

Kivalina Coastal Erosion

Condition of Improvements

31 December 2022

Kivalina Coastal Erosion, Alaska

(CWIS No. 081818)

Authorization Construction in 2009 and 2010 was under Section 117 of Division C, Public Law 108-447 which states, “Notwithstanding any other provision of law, the Secretary of the Army is authorized to carry out, at full Federal expense, 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.” Section 117 of Public Law 111-8 repealed this authority, but construction was underway and allowed to be completed.

Table 1

Existing Project	Length ft.
Coastal beach revetment	1,200
Coastal beach revetment	400

Progress of Work

2009	1200 feet of rock revetment was constructed under the Section 117 authority.
2010	400 feet of rock revetment was constructed under the Section 117 authority.
2011	Inspection activities find project to be in good condition. Steepening of the revetment at the Singuak Inlet from STA 35+75 to STA 37+25 and damage to the north end of the project from STA 17+50 to STA 18+00 due to ice impact was noted.
2014	Inspection in August finds project to be in good condition. Accretion of sand was noted along the revetment from STA 24+00 to STA 27+00.
2015	Inspection in August finds project to be in good condition. Additional accretion of sand from STA 27+00 to STA 30+00
2016 - 2018	Annual inspections find the project to be in good condition. No significant changes from previous inspections.
2019	Armor rock was selectively removed from the top row of stones on the revetment to perform emergency repairs of the runway. Otherwise, the revetment was found to be in good condition. Significant construction was occurring to construct a revetment to protect the airport and a causeway across the lagoon.

Progress of Work

2022	USACE inspected the project on 26 September 2022 following Typhoon Merbok. The project was found to be in good condition.
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Table 2 Cost to Date

Project	Description	Cost \$
081818	CG Costs	13,428,774

** Unofficial cost. This project is part of the Alaska Coastal Erosion funding account currently being refined to segregate costs to individual projects.*

Table 3 Range of Tides in feet

Tide Station	Mean Range	Diurnal Range	Extreme Range
949 1253 Kivalina AK	0.67	0.9	5.45

NOAA Publication Date: 05/12/2004

Kivalina Coastal Erosion, Kivalina, Alaska



Oblique of Kivalina, June 2010



Oblique of the riprap revetment, July 2011

Kivalina Coastal Erosion, Kivalina, Alaska



Riprap revetment, July 2011



Typical Riprap revetment , July 2019