

UNALASKA DEEP DRAFT NAVIGATION CHANNEL

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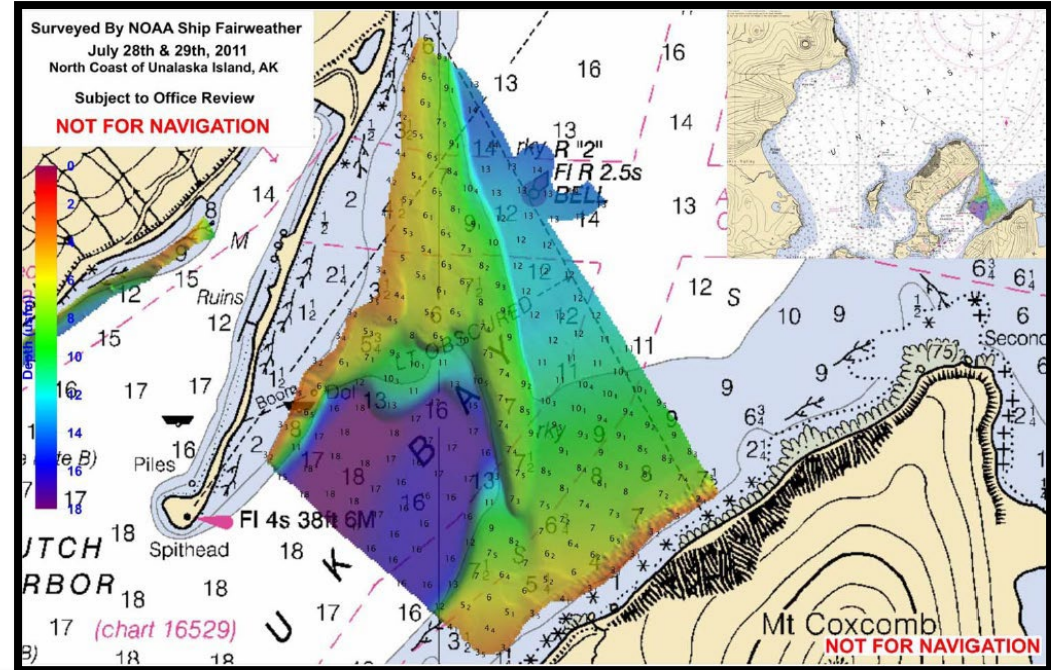


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PROJECT PURPOSE



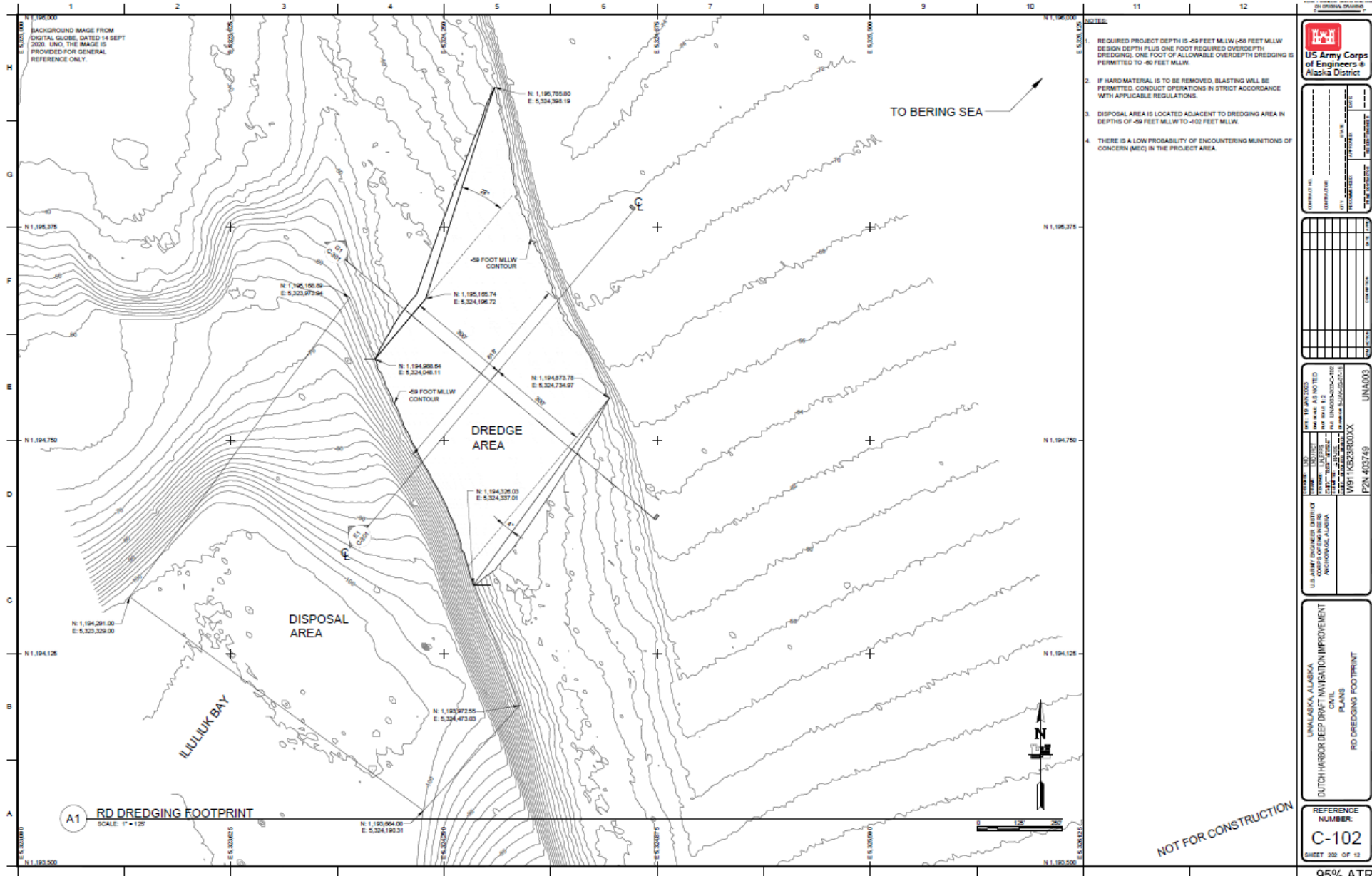
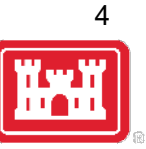


