for the Crescent Harbor Float Replacement—Phase I project. Crescent Harbor scored in 2nd place last year after scoring 3rd in two consecutive grant cycles falling just short of funding each time.



Rotting timber piles, worn bullrail and decking and loss of free-board on a typical Crescent Harbor finger float

CITY AND BOROUGH OF SITKA
RESOLUTION NO. 2017-14

A RESOLUTION OF THE ASSEMBLY OF THE CITY AND BOROUGH OF SITKA,
APPROVING SUBMITTAL AND EXECUTION OF A MUNICIPAL HARBOR FACILITY GRANT
APPLICATION TO THE STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND
PUBLIC FACILITIES (DOT&PF) IN THE AMOUNT OF \$5,000,000 FOR THE PROJECT
ENTITLED CRESCENT HARBOR FLOAT REPLACEMENT - PHASE I

WHEREAS, the State of Alaska, Department of Transportation and Public Facilities administers the Municipal Harbor Facility Grant program; and

WHEREAS, the City and Borough of Sitka owns and maintains Crescent Harbor and Crescent Harbor is eligible for a Municipal Harbor Facility Grant which, if awarded, will pay 50 percent of the eligible construction costs of this project; and

WHEREAS, the City and Borough of Sitka will provide the required 50 percent in local matching funds for construction of the Crescent Harbor Float Replacement – Phase I project per the Municipal Harbor Facility Grant program; and

WHEREAS, the City and Borough of Sitka is capable of completing the Crescent Harbor Float Replacement – Phase I project within eighteen (18) months after award of a Municipal Harbor Facility Grant; and

WHEREAS, Crescent Harbor is critical to the City and Borough of Sitka.

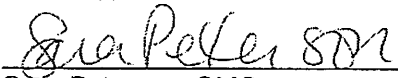
NOW, THEREFORE, BE IT RESOLVED by the Assembly of the City and Borough of Sitka that the City and Borough of Sitka supports the project entitled Crescent Harbor Float Replacement – Phase I and agrees, subject to available Alaska Legislative funding and selection by DOT&PF, to enter into a grant agreement with the State of Alaska, Department of Transportation and Public Facilities for a Municipal Harbor Facility Grant;

BE IT FURTHER RESOLVED that the Administrator is authorized to apply for the grant and to execute the grant if received.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska on this 11th day of July, 2017.


Matthew Hunter, Mayor

ATTEST:


Sara Peterson, CMC
Municipal Clerk

1st and final reading 7/11/17

CITY AND BOROUGH OF SITKA

RESOLUTION NO. 2016-11

A RESOLUTION OF THE ASSEMBLY OF THE CITY AND BOROUGH OF SITKA, APPROVING SUBMITTAL AND EXECUTION OF A MUNICIPAL HARBOR FACILITY GRANT APPLICATION TO THE STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES (ADOT&PF) IN THE AMOUNT OF \$5,000,000 FOR THE PROJECT ENTITLED CRESCENT HARBOR FLOAT REPLACEMENT - PHASE I

WHEREAS, the State of Alaska, Department of Transportation and Public Facilities administers the Municipal Harbor Facility Grant program; and

WHEREAS, the City and Borough of Sitka owns and maintains Crescent Harbor and Crescent Harbor is eligible for a Municipal Harbor Facility Grant which, if awarded, will pay 50 percent of the eligible construction costs of this project; and

WHEREAS, the City and Borough of Sitka will provide the required 50 percent in local matching funds for construction of the Crescent Harbor Float Replacement – Phase I project per the Municipal Harbor Facility Grant program; and

WHEREAS, the City and Borough of Sitka is capable of completing the Crescent Harbor Float Replacement – Phase I project within eighteen (18) months after award of a Municipal Harbor Facility Grant; and

WHEREAS, Crescent Harbor is critical to the City and Borough of Sitka;


NOW, THEREFORE, BE IT RESOLVED by the Assembly of the City and Borough of Sitka that the City and Borough of Sitka supports the project entitled Crescent Harbor Float Replacement – Phase I and agrees, subject to available Alaska Legislative funding and selection by ADOT&PF, to enter into a grant agreement with the State of Alaska, Department of Transportation and Public Facilities for a Municipal Harbor Facility Grant;

BE IT FURTHER RESOLVED by the Assembly that the Administrator is authorized to apply for the grant and to execute the grant if received.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska on this 12th day of July, 2016.


