



# Port of Kalama, New Approach to Maintenance Dredging and Placement of Dredged Material

WEDA 34/TAMU 45

*Dredging Summit and Expo 2014, Toronto, Ontario, CA*

*John Dawson, Coast & Harbor Engineering, Inc.*

*Vladimir Shepsis, Coast & Harbor Engineering, Inc.*

*Mark Wilson, Port of Kalama*

*Tabitha Reeder, Port of Kalama*

*Jacobo Salan, Port of Kalama*

*Sally Fisher, Berger ABAM*



*June 17, 2013*



**COAST & HARBOR  
ENGINEERING**



**BRITISH  
COLUMBIA**

**WASHINGTON**

**PACIFIC OCEAN**

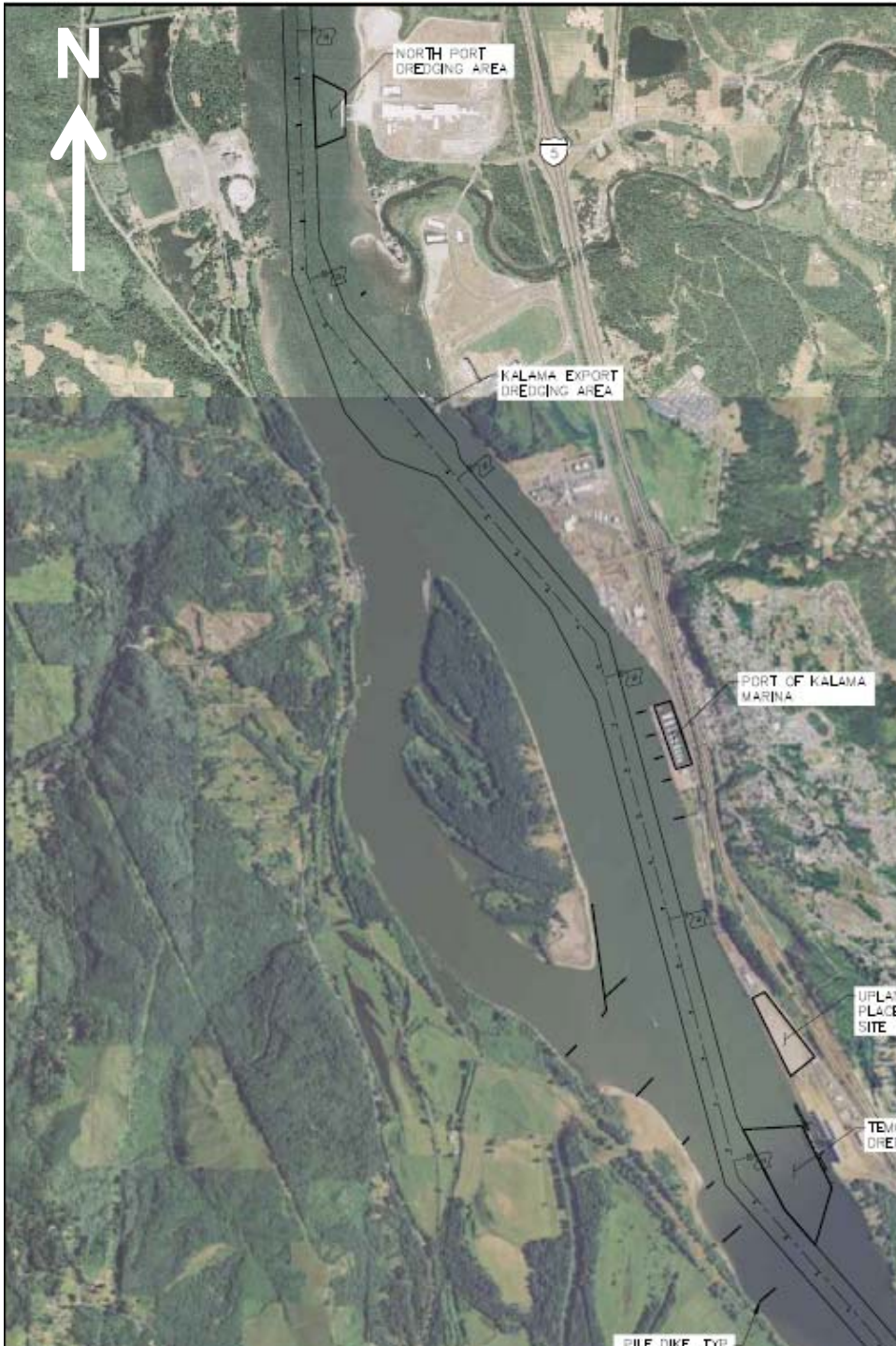
**MOUTH OF  
COLUMBIA RIVER**



**OREGON**



**PORT OF KALAMA**



Port of Kalama	Yearly Maintenance Dredging Volumes
TEMCO (United Harvest)	160,000 cy per year
North Port	10,000-20,000 cy per 2-5 years
Kalama Export	50,000 cy per 10-15 years
Marina	5,000 cy per 10-25 years



# Presentation Overview

- 1. Project Challenges**
- 2. Site Physical Conditions in the Project Area**
- 3. Solutions to Project Challenges**
- 4. 2013 Implementation of Dredging and Disposal**
- 5. Conclusions**



