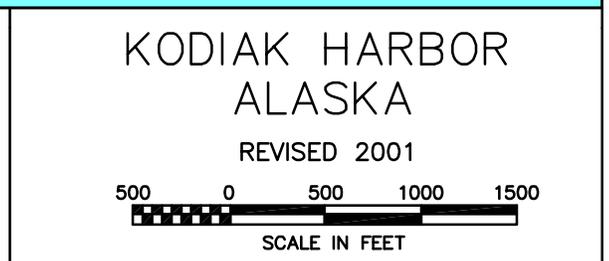
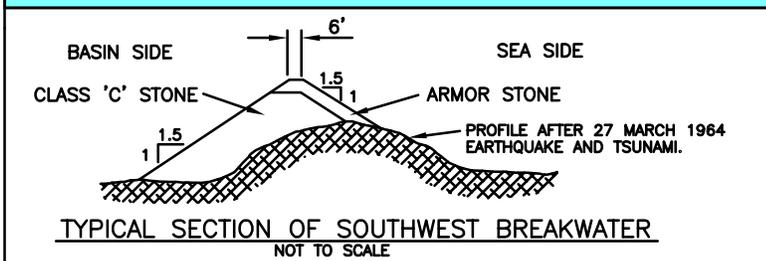
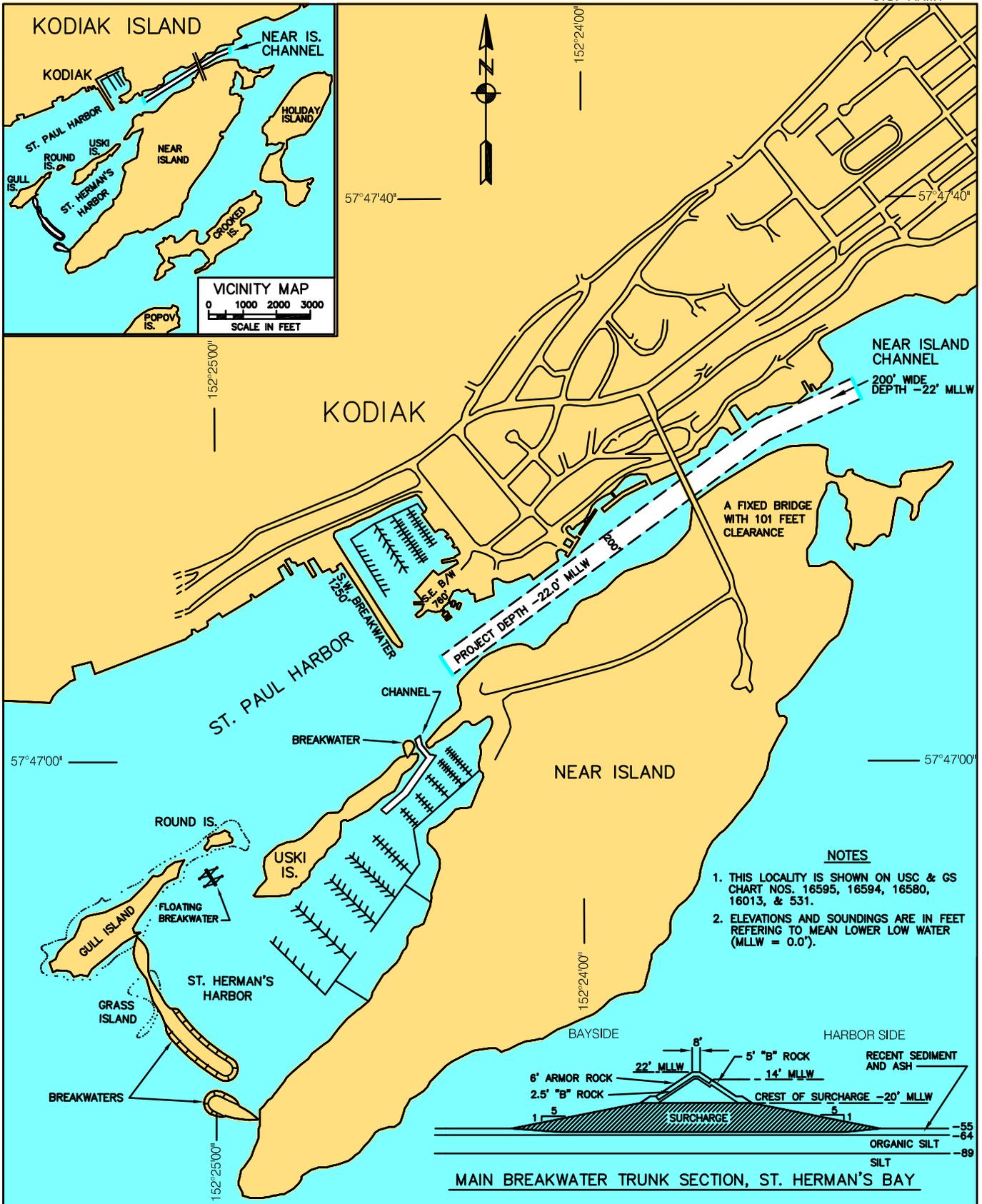