Mim McConnell, Mayor

ATTEST:


Sara Peterson, CMC
Municipal Clerk

RESOLUTION NO. 2015-14

**A RESOLUTION OF THE ASSEMBLY OF THE CITY AND BOROUGH OF SITKA,
APPROVING SUBMITTAL AND EXECUTION OF A MUNICIPAL HARBOR FACILITY GRANT
APPLICATION TO THE STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND
PUBLIC FACILITIES (ADOT&PF) IN THE AMOUNT OF \$5,000,000 FOR THE PROJECT
ENTITLED CRESCENT HARBOR FLOAT REPLACEMENT - PHASE I**

WHEREAS, the State of Alaska, Department of Transportation and Public Facilities administers the Municipal Harbor Facility Grant program; and

WHEREAS, the City and Borough of Sitka owns and maintains Crescent Harbor and Crescent Harbor is eligible for a Municipal Harbor Facility Grant which, if awarded, will pay 50 percent of the eligible construction costs of this project; and

WHEREAS, the City and Borough of Sitka will provide the required 50 percent in local matching funds for construction of the Crescent Harbor Float Replacement – Phase I project per the Municipal Harbor Facility Grant program; and

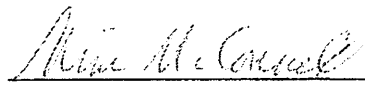
WHEREAS, the City and Borough of Sitka is capable of completing the Crescent Harbor Float Replacement – Phase I project within eighteen (18) months after award of a Municipal Harbor Facility Grant; and

WHEREAS, Crescent Harbor is critical to the City and Borough of Sitka;

NOW, THEREFORE, BE IT RESOLVED by the Assembly of the City and Borough of Sitka that the City and Borough of Sitka supports the project entitled Crescent Harbor Float Replacement – Phase I and agrees, subject to available Alaska Legislative funding and selection by ADOT&PF, to enter into a grant agreement with the State of Alaska, Department of Transportation and Public Facilities for a Municipal Harbor Facility Grant;

AND BE FURTHER RESOLVED by the Assembly of the City and Borough of Sitka that the Administrator is authorized to apply for the grant and to execute the grant if received.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska on this 28th day of July, 2015.



Mim McConnell, Mayor

ATTEST:



Sara Peterson, CMC
Municipal Clerk

RESOLUTION NO. 2014-11

A RESOLUTION OF THE ASSEMBLY OF THE CITY AND BOROUGH OF SITKA,
APPROVING SUBMITTAL AND EXECUTION OF A MUNICIPAL HARBOR FACILITY
GRANT APPLICATION TO THE STATE OF ALASKA, DEPARTMENT OF
TRANSPORTATION AND PUBLIC FACILITIES (ADOT&PF) IN THE AMOUNT OF
\$5,000,000 FOR THE PROJECT ENTITLED CRESCENT HARBOR
FLOAT REPLACEMENT - PHASE I

WHEREAS, the State of Alaska, Department of Transportation and Public Facilities administers the Municipal Harbor Facility Grant program; and

WHEREAS, the City and Borough of Sitka owns and maintains Crescent Harbor and Crescent Harbor is eligible for a Municipal Harbor Facility Grant which, if awarded, will pay 50 percent of the eligible construction costs of this project; and

WHEREAS, the City and Borough of Sitka will provide the required 50 percent in local matching funds for construction of the Crescent Harbor Float Replacement - Phase I project per the Municipal Harbor Facility Grant program; and

WHEREAS, the City and Borough of Sitka is capable of completing the Crescent Harbor Float Replacement - Phase I project within eighteen (18) months after award of a Municipal Harbor Facility Grant; and

WHEREAS, Crescent Harbor is critical to the City and Borough of Sitka;

NOW, THEREFORE, BE IT RESOLVED by the Assembly of the City and Borough of Sitka that the City and Borough of Sitka supports the project entitled Crescent Harbor Float Replacement - Phase I and agrees, subject to available Alaska Legislative funding and selection by ADOT&PF, to enter into a grant agreement with the State of Alaska, Department of Transportation and Public Facilities for a Municipal Harbor Facility Grant;

AND BE FURTHER RESOLVED by the Assembly that the Administrator is authorized to apply for the grant and to execute the grant if received.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska on this 22nd day of July, 2014.



Matt Hunter, Deputy Mayor



Colleen Ingman, MMC
Municipal Clerk