GEOTECHNICAL CONDITIONS



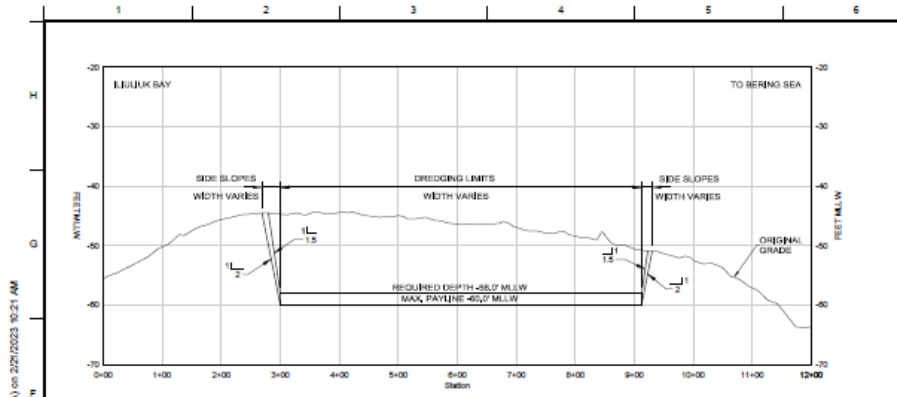


PROJECT CONSTRUCTION PLANS





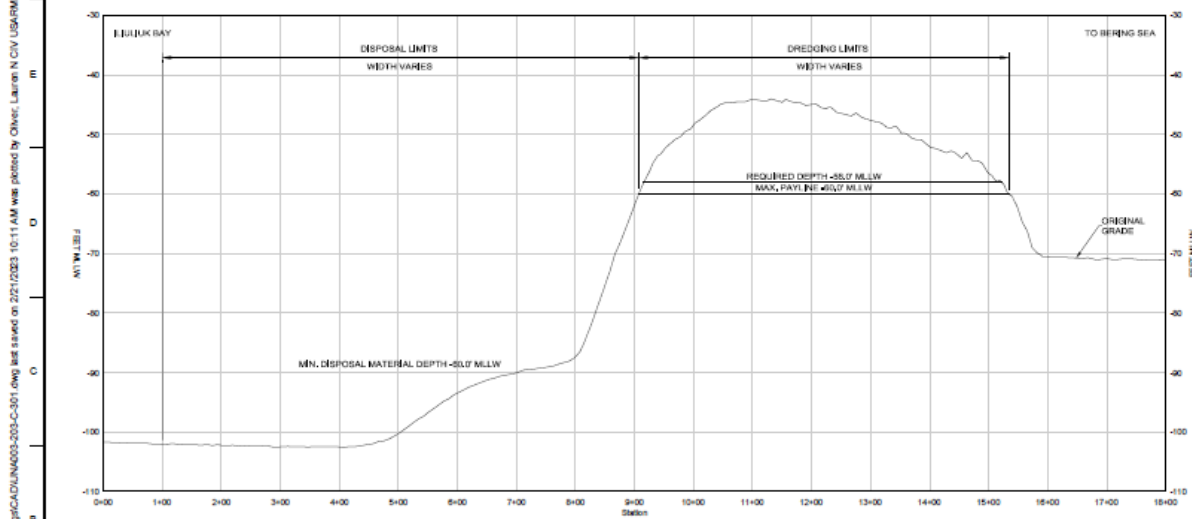
PROJECT CONSTRUCTION PLANS



F3 TYPICAL SECTION - THRU AXIS
SCALE: 1" = 10'

Minimum Depth: -58 ft. MLLW
with 1.5H:1V side slopes

Max Pay Line: -60 ft. MLLW
with 2H:1V side slopes



B2 TYPICAL SECTION - CENTERLINE
SCALE: 1" = 10'

Dredge Depths:
-42 ft. to -60 ft. MLLW

Placement Depths:
-60 ft. to -115 ft. MLLW
No placed material
allowed over -60' MLLW

Drawing X:\UNIFIED\ENR\Sub\ALASKA\00010 Dredge\CAL\UN000-200-C-301.dwg last saved on 2/21/2023 10:11 AM was plotted by ONIC LARSEN CIVIL USARMY CEPOA (USA) on 2/27/2023 10:21 AM

A1 TYPICAL SECTIONS AND DETAILS
SCALE: 1" = 100'