**COAST & HARBOR  
ENGINEERING**

## 2. Project Challenges

---

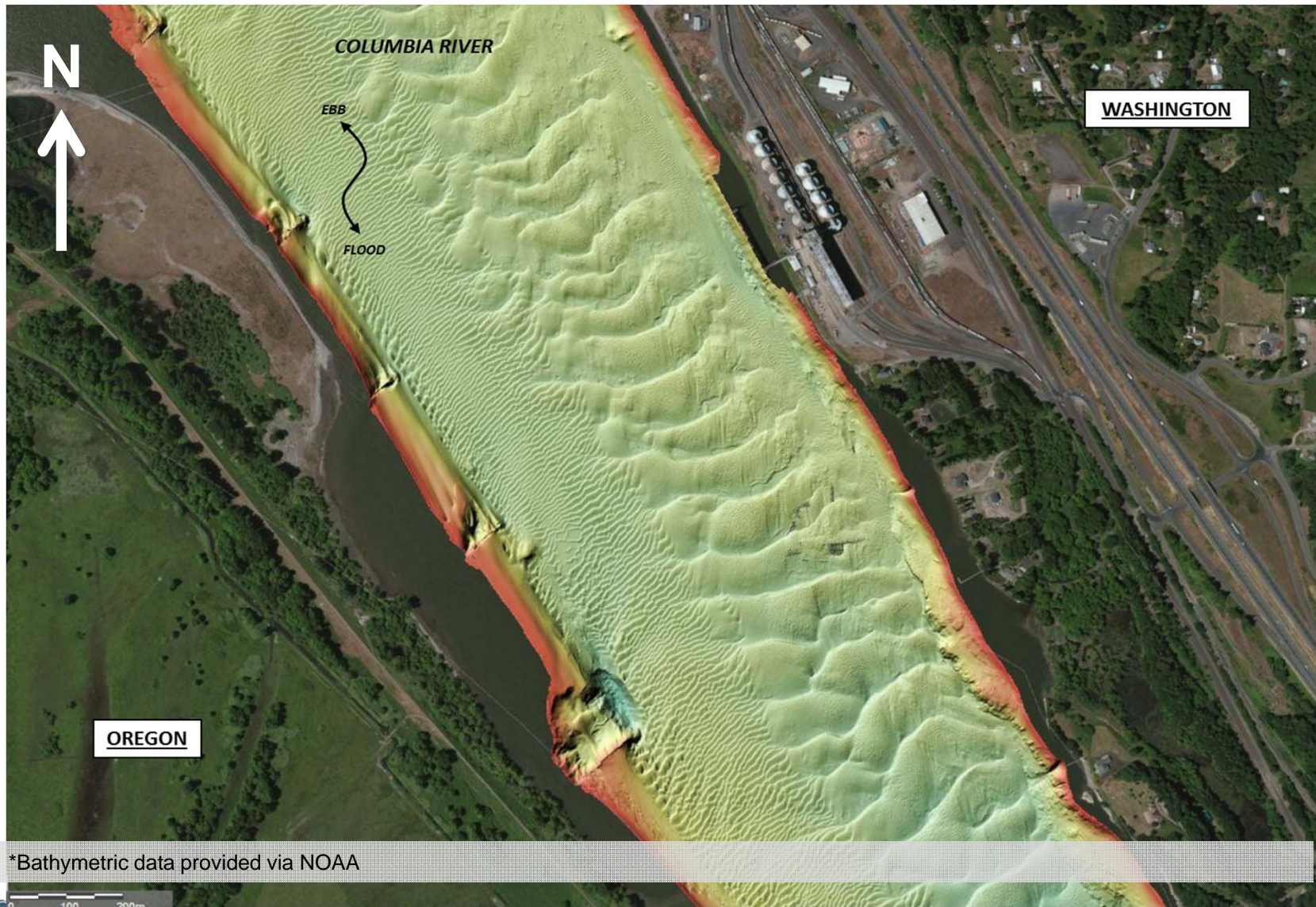


### Major Project Challenges:

1. Upland disposal site was in an over-filled condition. Limited Capacity.
2. Agencies prefer dredged material to remain in Natural Littoral System of the Columbia River.

