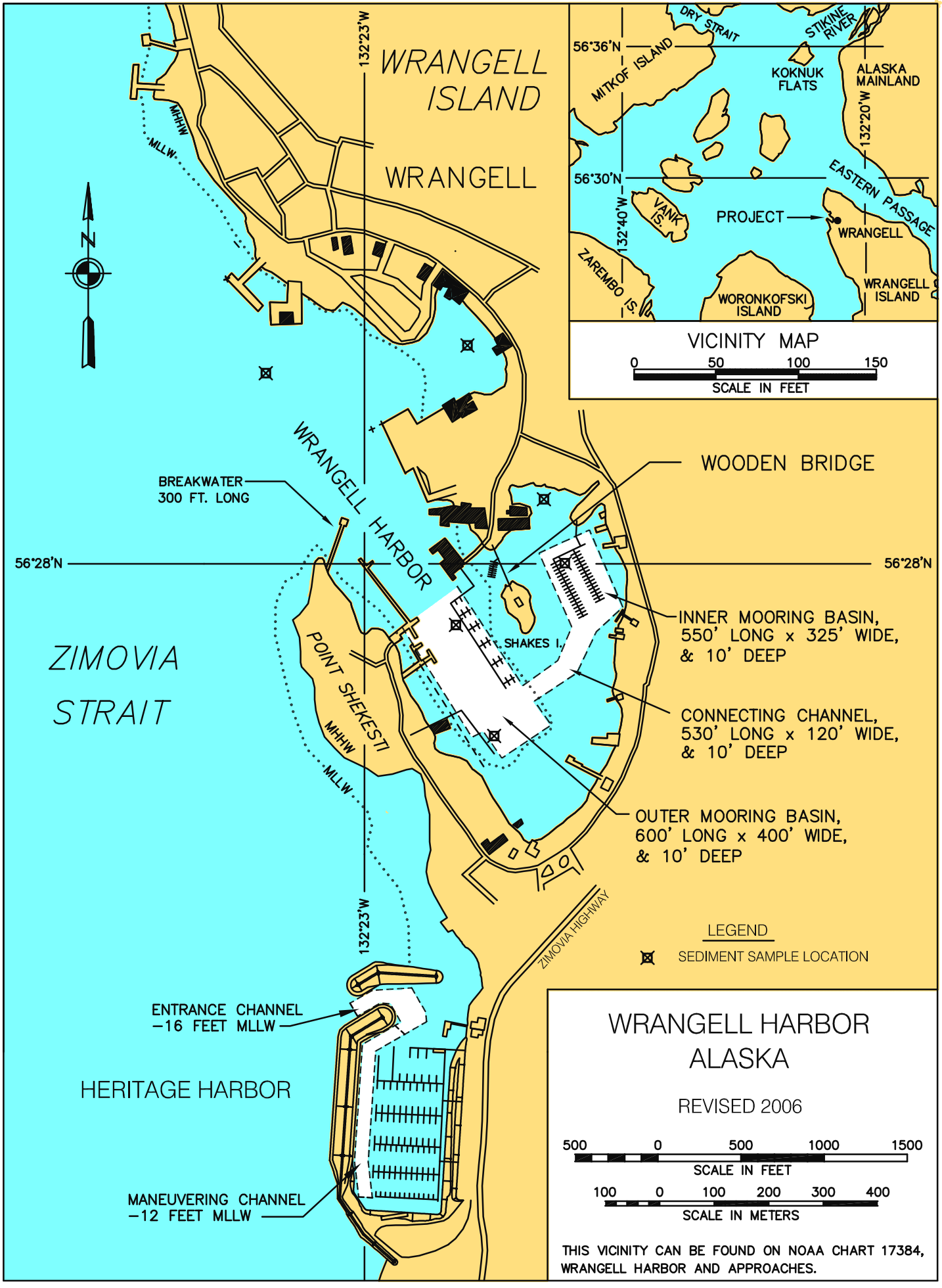
Wrangell Harbors

CORPS OF ENGINEERS

U.S. ARMY



WRANGELL HARBOR ALASKA

REVISED 2006

500 0 500 1000 1500
SCALE IN FEET

100 0 100 200 300 400
SCALE IN METERS

THIS VICINITY CAN BE FOUND ON NOAA CHART 17384, WRANGELL HARBOR AND APPROACHES.

