

Unalakleet Erosion Control

Condition of Improvements
31 December 2022
Unalakleet Erosion Control, Alaska
(CWIS No. 081818, 181723 & 337747)

Authorization Section 117 of Division C of the FY2005 Omnibus Bill (PL 108-447) authorizes structural and non-structural projects for the coastal erosion of affected Alaskan communities was used to construct Phase I, consisting of 675 feet of Revetment, at full federal expense. On March 11, 2009, Section 117 of the Energy and Water Development Appropriations Act for 2005, Division C of Public Law 108-447 was repealed by Section 117 of the Energy and Water Development and Related Agencies Appropriations Act, 2009 (Division C of the Omnibus Appropriations Act, 2009, Public Law 111-8). Phase II was constructed under Section 116 of the Energy and Water Development and Related Agencies Appropriations Act of 2010, Public Law 111-85, authorizing the Secretary of the Army to carry out structural and non-structural projects for storm damage prevention and reduction, coastal erosion, and ice and glacial damage in Alaska, including relocation of affected communities and construction of replacement facilities; provided, that the non-Federal share of any project shall be no more than 35 percent of the total cost of the project and shall be subject to the ability of the non-Federal interest to pay, as determined in accordance with 33 U.S.C. 2213(m)

Table 1

Existing Project	Length ft.
Rock Revetment Phase I	675
Rock Revetment Phase II	458
Sheet Pile Revetment Phase II	350

Project Usage Unalakleet suffers from erosion on both the ocean side (Norton Sound) and from the Unalakleet River. The erosion rate on the Norton Sound side averages 1 foot per year, and occurs when storm surge attacks the spit washing away beach material. The rate of erosion from the Unalakleet River is more severe and averages two feet per year.

Progress of Work

- 2010 Constructed 675 feet of armor rock revetment for coastal shore erosion protection. A temporary end section was constructed on the East end. Only the base item and one option item was awarded and constructed. Three other option items were not awarded or constructed and account for approximately 800 lineal feet of revetment. Construction was completed in August 2010.
- 2011 The inspection revealed the Coastal Erosion Control project to be in good condition.
- 2012 West Construction Co., Inc. was awarded the Phase II rock revetment construction contract on 18 September 2012 with the expectation that the majority of the project work would occur in the summer of 2013. A relatively severe storm occurred in the fall of 2012.
- 2013 The preconstruction survey, performed in the spring, considerable scour was noted in the narrow neck of the river mouth. The design was modified to minimize the increase to the bid quantities and allow land-based rock placement, however the Contractor notified the Government that a larger excavator with greater reach would be needed for the work. The contractor procured and delivered the majority of the A-Rock and B-Rock for the project. Work on the revetment included removal and replacement of the temporary end section that had been left as part of the Phase I contract work.
- 2014 The Contractor performed another preconstruction survey in the spring of 2014, mobilized an EX1200 with an extra-long arm (nicknamed "BIG BOB") and prosecuted the contract work based on the 2014 survey cross sections. Phase II rock revetment was completed in August 2014. A condition inspection of Phase I found the revetment to be in good condition.
- 2015 A condition inspection of the Phase I and II rock revetments found them to be in good condition.
- 2017 Construction of the 350-foot-long Phase II sheet pile revetment (awarded to Orion Marine Construction under contract W911KB17C0003) was completed in September (note: contract documents refer to the project as Phase III). A condition inspection of the Phase I and II rock revetments found them to be in good condition.
- 2018 A condition inspection of the Phase I and II rock revetments in September found them to be in good condition. A concurrent warranty inspection of the Phase II Sheet Pile Bulkhead found it in good condition with no warranty issues.
- 2019 A condition inspection of the Phase I and II rock revetments and the Phase II bulkhead in August found all to be in good condition.
- 2022 USACE inspected the project on 26 September 2022 following Typhoon Merbok. The project was found to be in good condition. Minor movement of stone was noted at the join between phase 1 and 2 of the rock revetments. Minor loss of fill on the west end of the sheet pile revetment was also noted.

Table 2 Cost to Date

Project	Description	Cost \$
081818	CG Section 117 Costs	18,871,342
181723	CG CAP Section 103 Appropriation	109,096
	CG CAP Section 103 Costs	109,096
337747	CG Costs	10,883,600
	CG Contributed Costs	6,434,285

Table 3 Range of Tides in feet

Tide Station	Mean Range	Diurnal Range	Extreme Range
946 8333 Unalakleet AK	2.50	3.19	13.29

NOAA Publication Date: 09/18/2017

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Tie-in to Phase I Project, September 2014



Core rock placed over existing gabions during Phase II, July 2014

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Phase I and Phase II revetments, June 2018



Phase II , June 2018

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Sheetpile Cells, June 2018



Phase II uplands from Cell 1 facing towards Cell 10, September 2017