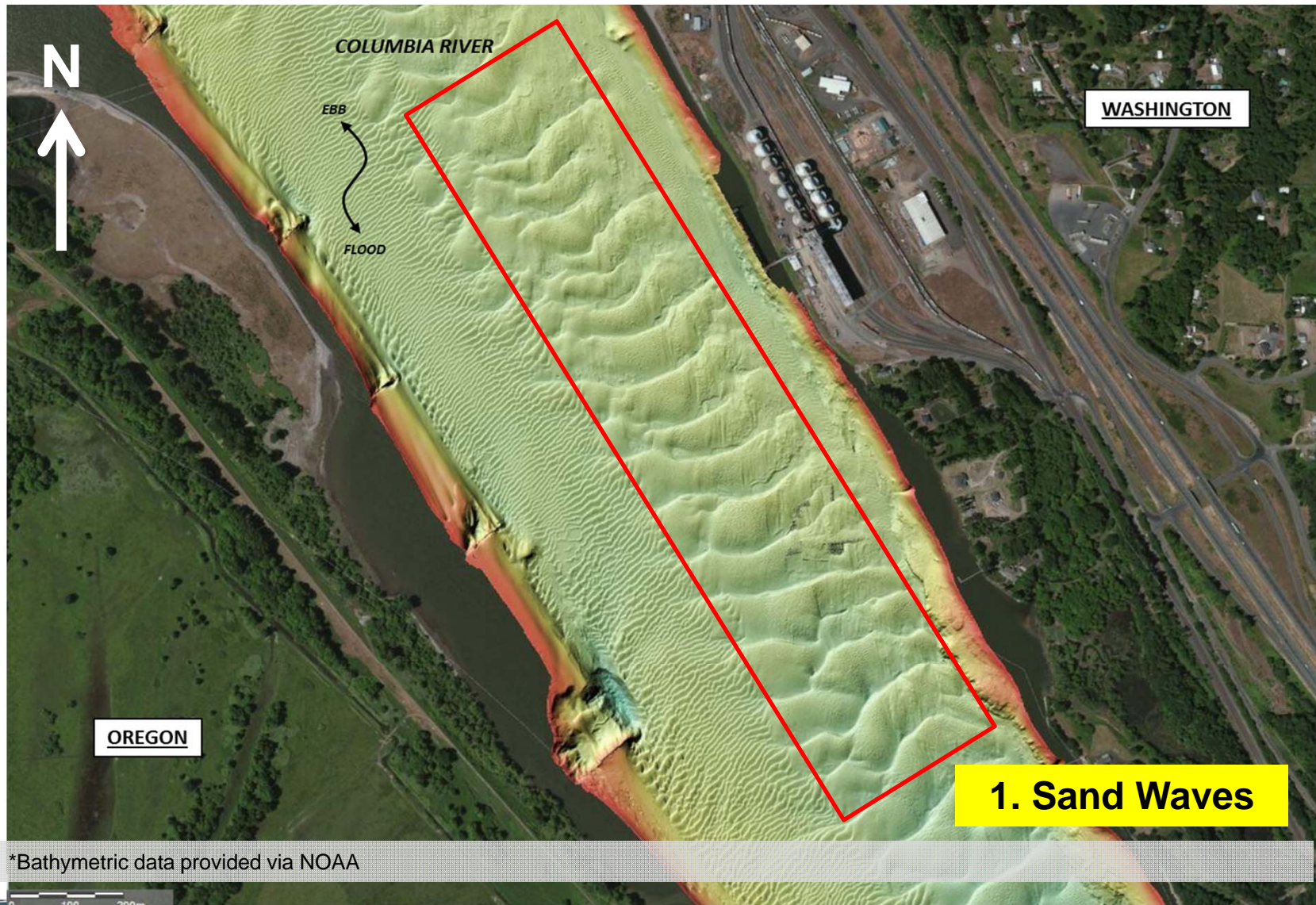


## 2. Site Physical Conditions



**COAST & HARBOR  