Kodiak Harbor



Condition of Improvements

30 December 2014

Kodiak Harbor, Alaska

Near Island Channel & St. Herman's Harbor, Breakwaters, and Channel
(CWIS No. 010168, 072753, 320418)

Authorization (1) Rivers and Harbors Act, 30 August 1935 (House Doc. 208, 72nd Congress, 1st Session) as adopted, provides for a channel between Near Island and Kodiak Island at a width of 200 feet and a depth of 22 feet below MLLW with additional width at the wharves. (2) Rivers and Harbors Act, 3 September 1954 (House Doc. 465, 83rd Congress, 2nd Session) as adopted, provides for a small boat basin of 11.7 acres at depths of 8 and 12 feet below MLLW, protected by two rock breakwaters of 780 and 1,250 feet in length. (3) Section 202 of Public Law 99-662 (Senate Doc. 6, 96th Congress, 1st Session) 17 November 1986, and Section 102 of the Water Resource Development Act of 1990 (Public Law 101-640, 101st Congress) 28 November 1990, provide for a breakwater 1900 feet long with an entrance channel 930 feet long and 20 feet deep to serve 45 acres of moorage in St. Herman's Bay. (4) Section 5033 of the Water Resources Development Act of 2007 provided authorization stating, "The Secretary shall carry out, on an emergency basis, the necessary removal of rubble, sediment, and rock impeding the entrance to the St. Herman and St. Paul Harbors, Kodiak, Alaska, at a Federal cost of \$2,000,000."

Table 1

Existing Project	Length ft.	Width ft.	Depth ft.
Near Island Channel & St. Paul Harbor			
Channel	4000	200	-22
Southeast Breakwater	780		
Southwest Breakwater	1250		
Basin (maintained by others)	11.7 acres		
St. Herman's Harbor			
North Entrance Channel	250	100	-12
Maneuvering Channel	730	60	-12
Main Breakwater	1500		
Stub Breakwater	430		
North Breakwater	100		

Project Usage Kodiak, the third largest commercial fishing port in the United States, is a world leader in king crab production and ranks among the top four national ports in halibut production. Saint Paul Harbor has protected moorage for approximately 200 vessels and Saint Herman's holds about 900 vessels in the summer and 650 over the winter. Kodiak is also an important cargo port and transshipment center. Although there are two other small protected basins, one at nearby Old Harbor (see project 1-26), and one at Port Lions (see project 1-41) on the north side of Kodiak Island, this port is the only large full service harbor of refuge between Cook Inlet and the Shumagin Islands.

