

Dillingham Bank Stabilization

Condition of Improvements

30 December 2015

Dillingham Bank Stabilization, Alaska

(CWIS No. 075441)

Authorization (1) Public Law 99-190, under Section 114, dated 19 December 1985, as adopted, provides for the installation of 1,600 linear feet of steel sheet pile bulkhead along the toe of the bluff from the Dillingham city cargo dock to Snag Point. (2) Public Law 106-377, Section 1(a)(2), and Conference Report 106-988, provides for the extension of the sheet pile wall on the west side of the entrance channel to the small boat harbor, and the replacement of the existing wooden bulkhead at the city dock.

Table 1

Existing Project	Length ft.
Sheet pile bulkhead (City Dock to Snag Point)	1,625
Sheet pile with rip rap (east side of entrance channel)	600

Project Usage The project is located at the head of Nushagak Bay, an arm of Bristol Bay, on the right bank of the Nushagak River, just below its confluence with the Wood River about 330 air miles southwest of Anchorage.

Progress of Work

1986	Initial contact is made with the local sponsor.
1988	City seeks additional state funding.
1995	Local interests relocate the water and sewer lines near Snag Point and are reimbursed by the government.
1997	Plans and specifications are completed for the City Dock to Snag Point project.
1998	The Project Cooperation Agreement is signed in January, and a construction contract is awarded in September.
1999	The original contract is modified to accommodate increased costs.
2000	600 feet of additional sheet pile with rip rap protection are constructed on the east side of the entrance channel.
2001	Extension of the project to include the west side of the harbor entrance is directed in the 2001 Appropriation Conference Report. Plans and specifications are being developed and a Project Cooperation Agreement is being negotiated.

Progress of Work

2004	The scope and cost of the project on the west side of the entrance channel are under consideration.
2005	Storms erode behind sheet piling on east side of entrance channel. Letter reports underway for improvements at the west side of the entrance channel, and for protection of the critical areas of the east side.
2009	The project is inspected in September. Scour measurements were taken from mud-line to top of lower wale channel. Scour at toe in some locations exceeds design scour allowance. A comparison of the design and as-built drawing revealed a conflict regarding the tie-rod spacing. Several access ladders are extensively damaged and non-functional. Overall, the project was found to be in good condition with no visual signs of distress.
2010	A site survey was completed in May to determine if historic or archaeological resources were extant within the project area and consequently would be adversely affected by the placement of additional rock revetment along the southwestern shoreline.
2011	The City of Dillingham installed a scour blanket from STA 20+10 to STA 21+60 in front of the Snag Point Bulkhead to reduce future scour.
2012	The project was inspected and scour at the toe of the Snag Point Bulkhead was noted as a continuing problem; numerous actions were recommended.
2013	The project was inspected and scour at the toe of the Snag Point Bulkhead was noted as a continuing problem; numerous actions were recommended.
2014	The project was inspected and scour at the toe of the Snag Point Bulkhead was noted as a continuing problem; numerous actions were recommended.
2015	The project was inspected in June and scour at the toe of the Snag Point Bulkhead was noted as a continuing problem; numerous actions were recommended. A survey of the beach at the toe of the sheet pile was conducted. Analysis of new and historic survey data indicates the thalweg of the Nushagak River is migrating towards the sheet pile wall. Riprap was placed along the toe of the wall from STA 21+60 to STA 25+40 to tie in with the upstream rock revetment.
2016	The project was inspected in May and scour at the toe of the Snag Point Bulkhead was noted as a continuing problem; numerous actions were recommended. Riprap was placed along the toe of the wall from STA 14+00 to STA 15+90 and from STA 17+24 to STA 20+10 to tie in with the downstream rock revetment apron placed in 2011. With this placement, riprap scour aprons had been placed along all critical sections of the wall noted in inspection reports.
2017	The project was inspected and scour at the toe of the Snag Point Bulkhead was noted as a continuing problem though the scour apron appeared to be slowing the rate of scour at the toe of the wall. Numerous actions were recommended including adding rock to the remaining portions of the wall.

Table 2 Cost to Date

Project	Description	Cost \$
075441	CG Appropriation	8,482,556
	CG Costs	8,217,308

Table 3 Range of Tides in feet

Tide Station	Mean Range	Diurnal Range	Extreme Range
946 5374 Snag Point AK	16.58	20.64	-

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Aerial of Dillingham, 2005



Riprap and sheetpile protection on the east side of the entrance channel, May 2014

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STA 21+00, Riprap @ Toe, Facing Downstream, May 2017



Top of Wall, STA 19+10, Riprap @ Toe, Facing Upstream, May 2017

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H-pile supported sheetpile bulkhead, September 2008



Rip-rap protection at the eastern extent of bank stabilization, 14 August 2008