ENGINEERING**

## 2. Site Physical Conditions



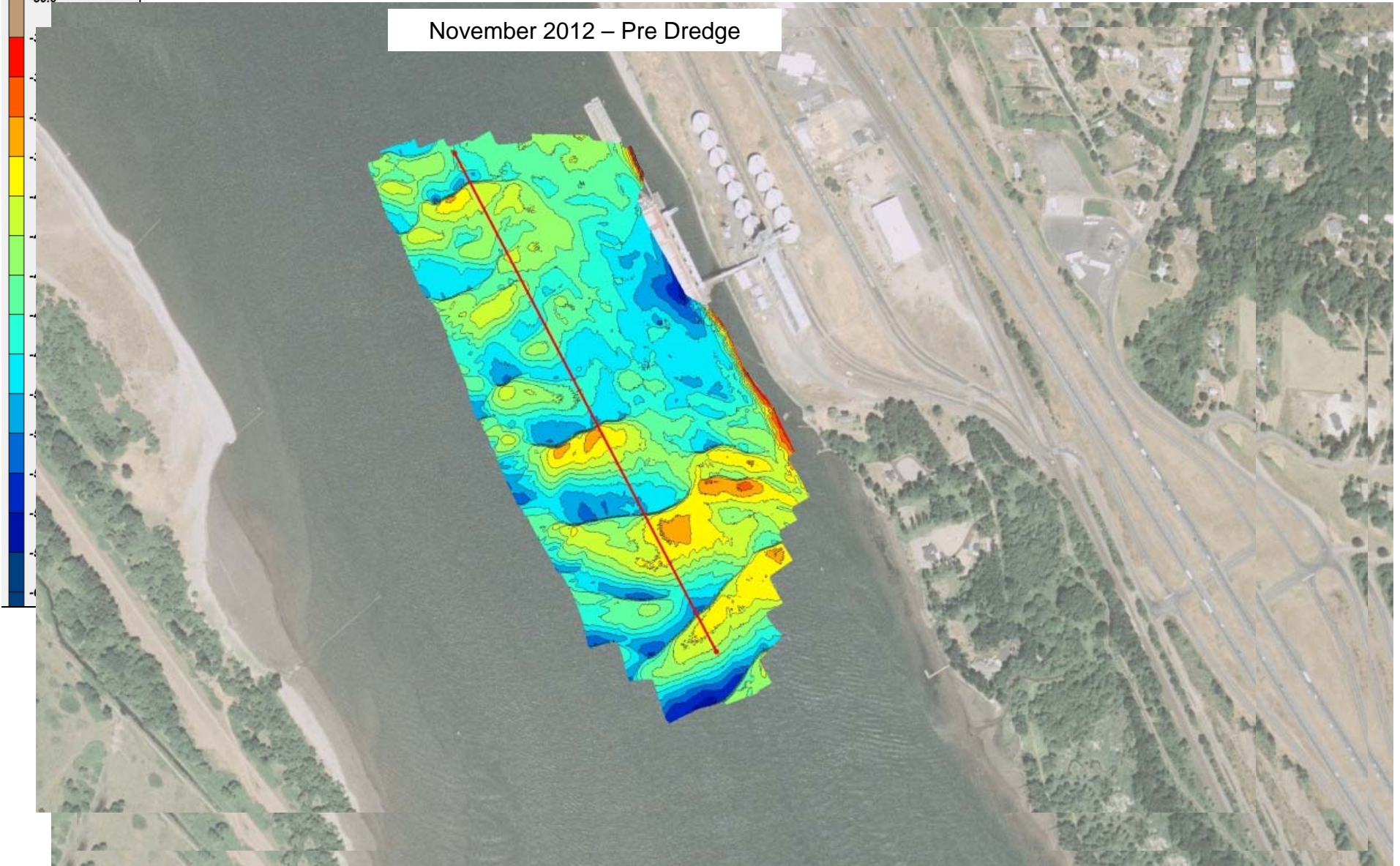
2.