Progress of Work

1940	Additional width through the channel at the wharves is deleted from the project (Rivers and Harbors Act, 17 October 1940, House Doc. 332, 76th Congress, 1st Session).
1942	The channel is dredged in front of Erskine wharf providing a project width of 170 feet beginning in November with suitable material used in construction of the southwest breakwater.
1955	The Near Is. Channel width is increased to 190 feet by dredging and rock removal from June through November. The boat basin is to be maintained by local interests.
1957	Construction of the southeast breakwater begins in October; dredging of the small boat basin.
1958	The southeast breakwater is completed in April. Removal of ledge rock from the entrance channel completes the project in July.
1964	The earthquake of 27 March 1964 causes major damage to the small boat harbor. Repairs to both breakwaters begin in May and are completed in August. Due to subsidence caused by the earthquake, the controlling depth is reportedly 5 feet below project depth for the channel and the basin.
1973	Repairs to the tip of the southeast breakwater are accomplished from February through March.
1991	A General Design Memorandum and plans & specifications are being developed for construction of new breakwaters and a second entrance channel at St. Herman's Bay, Near Island.
1992	A condition survey of Near Island channel is conducted in June.
1995	Two new breakwaters are under construction between Near Island and Gull Island to protect the extensive float system at St. Herman's Bay.
1997	Near Island Channel is surveyed under contract. Construction is completed on the (3) new rubble-mound breakwaters protecting St. Herman's Bay, and the north entrance and maneuvering channels are dredged.

Progress of Work

2002	Multi-beam survey techniques are used to check the three entrances to St. Herman's Harbor, the condition of Near Is. Channel, and the entrance to the small boat basin in Saint Paul's Harbor
2006	Project condition surveys and aerial photography are done for Near Is. Channel and Saint Herman's Harbor.
2009	A tidal datum update and project condition survey are conducted in June for Near Is. Channel, St. Herman's Harbor, and St. Paul Harbor. The project limits for Near Is. Channel is adjusted to align with the wharves and other structures.
2010	Sediment characterization and contract plans and specifications began in support of dredging rocks and sediment from the St. Paul and St Herman's harbors. USACE Comprehensive Evaluation of Project Datums Compliance report completed and recorded in December.
2012	A maintenance dredging contract was awarded to Western Marine Construction to mechanically remove rock in the entrance channels of St. Herman's and St. Paul Harbors.
2013	Maintenance dredging removed 10,265 cubic yards of rock from St. Paul and St. Herman's Harbors.

Table 2 Cost to Date

Project	Description	Cost \$
010168	CG PED Appropriation	1,318,308
	CG PED Costs	1,318,308
	CG Appropriation	17,153,750
	CG Costs	17,153,750
	CG Contributed Appropriation	1,843,166
	CG Contributed Costs	1,843,166
	O&M Appropriation	118,586
	O&M Costs	118,586
320418	O&M Appropriation	5,997,170
	O&M Costs	5,684,433

Table 3 Range of Tides in feet

Tide Station	Mean Range	Diurnal Range	Extreme Range
945 7283 Kodiak AK	6.65	8.7	16.48

Controlling Depth In 2013, the -16 feet MLLW area of the entrance channel at St. Paul Harbor has a controlling depth of -16 feet MLLW. In St. Herman’s Harbor, the -12 feet MLLW entrance channel has a controlling depth of -12.7 feet MLLW. The rock was placed in a -50 feet deep area in St. Herman’s Harbor.

Maintenance Dredging Supplement

A. Sampling & Testing

1. Samples were collected to characterize the sediments in the proposed dredging prism at St. Paul harbor. Five primary samples were collected using a sand auger in August 2012. Samples consisted of a very fine black silt/clay material.
2. Chemical analysis was conducted using (8) test methods as outlined with results below

