



Anchor Cove Marina

North Breakwater Replacement

October 7, 2017

AGENDA

Board Objectives

Current Status – Design, Permitting & Construction

Review of Design Concept

Funding Plan and Status

Cost Reduction Opportunities & Risks

Schedule

Photo Gallery

Board Objectives

Keep Anchor Cove Marina viable for the long term, at an affordable cost to the membership

Assure that the marina's breakwater protection is sound

Accomplish design and construction activities for replacement of the aging north breakwater, consistent with the recommendations of the completed condition survey

Develop and execute a plan that is safe, legal, permitable, maintainable and affordable

Strategy

Construct a new breakwater just north (seaward) of the existing breakwater

Demolish and dispose of the old seawall

Complete the above in a single construction season

Current Status

Design is complete and final drawings are released

Permitting activity is complete and all permits are issued

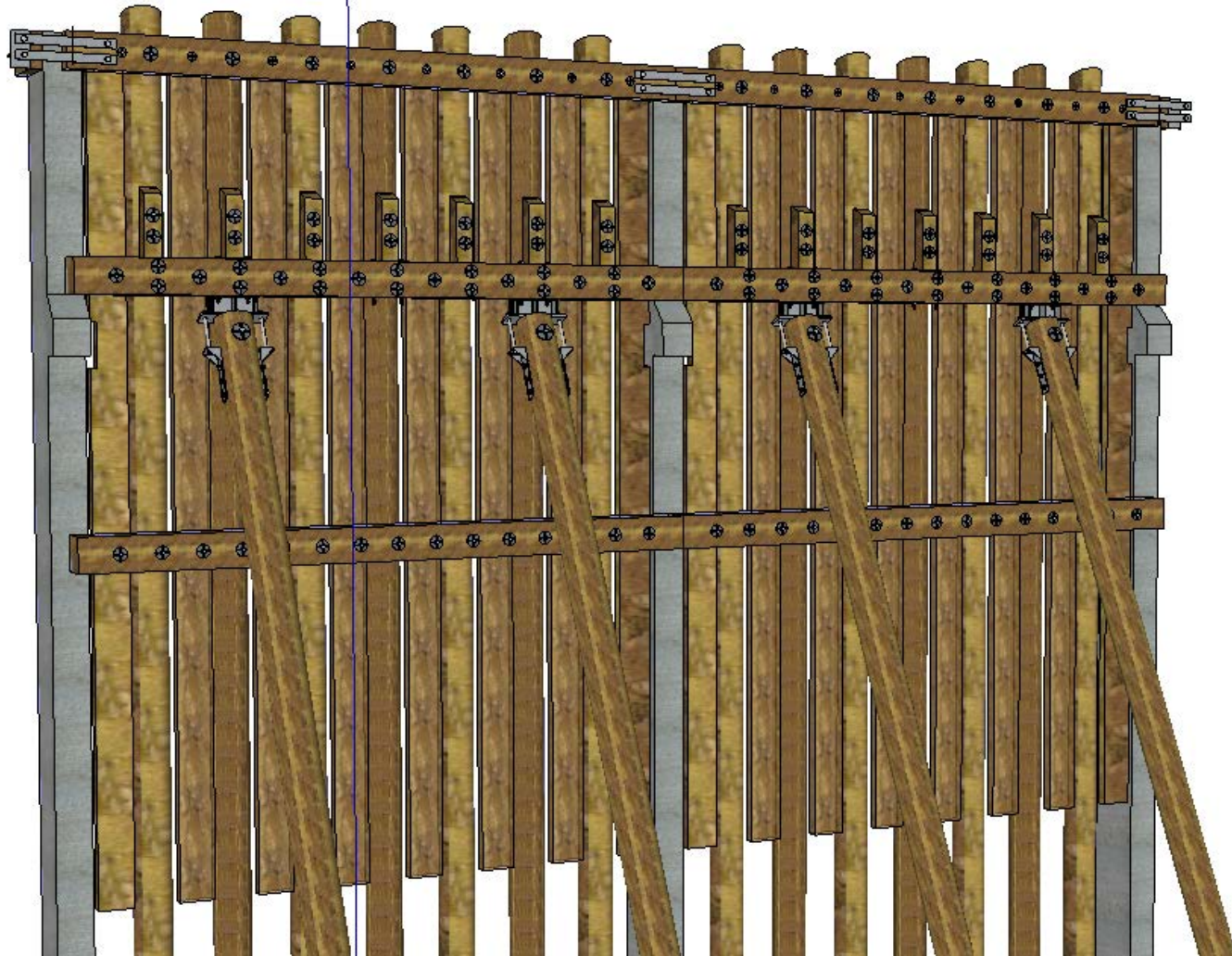
Steel pipe pile has been manufactured, finished and delivered to our contractor