Elevation, feet (CRD)

-30.0

# Site Physical Conditions

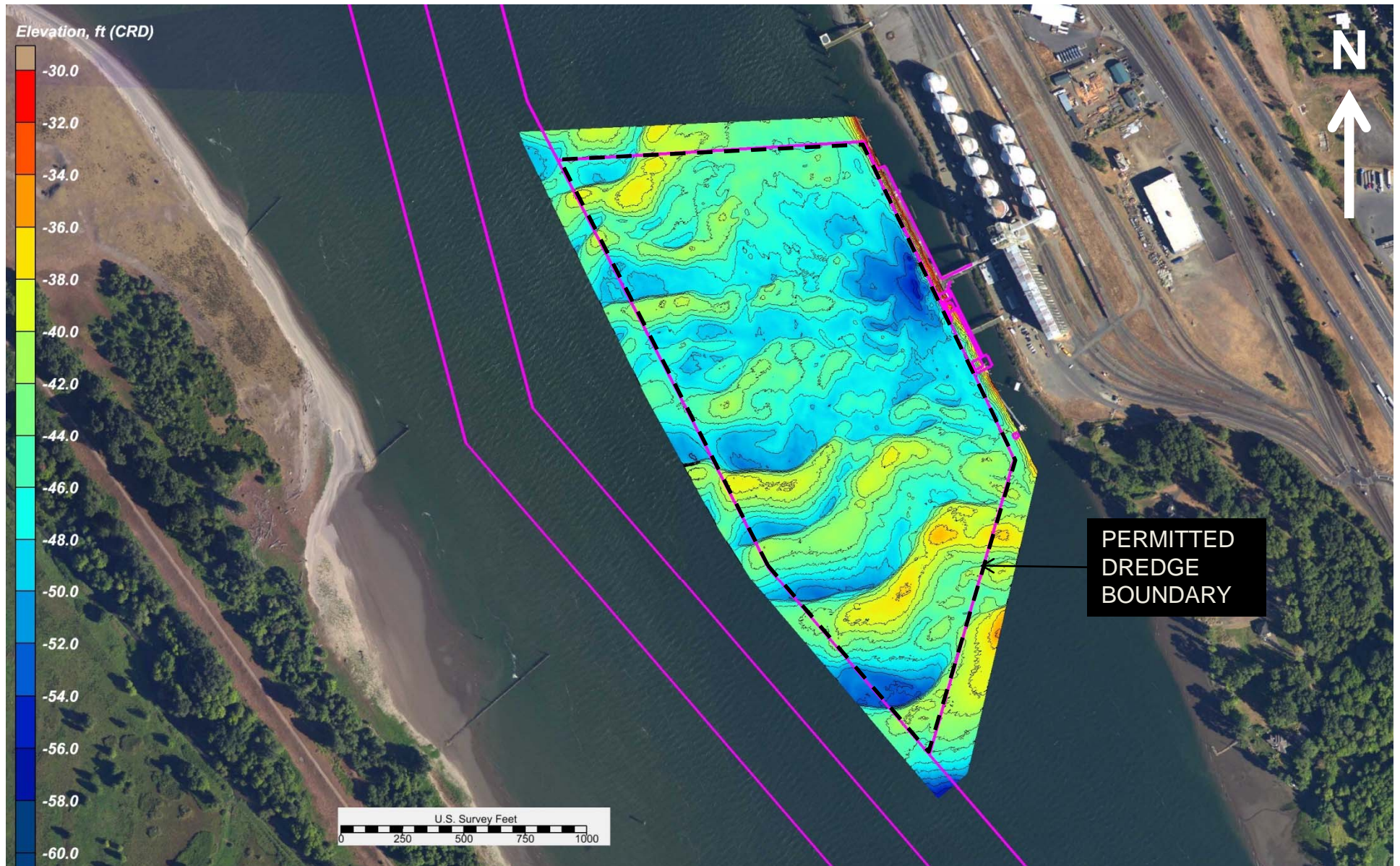
November 2012 – Pre Dredge