Condition of Improvements
30 December 2014
Wrangell Harbors, Alaska
(CWIS No. 010435, 021500)

Authorization **(1)** Rivers and Harbors Act, 22 September 1922 (House Doc. 161, 67th Congress, 2nd Session) as adopted, provides for a breakwater 300 feet long extending from Point Shekesti to protect the southern portion of the harbor. **(2)** Rivers and Harbors Act, 30 August 1935 (House Doc. 202, 72nd Congress, 1st Session) as adopted, provides for a mooring basin 600 feet long by 400 feet wide dredged to a depth of 10 feet below MLLW. **(3)** Rivers and Harbors Act, 2 March 1945 (House Doc. 284, 76th Congress, 1st Session) as adopted, provides for an inner mooring basin 550 feet long by 325 feet wide dredged to a depth of 10 feet below MLLW and connected to the outer mooring basin by a connecting channel 530 feet long by 120 feet wide at a depth of 10 feet below MLLW; includes authorization for a breakwater 320 feet long on the reef north of Shakes Island. **(4)** WRDA 99 authorizes the construction of Heritage Harbor to include two breakwaters, an entrance channel, and inner harbor area. **(5)** WRDA 2007 Section 5035 provides (a) General Navigation Features - In carrying out the project for navigation, Wrangell Harbor, Alaska, authorized by section 101(b)(1) of the Water Resources Development Act of 1999 (113 Stat. 279), the Secretary shall consider the dredging of the mooring basin and construction of the inner harbor facilities to be general navigation features for purposes of estimating the non-Federal share of project costs.

Table 1

Existing Project	**Length** ft.	**Width** ft.	**Depth** ft.
Wrangell Harbor			
Outer Mooring Basin	600	400	-10
Connecting channel	30	120	-10
Inner Mooring Basin	550	325	-10
Breakwater	300		

Existing Project	Length ft.	Width ft.	Depth ft.
Heritage Harbor			
Entrance Channel	650	120	-16
Maneuvering Channel	1050	80	-12
Basin (maintained by others)	1215	525	-12
North Breakwater	542		
West Breakwater	1802		

Project Usage The original interconnected small boat basins have a capacity of 300 vessels and are used as an operating base for commercial fishing. The new Heritage Harbor can accommodate up to 271 vessels with lengths from 19 to 66 feet. The City of Wrangell has a dual economy based on the timber and fishing industries.

Progress of Work

Wrangell Harbor

1926	Point Shekesti breakwater is constructed.
1936	The outer mooring basin (original project) is dredged to project depth.
1956	Expansion of the harbor facilities begins in May with the dredging of the inner basin and connecting channel. The 320 foot rock mound breakwater north of Shakes Island is placed on inactive status.
1957	Harbor expansion is completed in March to the present existing project.
1968	Maintenance dredging is performed in September and October, where necessary to meet project depth, resulting in the removal of 13,644 cubic yards of material.
1992	The concrete parapet wall atop the breakwater undergoes rehabilitation.
1993	Sampling and testing of bottom sediments is completed; the Federal project is dredged by contract in October with the removal of 3,575 cubic yards.
1998	A condition survey is conducted from 29 March - 2 April.
2001	A multi-beam survey provides full swath coverage of the harbor in April.
2004	The most recent condition survey of the federal project is conducted in July with single beam techniques. A dredging contractor removes 220 cubic yards from beneath the inner harbor float to prevent recurring damage to the structure at extreme low tides.
2007	A project condition survey is completed for Wrangell Harbor in May.
2009	A project condition survey was completed for Wrangell Harbor in August.
2014	USACE Comprehensive Evaluation of Project Datums (CEPD) Compliance report completed and recorded in January.

Progress of Work

Heritage Harbor	
2004	Construction begins on Heritage Harbor in June.
2005	Construction of Heritage Harbor is completed in April.
2007	A project condition survey is completed for Heritage Harbor in May.
2009	A project condition survey was completed for Heritage Harbor in August.
2014	USACE Comprehensive Evaluation of Project Datums (CEPD) Compliance report completed and recorded in January.

