Sitka
Channel Rock (Thomsen) Harbor

Condition of Improvements
31 December 2019
Channel Rock (Thomsen) Harbor, Sitka, Alaska
(CWIS Nos. 010322 & 055030)

Authorization **(1)** Water Resources Development Act of 1992, Section 101 (Public Law 102-580, 31 October 1992) as adopted, and authorized by the Report of the Chief of Engineers, dated 29 June 1992 (House Doc. 103-37), provides for the construction of three breakwaters near the location of Channel Rock at Sitka, Alaska to create a protected harbor for a minimum of 315 vessels. (2) Section 3005 of the Water Resources Development Act of 2007, Public Law 110-114, amended Section 101 (1) to direct the Secretary to take such actions as is necessary to correct design deficiencies at Federal expense. This resulted in constructing a 315 foot breakwater to connect Breakwaters No.2 and No.3.

Table 1

Existing Project	**Length** (ft.)	**Width** (ft.)	**Depth** (ft.)
Breakwater No. 1	480		
Breakwater No. 2 (*includes connection between Breakwaters No.2 and No. 3)*	1515		
Breakwater No. 3	320		

Project Usage The Channel Rock Breakwaters provide protection for the new Thomsen Harbor expansion project, a major harbor addition to provide for current and anticipated future moorage needs.

Progress of Work

1988	Sampling and testing is carried out on sediments from Thomsen Harbor.
1994	Construction begins on the Channel Rock breakwaters (Thomsen Harbor). 188,500 cubic yards of rock are placed during the construction season.
1995	Construction is completed on the Channel Rock breakwaters. A total of 310,500 cubic yards of rock are placed to complete the contract.
2001	Crescent Bay Harbor, Western Channel, the Forest Service Basin, and the Channel Rock Breakwaters are surveyed under contract.

Progress of Work

2003	Vertical and oblique aerial photography is taken in May.
2005	A condition survey of all three federal projects including the Forest Service Basin are conducted in May.
2008	A Channel Rock breakwaters project condition survey was conducted in April 2008.
2012	Awarded a contract to construct a new breakwater which closes the gap between the two Channel Rock Breakwaters nearest Japonski Island. USACE Comprehensive Evaluation of Project Datums (CEPD) Compliance report completed and recorded in September.
2013	The Channel Rock Breakwater Modification project constructed a 315-foot-long breakwater to connect the main and south breakwaters to reduce wave energy entering Eliason Harbor. This resulted in closure of the secondary entrance that was part of the initial Channel Rock Breakwater project.
2014	The Channel Rock Breakwater Modification project was modified to include an extension of the south breakwater 115 feet towards Japonski Island and an extension of the main breakwater at an angle seaward 100 feet into the main entrance.
2016	A project condition survey was completed in March of Channel Rock Breakwater.

Table 2 Cost to Date

Project	Description	Cost $
010322	GI PED Appropriations	445,109
	GI PED Costs	445,109
	CG Appropriations	19,467,054
	CG Costs	18,900,628
	CG ARRA Appropriations	45,930
	CG ARRA Costs	45,930
	CG Contributed Appropriations	1,238,620
	CG Contributed Cost	1,238,620
055030	O&M Appropriations	129,329
	O&M Costs	129,329

Note: Costs for all Channel Rock, Crescent Harbor, and Western Channel combined.

Table 3 Range of Tides in feet

Tide Station	Mean Range	Diurnal Range	Extreme Range
945 1600 Sitka AK	7.70	9.94	18.98

NOAA Publication Date: 05/17/2017

Maintenance Dredging Supplement

A. General

1. The Federal project at Crescent Bay Basin has not required dredging since original construction in 1965, and likewise Western Channel has required no maintenance dredging. Federal responsibility for Thomsen Harbor includes only breakwater repair, if necessary, and will not require Federal maintenance dredging.
2. Some shoaling has occurred around the entire limit of Crescent Bay Basin with heavier shoaling along the northern limit.
3. A dredging window from 1 June to 14 March was approved for the Thomsen expansion project; further agency review should be conducted prior to the dredging of Crescent Bay Basin.
4. The method of dredging depends in part on the selection of the disposal site which is yet to be determined.

B. Sampling & Testing

1. Nine sites were sampled in May of 1997, seven in Crescent Bay Basin and two in Western Channel. The basin samples were classified by ASTM D 2487 as follows

Table 4A Soil Sampling

Sample No.	Classification	Results
1, 2	SM	Silty SAND with gravel
3	ML	Sandy SILT
6, 8	SM	Silty SAND
7	GM	Silty GRAVEL with sand
9	SP-SM	Poorly graded SAND with silt

Notes: The two samples from Western Channel were classified as GP-GM, Poorly graded GRAVEL with silt and sand. Classification

2. Chemical analysis was conducted using (7) test methods as outlined with results below

Table 4B Chemical Testing

Method	Chemical analysis	Results
9060	Total Organic Carbon	9,500 - 67,200 ppm
8260A	Volatile Organic Compounds	All below management levels
8270B	Semi-volatile Organic Compounds	(3) sites total (7) SVOCs over management levels
Series 6000-7000	(8) RCRA Metals + Copper	All below management levels
8081	PCBs & Pesticides	All below management levels or thresholds not established
9200	Nitrate + Nitrogen	ND (none detect)
9035	Sulfate	560 - 5,200 ppm

C. Disposal

1. Designated upland sites, including intertidal if greater than +4 feet MLLW, has met previous agency approval. Environmental impacts are lessened and dredged material is put to good use when upland sites are utilized, but the costs of such activity can be prohibitive.
2. Deep water sites in the vicinity will have to be investigated and are subject to agency approval, if onshore options are exhausted.

Channel Rock (Thomsen) Harbor, Sitka, Alaska

Sitka Harbors, March 2016

Oblique of Channel Rock (Thomsen) Harbor, March 2016

Channel Rock (Thomsen) Harbor, Sitka, Alaska

Channel Rock (Thomsen) Harbor Breakwater, March 2016

Channel Rock (Thomsen) Harbor, March 2016