Vinyl facing material has been delivered to our contractor

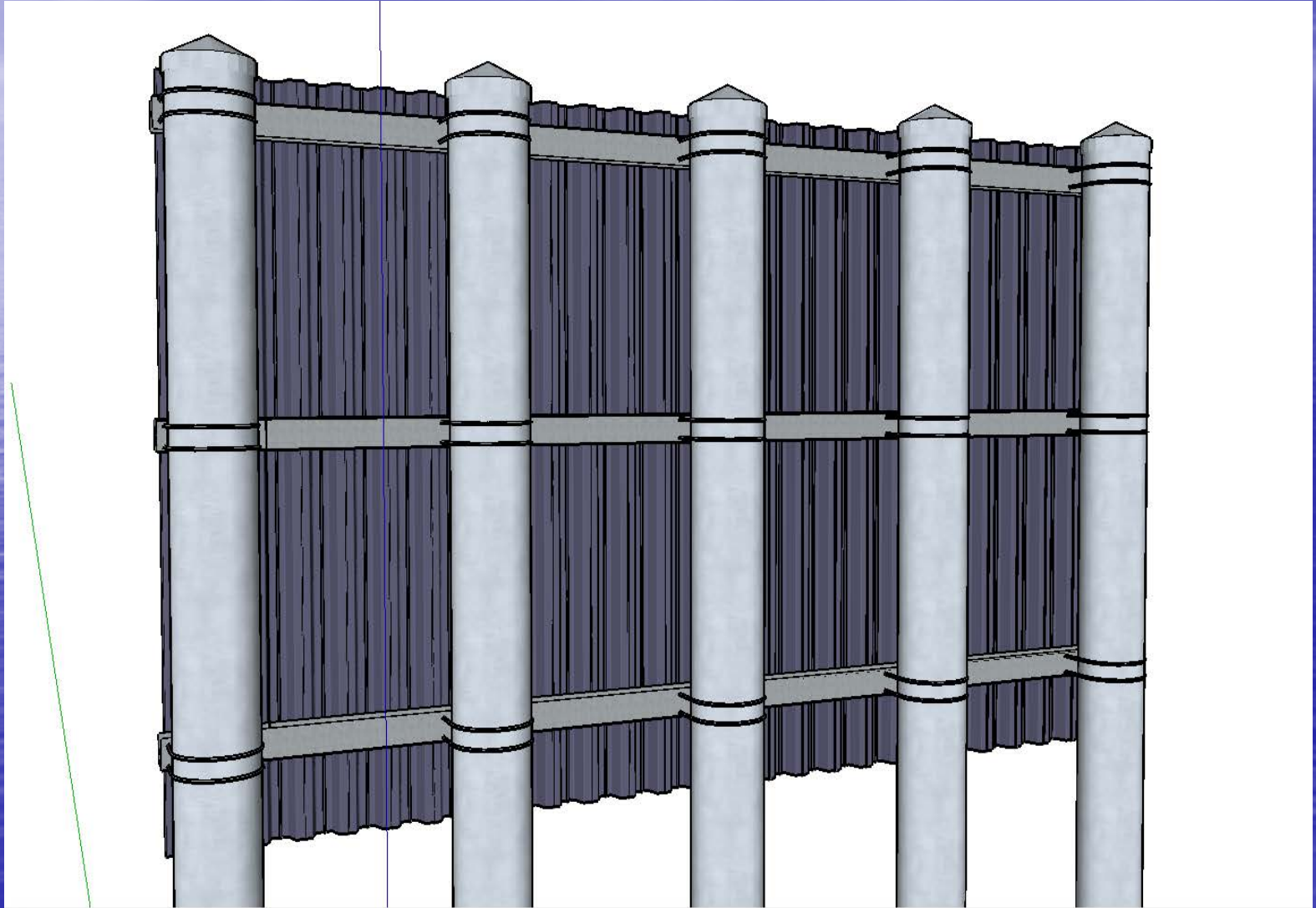
Steel facing structure is being processed at fabricator and will be available prior to construction start