Table 2 Cost to Date

Project	Description	Cost $
010435	GI PED Appropriation	386,000
	GI PED Costs	386,000
	GI PED Contributed Appropriation	150,000
	GI PED Contributed Costs	110,642
	CG Appropriation	13,114,437
	CG Costs	13,087,656
	CG Contributed Appropriation	3,071,450
	CG Contributed Costs	3,119,380
021500	O&M Appropriation	1,121,339
	O&M Costs	1,121,339

Table 3 Range of Tides in feet

Tide Station	Mean Range	Diurnal Range	Extreme Range
945 1204 Wrangell AK	13.57	15.96	-

Controlling Depth For the Outer Mooring Basin in Wrangell Harbor, -4.6 feet MLLW controls near the southeast edge of the project limits. For the Connecting Channel, -4.5 feet MLLW controls near Daybeacon 5. Project depth is effectively available in the Inner Mooring Basin except along the northern portion of the limits in which -1.6 feet MLLW controls. Finally, the project depth is available through the Entrance Channel of Heritage Harbor. A depth of -11.5 feet MLLW controls in the Maneuvering Channel near the south end of the project limits, August 2009.

Maintenance Dredging Supplement

A. General

1. The Federal project was last dredged in 2004 with the removal of 220 cubic yards from beneath the inner harbor float to prevent recurring damage to the structure at extreme low tides. Previous maintenance dredging occurred in 1993 with the removal of 3,575 cubic yards of material and 1968 with the removal of 13,644 cubic yards of material.
2. Shoaling was most apparent along the eastern limit of the outer basin, both sides of the connecting channel, and along the northern limit and southeast corner of the inner basin.
3. The "no-dredging" window runs from 15 March to 1 June as established by the State of Alaska.
4. The project was last dredged with a hydraulic cutterhead and suction pipeline. Hard bottom conditions were encountered in all three areas of the project thwarting efforts at an additional foot of advance maintenance and resulting in a large under run. Of the 13,100 cubic yards reportedly possible for dredging, the contractor was able to remove only 3,600 cubic yards.

B. Sampling & Testing

1. Three sites were sampled within the Federal project, September 1992, and classified as silty sand (SM), sandy silt (ML), and silt with sand (ML).
2. Chemical analysis was conducted using (5) test methods as outlined with results below.

Table 4 Chemical Testing

Method	Chemical analysis	Results
415.1	Total Organic Carbon	ND (none detected)- 3.48 %
Series 6000-7000's	(8) RCRA Metals	(6) of (8) detected; Mercury 0.3 - 0.5 marginal, all others below management levels
8270	Semi-volatile Organics	(12) above management levels
8080	Pesticides and PCB's	ND
8260	Volatile Organic Compounds	Methylene Chloride 25 - 58 ppb,* all others ND or below management levels

** Low levels detected in all samples; laboratory contamination suspected.*

C. Disposal

1. Dredge spoils were conveyed via portable pipeline and discharged in the deepwater of Zimovia Strait. The primary intertidal site north of project, with center at 56°28'13.33"N 132°22'50"W, was not utilized.

2. The deepwater disposal site is located a minimum of 900 feet west of the main breakwater tip in water 100 feet deep or greater. The offshore geographic coordinates for a single discharge point are 56°28’2.5”N and 132°23’19.9”W.
3. The future location of the disposal site will have the option of upland or deep water disposal. The containment structure for an upland or intertidal site is not funded by the Corps.

D. Environmental Permits and Reports

1. A Chemical Data Report was prepared by the Corps in February 1993, an Environmental Assessment was completed in April 1993, and a Finding of No Significant Impact (FONSI) was signed 13 August 1993.
2. The following permits or authorizations are listed by agency below:

Table 5 Environmental Permits

Agency Name	Date of Issue	Date of Expiration
AK Department of Environmental Conservation	August 4, 1993	n/a
AK Department of Governmental Coordination	July 22, 1993	n/a
AK Department of Natural Resources	July 15, 1993	n/a
US Fish and Wildlife Service	July 6, 1993	n/a
NOAA -National Marine Fishing Service	April 14, 1993	n/a

3. Water Quality: Five physical parameters were measured through the water column at three locations within the federal project; temperature, salinity, pH, oxidation-reduction potential, and conductivity were measured in the field. No chemical analysis was conducted.

Wrangell Harbors, Wrangell, Alaska

Oblique of Wrangell Harbor, April 2005.

Wrangell Harbor, 2009.

Wrangell Harbors, Wrangell, Alaska

Oblique of Heritage Harbor, April 2005.

Heritage Harbor, 2009.