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Alaska District

UNALASKA, ALASKA
DUTCH HARBOR DEEP DRAFT NAVIGATION IMPROVEMENT
CIVIL
SECTIONS AND DETAILS
TYPICAL SECTIONS AND DETAILS

REFERENCE NUMBER:
C-301
SHEET 8 OF 12

NOT FOR CONSTRUCTION



QUESTIONS?





ADDITIONAL INFO

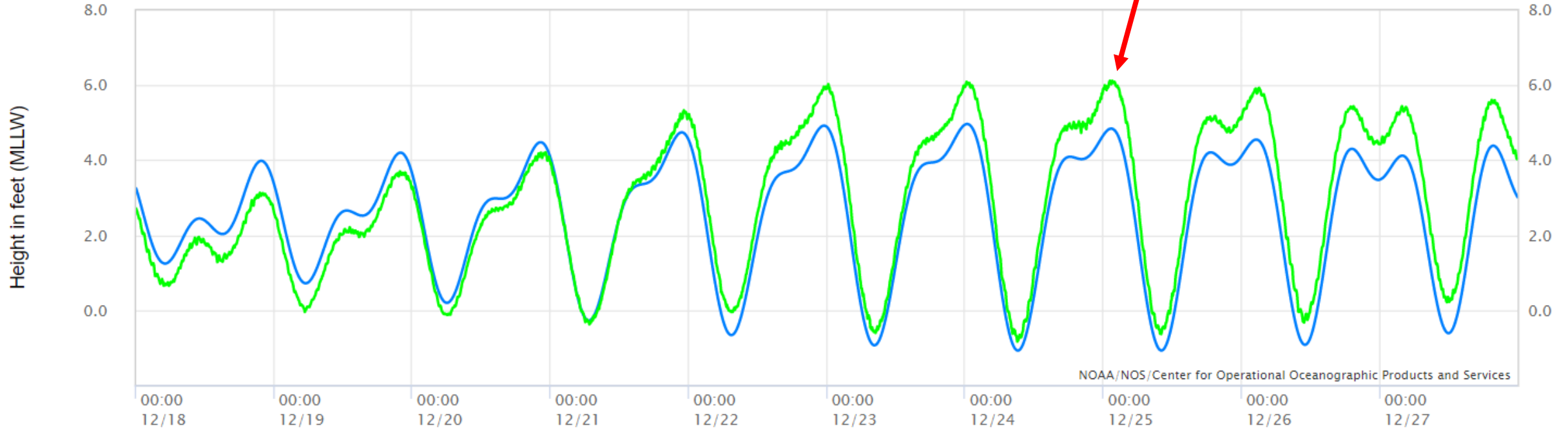




WATER LEVELS DECEMBER 18 – 27, 2023



NOAA/NOS/CO-OPS
Observed Water Levels at 9462620, Unalaska AK
From 2022/12/18 00:00 GMT to 2022/12/27 23:59 GMT



NOAA/NOS/Center for Operational Oceanographic Products and Services

— Predictions — Verified — Preliminary — (Observed - Predicted)

December 25, 2022

Predicted Tide: +4.8 ft.
 Observed Water Level: +6.1 ft.
 “Storm Surge” 1.3 ft.