Contract has been signed with Culbertson Marine Construction for all pre-assembly and over-water work

Existing North Breakwater



Future North Breakwater



North Breakwater Replacement Project

Project Phasing and Funding Plan

Construction Funding Source

Design Funding Source

Association Reserve; \$.31M

Owners Assessment; \$2.9M
Association Reserve; \$ (As Determined)

<input type="checkbox"/>	Condition Survey	\$27k
<input type="checkbox"/>	Concept Study	\$45K
<input type="checkbox"/>	Follow On Study	\$2k
<input type="checkbox"/>	Wave Study	\$23K
<input type="checkbox"/>	Final Design Preparation	\$105K
<input type="checkbox"/>	Geological Drilling	\$80K
<input type="checkbox"/>	Permitting	\$30K

	Project Management	\$100K
<input type="checkbox"/>	Boundary Survey	\$5K
<input type="checkbox"/>	Geological Probing	\$0K
	Legal/Contract	\$10K
	Insurance/Bonding	\$39K
<input type="checkbox"/>	Piling Acquisition & Finish	\$672K
	Environmental Monitoring	\$?
	Quality Control	\$?
	Pre-assembly/Mobilization/Construction	\$1751K
	Contingency (from \$2.9M)	\$250+K

(- Complete)

Design Phase

Construction Phase

(Est.)



Cost Reduction Opportunities

(realized)

Elimination of phased construction approach
(fewer piles, optimum spacing, no interim design)

Availability of existing pile stock at attractive price

Utilization of vinyl sheet pile instead of recycled
plastic timber for breakwater facing

Simplified pile/wale connection details

Early selection of local contractor (design/build
participation, efficient mobilization)

Materials Cost Savings

36" Piles in stock
@ \$.35-.45 / Lb



Vinyl Sheet Pile
@ 1/10 the Cost
Of Plastic Timber

Risks

(~~abc~~ = mitigated risk)

~~Permitting Assumptions~~ — ~~Nationwide (repair) Permit~~

~~Steel Pricing~~

~~Contractor Availability~~

~~Environmental Mitigation~~

Vibratory vs Impact Pile Driving

Demolition Schedule

Schedule

New breakwater construction is scheduled for completion in the 2017/2018 season (fish window)

Demolition of the existing breakwater will occur in the 2017/2018 season if time allows

An incentive is included in the contract for completion of demolition in 2017/2018