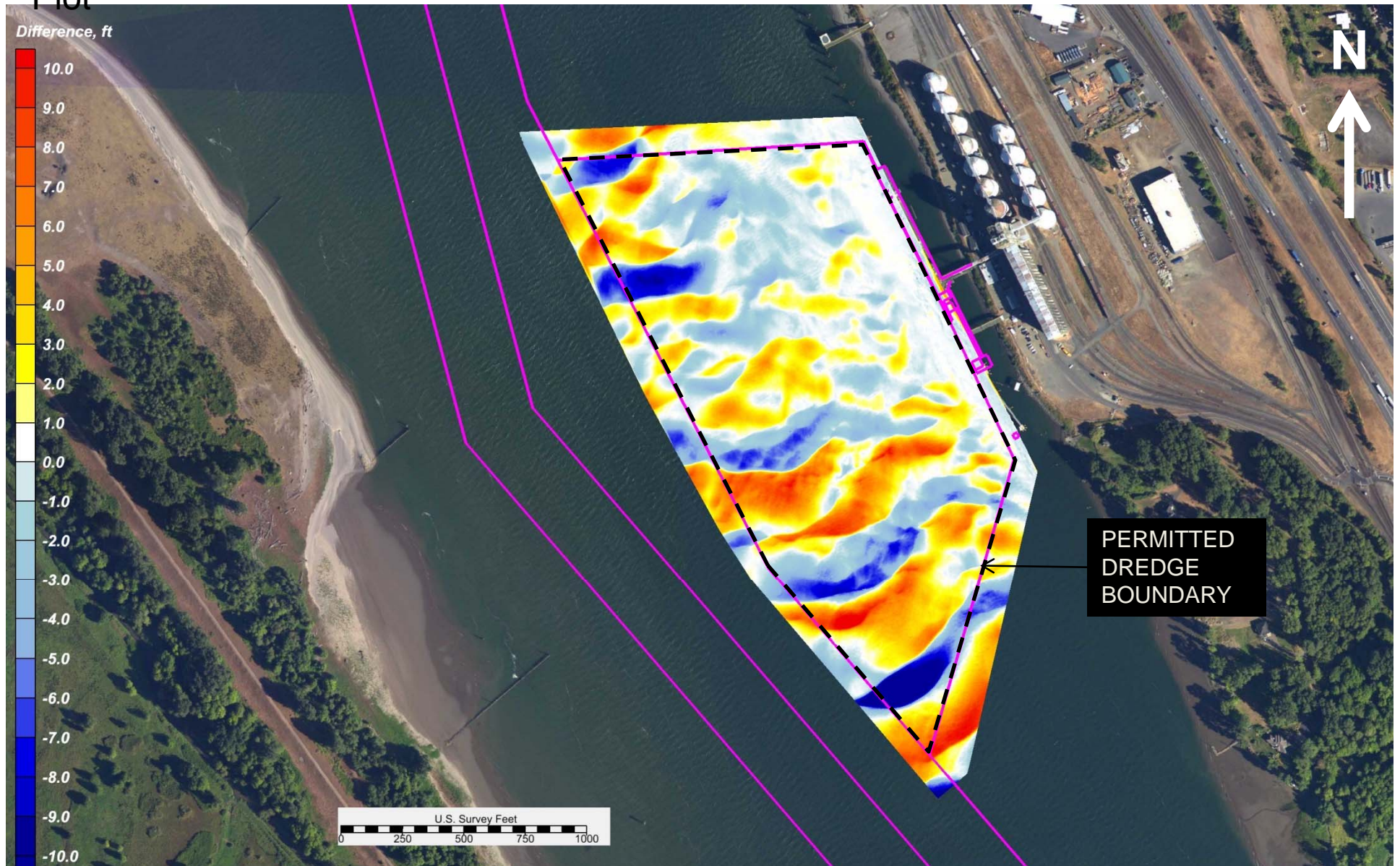
**COAST & HARBOR  
ENGINEERING**



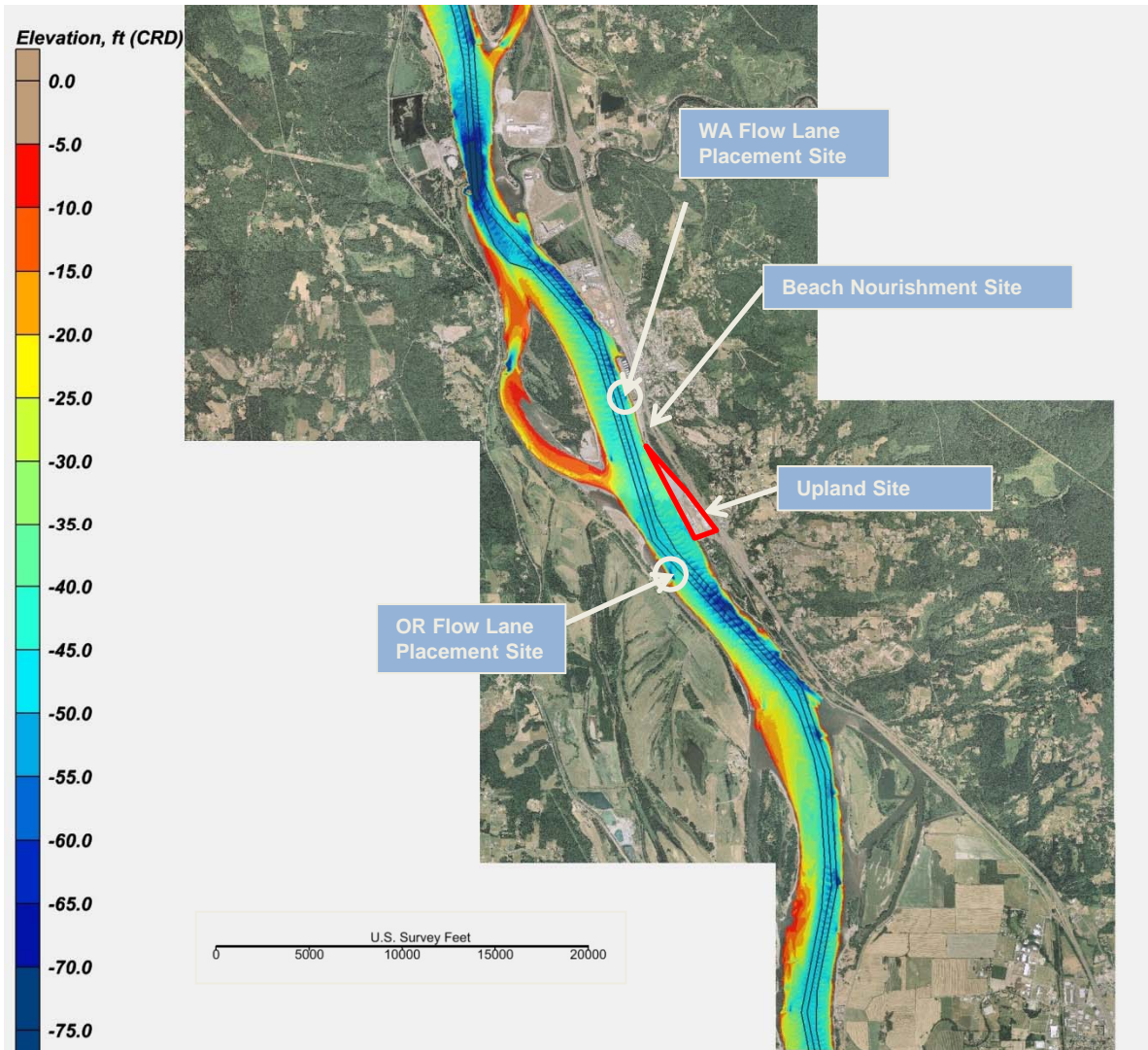
# TEMCO Berth – July 10, 2013 Condition Survey



