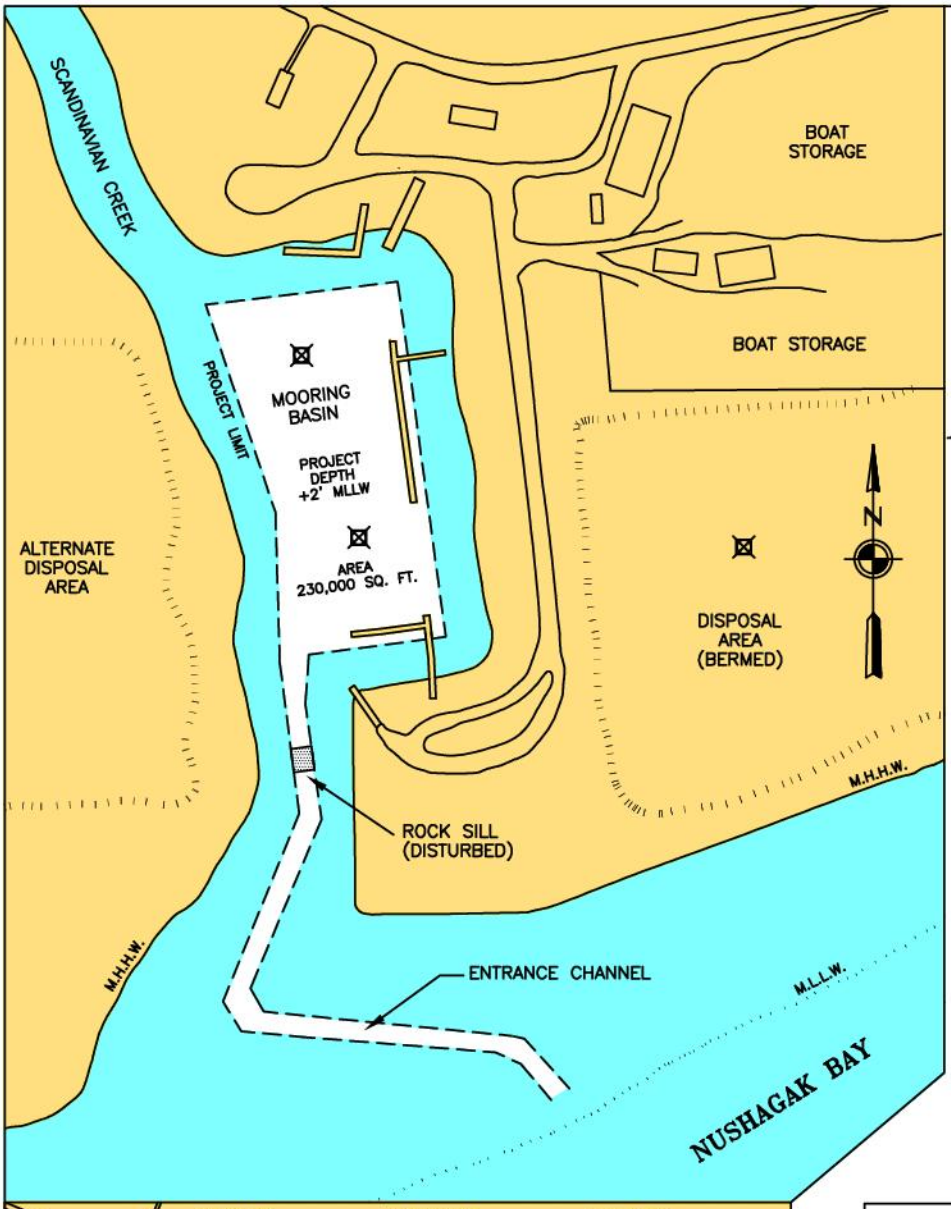
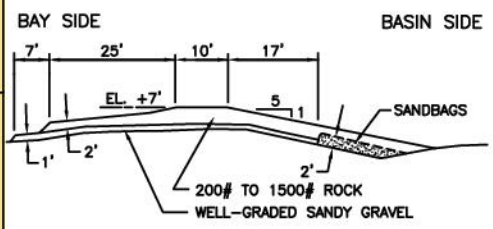
DILLINGHAM HARBOR

CORPS OF ENGINEERS

U.S. ARMY





DETAIL OF ROCK SILL

NOT TO SCALE

NOTE: SECTION TAKEN ALONG CHANNEL CENTERLINE.

