Chignik Harbor

Condition of Improvements
31 December 2019
Chignik Harbor, Alaska
(CWIS No. 010375, 087214, 087394)

Authorization WRDA 96, PL 104-303 Section 101(b) PROJECTS SUBJECT TO REPORT—The following projects for water resource development and conservation and other purposes are authorized to be carried out by the Secretary substantially in accordance with the plans, and subject to the conditions, recommended in a final report (or in the case of the project described in paragraph (10), a Detailed Project Report)of the Corps of Engineers, if the report is completed no later than December 31, 1996: (1) CHIGNIK, ALASKA—The project for navigation, Chignik, Alaska, at a total cost of $10,365,000, with an estimated Federal cost of $4,282,000 and an estimated non-Federal cost of $6,083,000.

Table 1

Existing Project	**Length** ft.	**Width** ft.	**Depth** ft.
Entrance Channel	650	100	-19.5
South Breakwater	1279		
North Breakwater	304		
Local Basin (irregular shape)	372	341	-16.5

Project Usage The new small boat harbor will be used as a base for commercial fishing which is the primary industry of Chignik, Alaska.

Progress of Work

2009	About 134,700 cubic yards of material was dredged and placed upland for erosion control in creation of a new boat harbor. The new harbor has 2 breakwaters, the north breakwater being about 304’ long and the south breakwater being about 1279’ long. The federal cost was $6,155,447.
2010	Dredged the entrance channel and mooring basins. Armored slope protection was applied to basin slopes. A Post Dredge Survey of the harbor was conducted after construction was completed in September 2010.
2011	Rock deterioration on the 1,279 foot-long breakwater was documented.
2012	A monitoring plan for assessing the breakwater rock conditions was developed.

Progress of Work

2015	A project condition survey of the harbor entrance channel was conducted in May. An Operational Condition Assessment (OCA) of the north and south breakwaters was conducted in August due to deterioration of the armor stone. The breakwaters were rated as "D" for Condition and "A" for Function. Although there is currently no loss of function for the harbor, 30-40% of the armor stone is disintegrating and repairs to the breakwaters will be needed in order to preserve their integrity and to prevent accelerated future damages.
2016	A Section 408 request for installation of new steel and wood floats in the harbor is submitted by PND Engineers on behalf of the City of Chignik. Per USACE request, the floats were moved out of the federal entrance channel limits and no Section 408 permission was required.
2017	A project condition survey of the harbor and breakwaters is conducted in May and survey control is updated in September. Contract W911KB-17-C-0038 for repair of the north and south breakwaters is awarded to Western Marine Construction in September. Contract amount is $5,324,000.
2018	Western Marine completes reconstruction of the north and south breakwaters between May and August. Prior to the start of construction, a contract modification is issued to change the repair method from the original plan to place two layers of armor stone on top of the existing breakwaters to totally removing and replacing the existing armor stone and "B" rock. The final contact amount is $6,990,000. Armor stone removed from the breakwaters is placed to create a bench, visible at low tide, on the seaward side of each breakwater. The placement of the disposed rock in this area eliminated a navigation hazard caused by submerged rock.
2019	A project condition survey of the harbor and breakwaters is conducted in May.

Table 2 Cost to Date

Project	Description	Cost $
010375	GI PED Appropriations	162,890
	GI PED Costs	162,890
	CG Appropriations	14,400,929
	CG Costs	14,400,929
	CG Contributed Appropriation	5,205,399
	CG Contributed Costs	5,205,399
	O&M Appropriations	9,154,500
	O&M Costs	8,098,790

Project	Description	Cost $
087214	CG Appropriations	5,000
	CG Costs	5,000
087394	CG Appropriations	932,499
	CG Costs	932,499

Table 3 Range of Tides in feet

Tide Station	Mean Range	Diurnal Range	Extreme Range
945 8917 Chignik, Anchorage Bay, AK	6.68	8.93	-

NOAA Publication Date: 03/22/2005

Controlling Depth Based on the May 2019 survey the majority of the entrance channel meets or exceeds project depth. The northwest boundary along the toe of the north breakwater has a shoal to -18.9 feet MLLW. In the inner part of the entrance channel, the controlling depth is -19.5 feet MLLW in the middle of the channel.

Maintenance Supplement

A. Sampling and Testing

1. One five-part composite sample was collected in the small boat harbor, September 2009; all material was classified as fine grained silts and sands.
2. Chemical analysis was conducted using (7) tests methods as outlined with results below:

Table 4 Chemical Testing

Method	Chemical analysis	Results
8260B	Volatile Organic Compounds	ND (None detected)
8270C-SIM	Polynuclear Aromatic Hydrocarbons	ND or below cleanup levels
8082	Polychlorinated Biphenyls	ND
8081	Pesticides	ND
Series 6000-7000's	(10) RCRA Metals	(10) of (10) detected; all below cleanup levels
9060	Total Organic Carbon	2
A2540G	Total Solids	58.60%

Results were screened against Puget Sound Dredge Disposal Analysis (PSSDA).

B. Environmental Permits and Reports

1. An Environmental Assessment for repairing the breakwaters was completed in July 2016 and a Findings of No Significant Impact (FONSI's) was signed in August 2016.

Table 5 Environmental Permits

Agency Name	Date of Issue	Date of Expiration
AK Department of Governmental Coordination.	June 30, 1987	n/a
AK Department of Environmental Conservation	July 2, 1987	n/a
Environmental Protection Agency	1986	n/a
DA	August 1, 1992	n/a
Environmental Assessment (Breakwater Repairs)	Jul-16	n/a
Finding of No Significant Impact (Breakwater Repair)	30-Aug-16	n/a
ADEC Water Quality Certification (Original Repair)	24-Aug-16	24-Aug-21
ADEC Water Quality Certification (Modified Repair)	14-May-18	14-May-23

Chignik Harbor, Chignik, Alaska

Oblique photo of Chignik Harbor, May 2017

Chignik Harbor Entrance Channel, May 2019

Chignik Harbor, Chignik, Alaska

Chignik Breakwater May 2019

Chignik Harbor, May 2019