# TEMCO Berth – January 3, 2013 Post-dredge Survey to July 10, 2013 Difference Plot

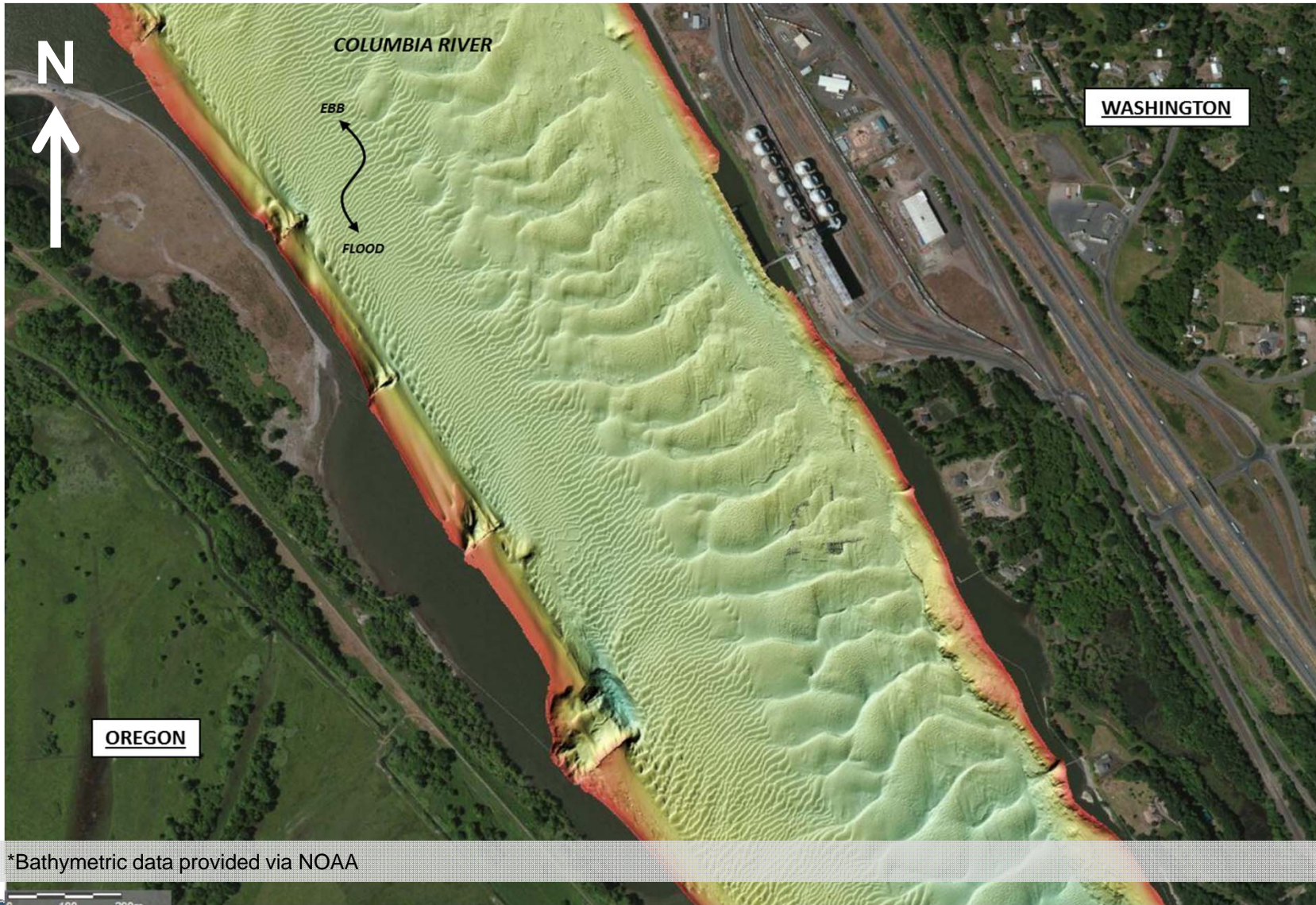


# 3. Solutions to Project Challenges



**COAST & HARBOR  
ENGINEERING**