Datum	Value	Description
MHHW	3.60	Mean Higher-High Water
MLLW	0.00	Mean Lower-Low Water
Max Tide	6.70	Highest Observed Tide
Max Tide Date & Time	01/27/1960 22:36	Highest Observed Tide Date & Time



DEPTH LIMITED WAVE – WAVES OVER THE SPIT



Breaking Index (0.78) $\rightarrow \gamma_b = \frac{H_b}{d_b}$

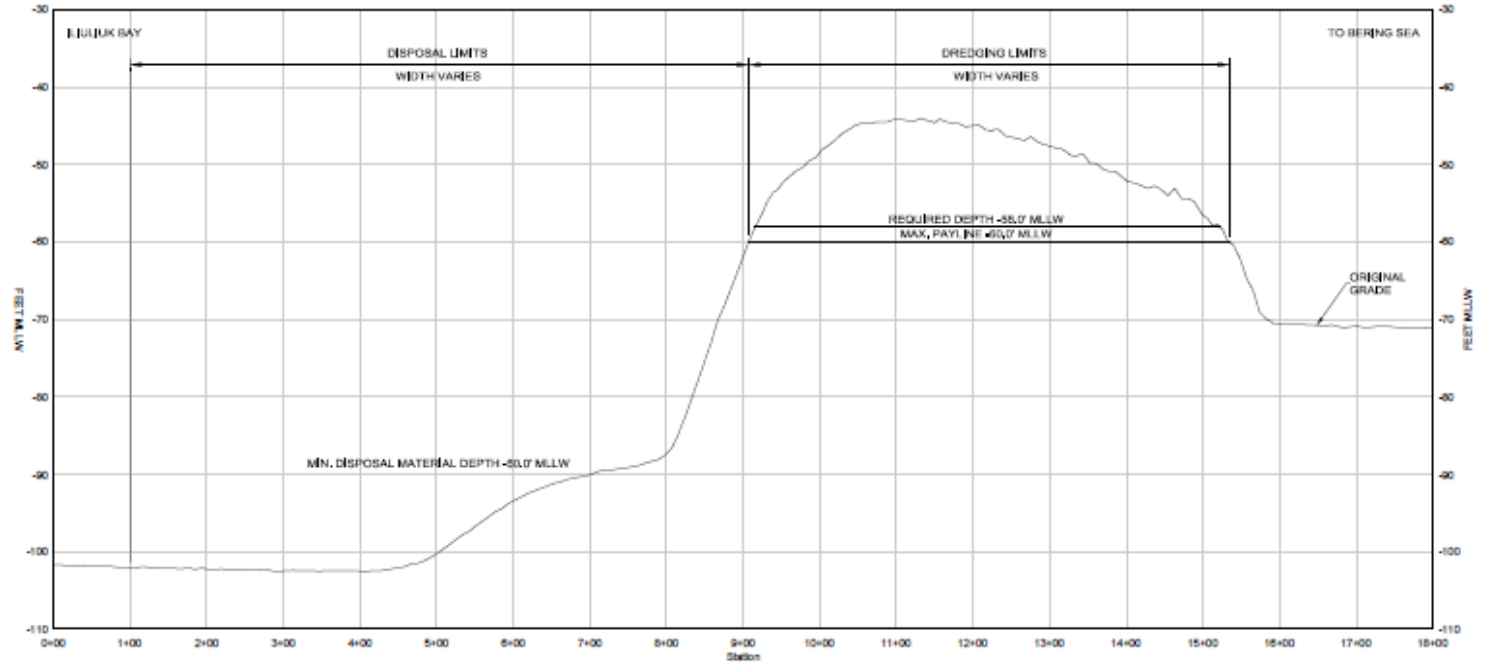
Breaking Wave Height H_b

Breaking Depth d_b

$\gamma_b = 0.78$

$d_{b1} = 48$ ft. current depth
 $d_{b2} = 66$ ft. dredged depth

$H_{b1} = 37.4$ ft.
 $H_{b2} = 51.5$ ft.



30 Year Wave - Channel				
270° - 0°		0° - 90°		
Feet	Period (s)	Feet	Period (s)	
Wave at WIS Point	51.8	16	37.5	14
Wave at Entrance	22.0	13	13.1	14
Wave at Bar	7.0	13	9.5	13
Wave at Front Beach	1.3	12	2.0	12