Table 4 Chemical Testing

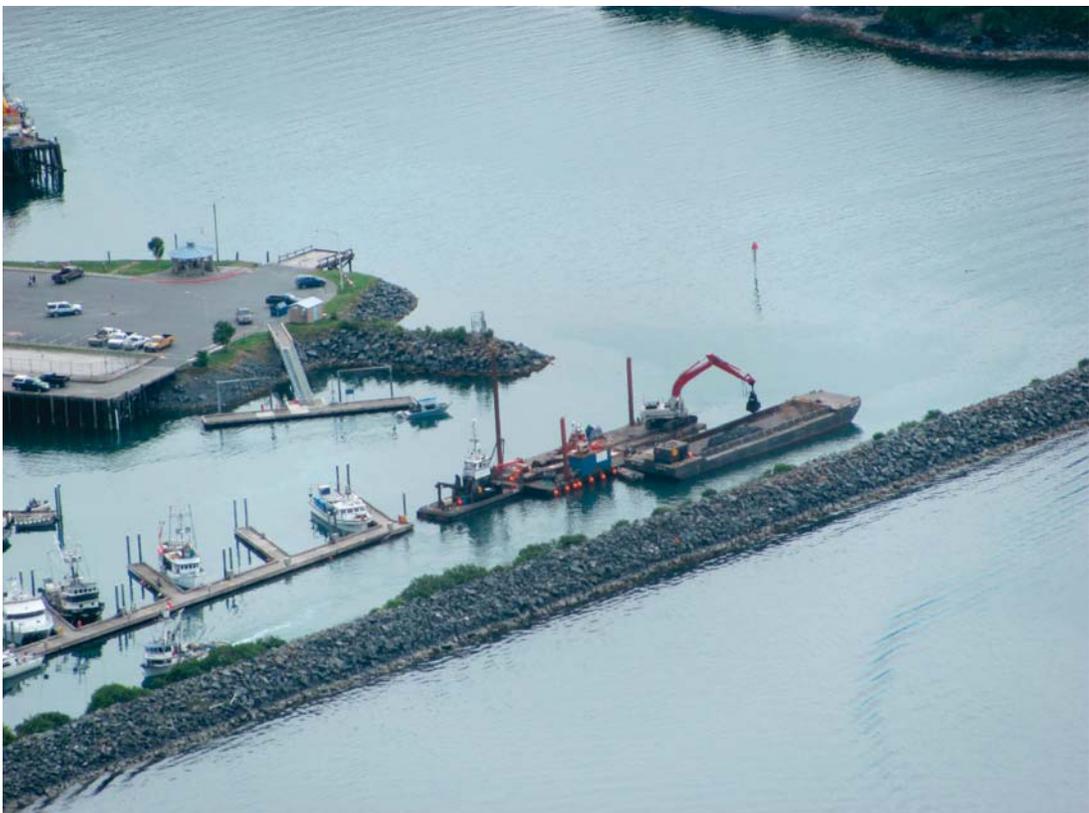
Method	Chemical analysis	Results
6020/7471B	(8) RCRA Metals	(8) of (8) detected; Arsenic 9.3-15 mg/kg, Chromium 40-63 mg/kg, All others below minimum cleanup levels
AK 101	Gasoline Range Organics	All ND (none detect) or below minimum cleanup levels
AK 102/103	Diesel Range Organics / Residual Range Organics	ND or below minimum levels
8081	Pesticides	ND or below minimum levels
8082	Polychlorinated Biphenyls (PCBs)	ND
8260B	Volatile Organic Compounds	ND or below minimum levels
8270C SIM	Polynuclear Aromatic Hydrocarbons	ND or below minimum levels

Project limits are defined by ADEC 18 AAC 75 Method 2 Table B1 and B2 Cleanup Levels and PSDDA Screening Limits.

Kodiak Harbors, Kodiak, Alaska



Oblique of Saint Paul Harbor, 2009.



Saint Paul Harbor entrance channel dredging, July 2013.

Kodiak Harbors, Kodiak, Alaska



Northeast oblique of Saint Herman's Harbor, 2009.



Southeast oblique of Saint Herman's Harbor, 2009.

Kodiak Harbors, Kodiak, Alaska



Southwest oblique of Near Island Channel, 2009.



Northeast oblique of Near Island Channel, 2009.