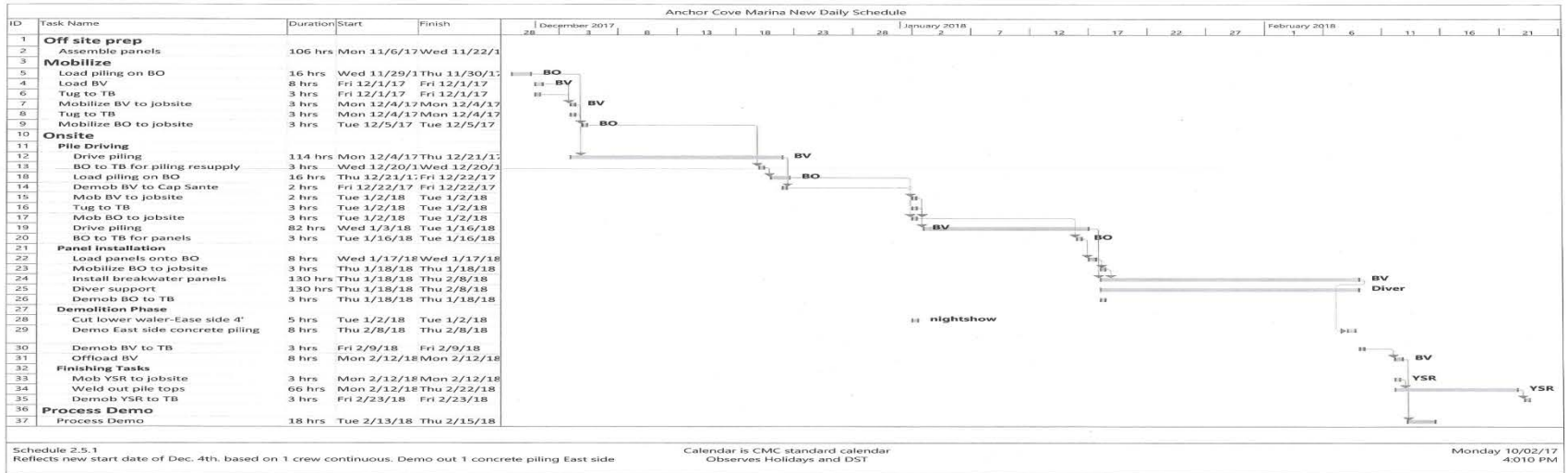


Photo Gallery





Concrete Pile Testing August 2015



Geological Drilling

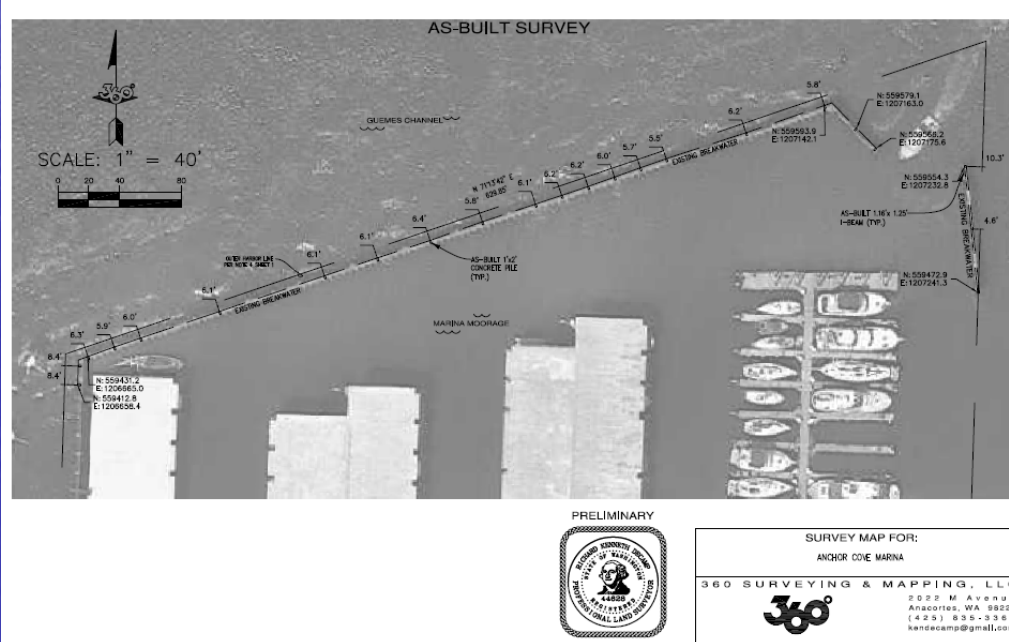
September
2016





Site Survey

January 2017



Geological Probing

February 2017



Pipe Pile Fabrication

May-July 2017



Material Delivery

June - Present 2017