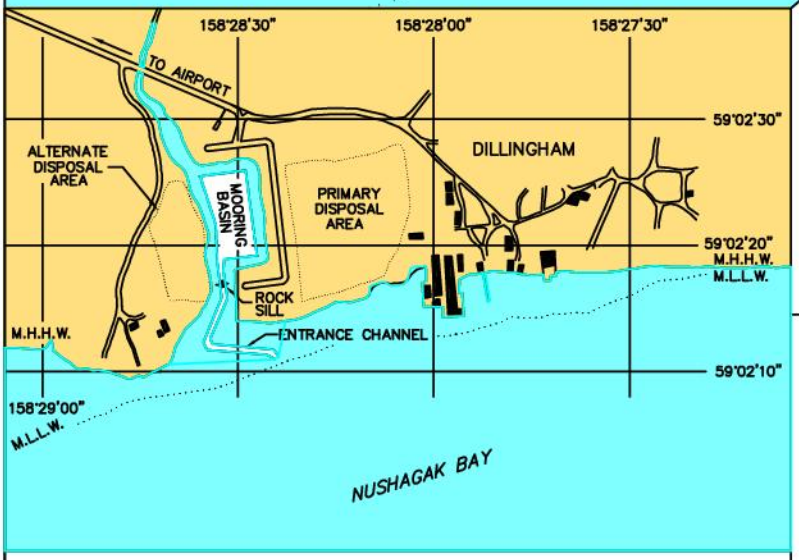
NOTES

1. SOUNDINGS AND ELEVATIONS ARE BASED ON MEAN LOWER LOW WATER (MLLW = 0.0').
2. THIS LOCALITY IS SHOWN ON USC & GS CHART NOS. 16011 AND 16322.

LEGEND

⊠ SEDIMENT SAMPLE LOCATION

METRIC CONVERSIONS					
FEET	METERS	FEET	METERS	FEET	METERS
0.5	0.15	11.0	3.55	20.0	6.10
1.0	0.30	12.0	3.66	21.0	6.40
2.0	0.61	13.0	3.96	24.0	7.32
4.0	1.22	15.0	4.57	50.0	15.54
5.0	1.52	16.0	4.88	100.0	30.48
6.0	1.83	18.0	5.49	300.0	91.44
10.0	3.05	19.0	6.40	700.0	213.36



VICINITY MAP

500 0 500 1000 1500 2000

SCALE IN FEET

DILLINGHAM HARBOR ALASKA

REVISED 1996

100 0 100 200 300 400 500 600

SCALE IN FEET

50 0 50 100 150 200

SCALE IN METERS

DILLINGHAM HARBOR, ALASKA
(CWIS NO. 04800)
(CWIS NO. 87319)

Condition of Improvement 30 September 2009

AUTHORIZATION: Rivers and Harbors Act, 3 July 1958 (House Doc. 390, 84th Congress, 2nd Session) as adopted, provides for a small boat basin along Scandinavian Creek of 230,000 square feet at 2 feet above MLLW, an entrance channel 1,100 feet long with a bottom width of 40 feet in Scandinavian Creek, a sheet-pile sill across the basin outlet with a top elevation at 7 feet above MLLW, and an embankment on three sides of the basin to provide protection from the wind.

EXISTING PROJECT:	LENGTH	DEPTH	WIDTH
• Basin	700 ft	+2 ft	650 to 800 ft
• Entrance Channel	1100 ft	varies	40 ft
• Rock Sill (removed to depth of existing bottom)	N/A	+7 ft	N/A

PROJECT USAGE: The harbor provides half-tide access and all-tide moorage for about 320 commercial fishing and recreational craft. Commercial salmon fishing is the cornerstone of the community's economy; subsistence hunting and fishing continue to be vital local activities. Dillingham Harbor provides both moorage and an alternate landing area for lighterage vessels. All transportation to the area is by water or air.

PROGRESS OF WORK:

1960 - Dredging of the basin begins in September and continues until freeze-up in November. The project is 52% complete.
1961 - Design modifications change the sheet-pile sill to a rock sill and move the embankment back from the basin. Dredging of the basin is resumed in May and completed in October. The rock sill is only partially completed; damage by ice occurs during the winter months.
1962 - The basin is found to be silted in. Restoration of the rock sill and dredging of the basin commences in May. The project is completed in July.
1963 - The depth of the project is reduced from +2 feet to +7 feet MLLW due to siltation.
1964 - Maintenance is suspended pending restudy of the project.
1966 - A study of the siltation problem is completed in September.
1967 - A General Design Memorandum is completed and submitted for approval.
1968 - A supplemental design memorandum is approved authorizing re-excavation to project depth and the purchase of a Corps owned dredge.
1969 - Dredging commences in June and continues through October by the Corps' pipeline dredge "Dillingham".
1970 - From this year forward annual maintenance dredging is carried out from May through October as required.
1978 - From this year through 1988 all dredging is performed by the "Dillingham".
1989 - Beginning this year maintenance dredging is accomplished annually by contract.
1993 - Sampling and testing is conducted on the harbor sediments.
1994 - The Corps' project office is leased to the National Guard for a five year period.

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DILLINGHAM HARBOR, ALASKA (continued)

30 September 2009

1999 - Rock from the "disturbed" rock sill is removed from the entrance channel, but only to the depth of the existing bottom.
2001 - A Dredged Material Management Plan is initiated to study alternative disposal methods and sites as a result of the existing Peter Pan site reaching capacity.
2003 - Annual maintenance dredging removes 103,299 cubic yards from the basin area. Alternate disposal sites are under consideration.
2004 - The dredging contractor removes 90,000 cubic yards from the federal basin and entrance channel. In-water disposal was attempted but suspended due to insufficient contractor capability. The Peter Pan site was used for the remainder of the dredging period.
2005 - The annual maintenance dredging effort again reports the removal of 90,000 yards. The open water disposal site is used successfully for the first time. The Dredged Material Management Plan continues with analyses of alternative disposal methods and sites.
2006 - Annual maintenance dredging removes 98,320 cubic yards with a cutterhead and suction pipeline operation. Material is successfully disposed offshore in the turbid open water.
2007 - Maintenance dredging removes 95,000 cubic yards in the annual effort, and disposal is conducted offshore.
2008 – A pre-dredge survey was conducted in May 2008. 91,113 cubic yards of material was removed and a post-dredge survey was conducted in June 2008.
2009 – A pre-dredge survey was completed in late May. Annual maintenance dredging removed approximately 73,000 cubic yards of material with disposal in the Nushagak River site. A post-dredge survey was completed in late June.

COST TO DATE:

CG Appropriation 87319	$1,060,678
CG Costs 87319	$1,060,678
CG Appropriation 04800	$295,000
CG Costs 04800	$0
O&M Appropriation 04800	$17,967,965
O&M Costs 04800	$17,935,801
O&M Contributed Appropriation 04800	$1,700
O&M Contributed Costs 04800	$1,700

RANGE OF TIDE:

Mean Range	Diurnal Range	Extreme Range
15.9'	19.8'	30.0'

CONTROLLING DEPTH: A depth of +1.2 feet MLLW controls in the basin and +7.6 feet MLLW controls for the entrance channel at the end of the 2009 dredging season. This project is subject to rapid shoaling due to sedimentation from Nushagak Bay.

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DILLINGHAM HARBOR, ALASKA (continued)

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DREDGED QUANTITIES AND CONTRACT COSTS

Item	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Quantity Cubic Yards	90,000	98,320	95,000	91,113	73,000
Contract Cost	$470,902	$571,920	$524,300	$524,813	$744,000

MAINTENANCE DREDGING SUPPLEMENT:

A. General

1. Dredging of the Dillingham small boat harbor is carried out by contract for a two or three year term.
2. Shoaling is heavy throughout the basin area and the upper entrance channel.
3. The window for dredging activity runs from 1 May to 30 June, but usually dredging activity occurs from "ice out" to an early completion about the end of the first week in June to avoid conflicts with the salmon fishing fleet.
4. Dredging is accomplished with a hydraulic cutterhead and pipeline suction dredge which conveys the effluent to an open water site.

B. Sampling & Testing

1. Three sites from the harbor and a composite sample from the disposal site, in May 1992, were classified as silt (ML); the inner most harbor sample was classed as silt with sand (ML).
2. Chemical analysis was performed using (6) test methods as outlined with results below:

Method 415.1	Total Organic Carbon	1.88 - 3.74 ppm
Series 6000-7000's	(8) RCRA Metals	(5) of (8) detected, all well below management levels
Method 8270	Semi-volatile Organics	Fluoranthene, 1.7 ppm* others below management levels
Method 8080	Pesticides and PCB's	none detected
Method 8240	Volatile Organics	all below management levels or not detected
Method 160	Percent Solids	32.5 - 60.7 %

* Sample location north of Federal limit; concentration at lower management threshold.

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DILLINGHAM HARBOR, ALASKA (continued)

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C. Disposal

1. Until 2004, the effluent was traditionally conveyed via portable pipeline from the dredge plant to upland, bermed disposal sites east and west of the harbor. An open water site immediately south of the entrance channel approximately 800 feet offshore was attempted in 2004, but failed with insufficient pipeline length and poor anchoring methodology. In-water disposal was successfully achieved in 2005. Turbidity monitoring of the open water site was continued in 2006.
2. A 20-year Dredged Material Management Plan is under development for the long term disposal needs of the harbor and is planned for implementation in 2009.
3. A Preliminary Assessment, EA, and FONSI for maintenance dredging and in-water disposal was approved on 18 April, 2008 which selects and in-water disposal site for the next 20 years of dredging operations.

D. Environmental Permits and Reports

1. An Environmental Assessment was completed in September 2007 and the FONSI was signed in April 2008.

2. The following permits or authorizations were issued by agency below:

Agency Name	Date of Issue	Date of Expiration
ADF&G	17 Oct 08	31 Dec 13
ADEC	15 Apr 08	15 Apr 13
ADNR	3 Nov 08	2 Nov 13

3. Water Quality: Five physical parameters were measured at three locations in the harbor, May 1992; temperature, pH, salinity, conductivity, and oxidation-reduction potential were measured in the field. No chemical analysis was conducted.

Dillingham Harbor

The Alaskan Eagle dredge moves into the small boat harbor in May, 2009.

View of the small boat harbor in June, 2009.