# 3. Solutions to Project Challenges

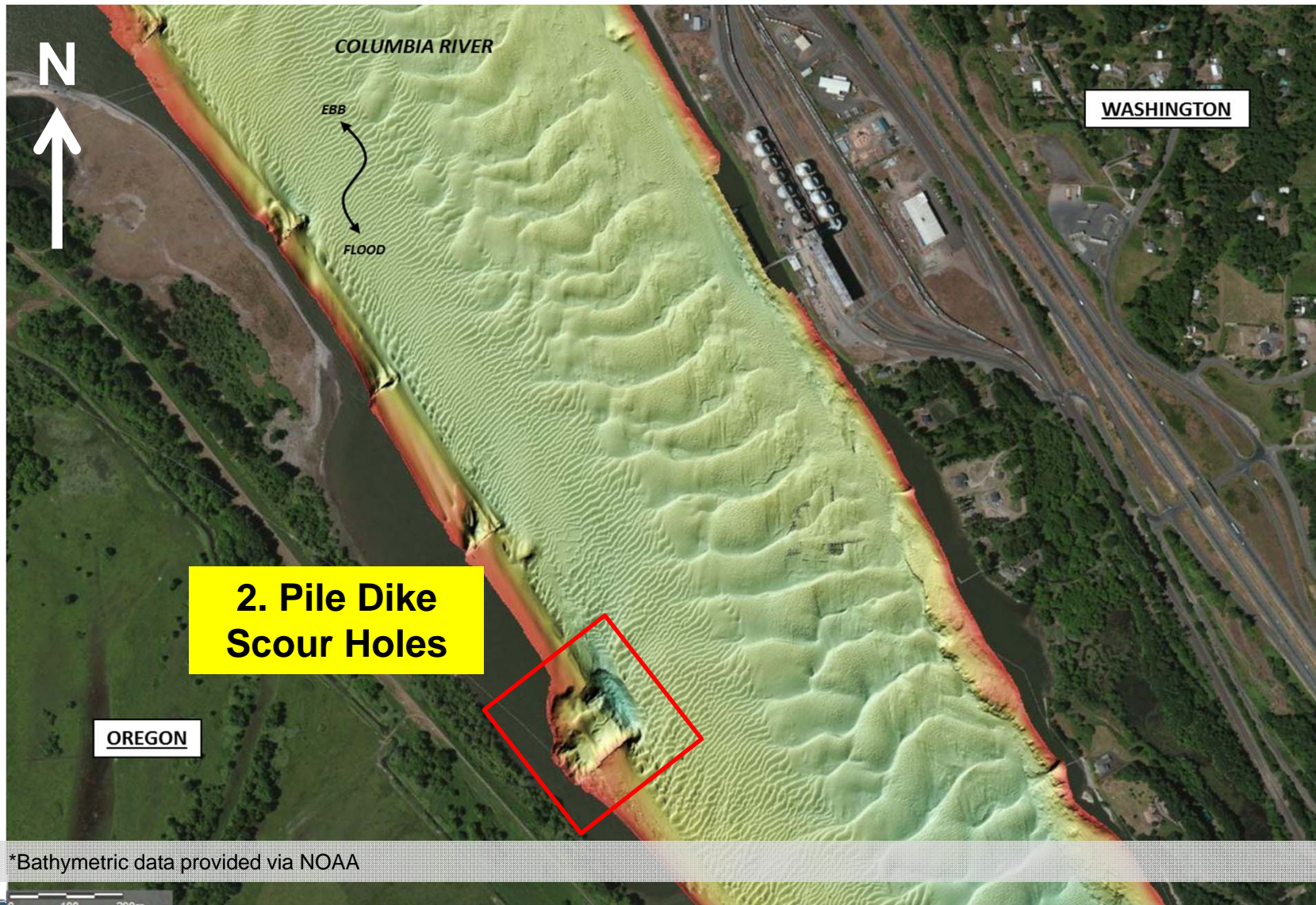


\*Bathymetric data provided via NOAA

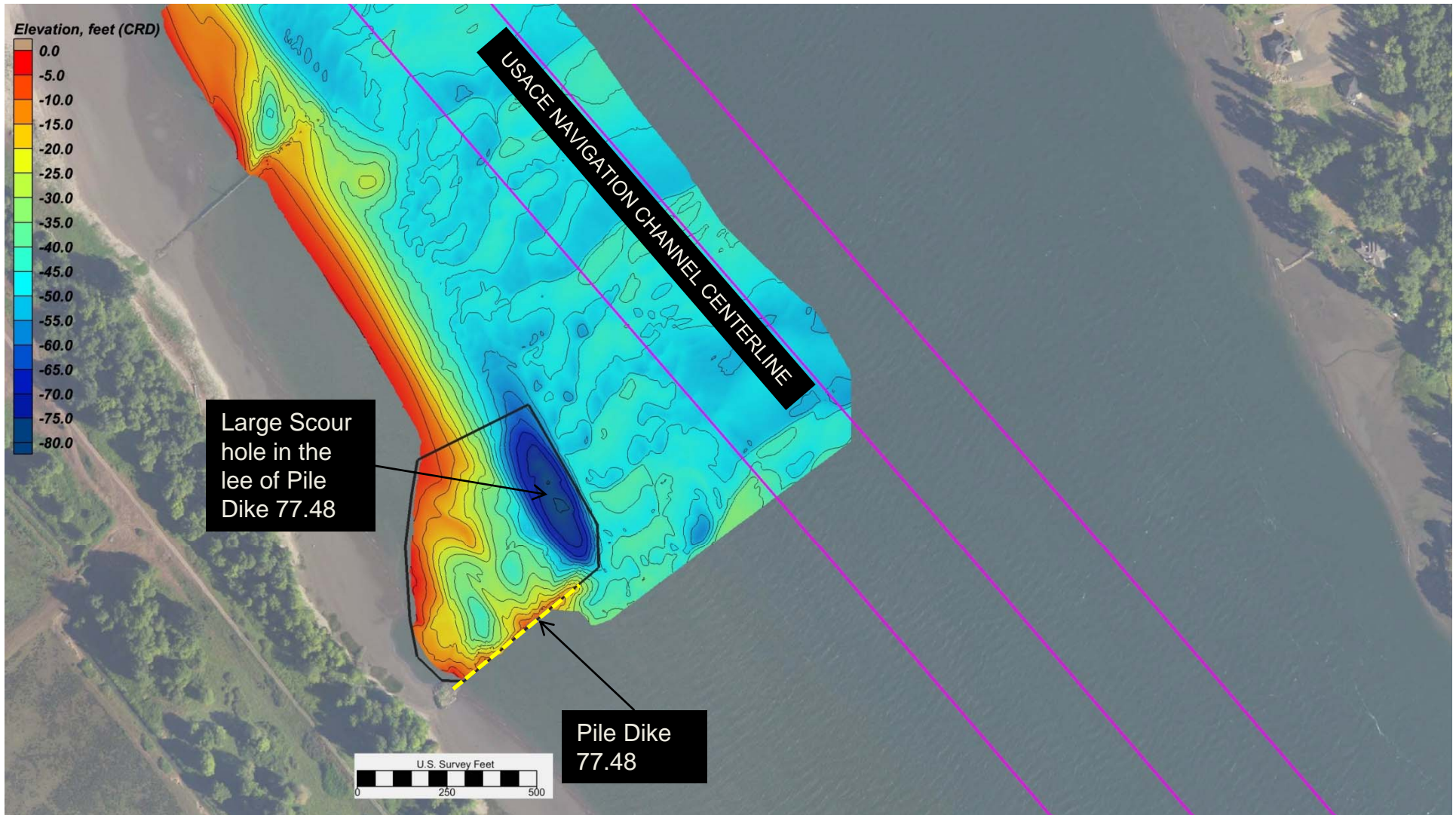


**COAST & HARBOR  
ENGINEERING**

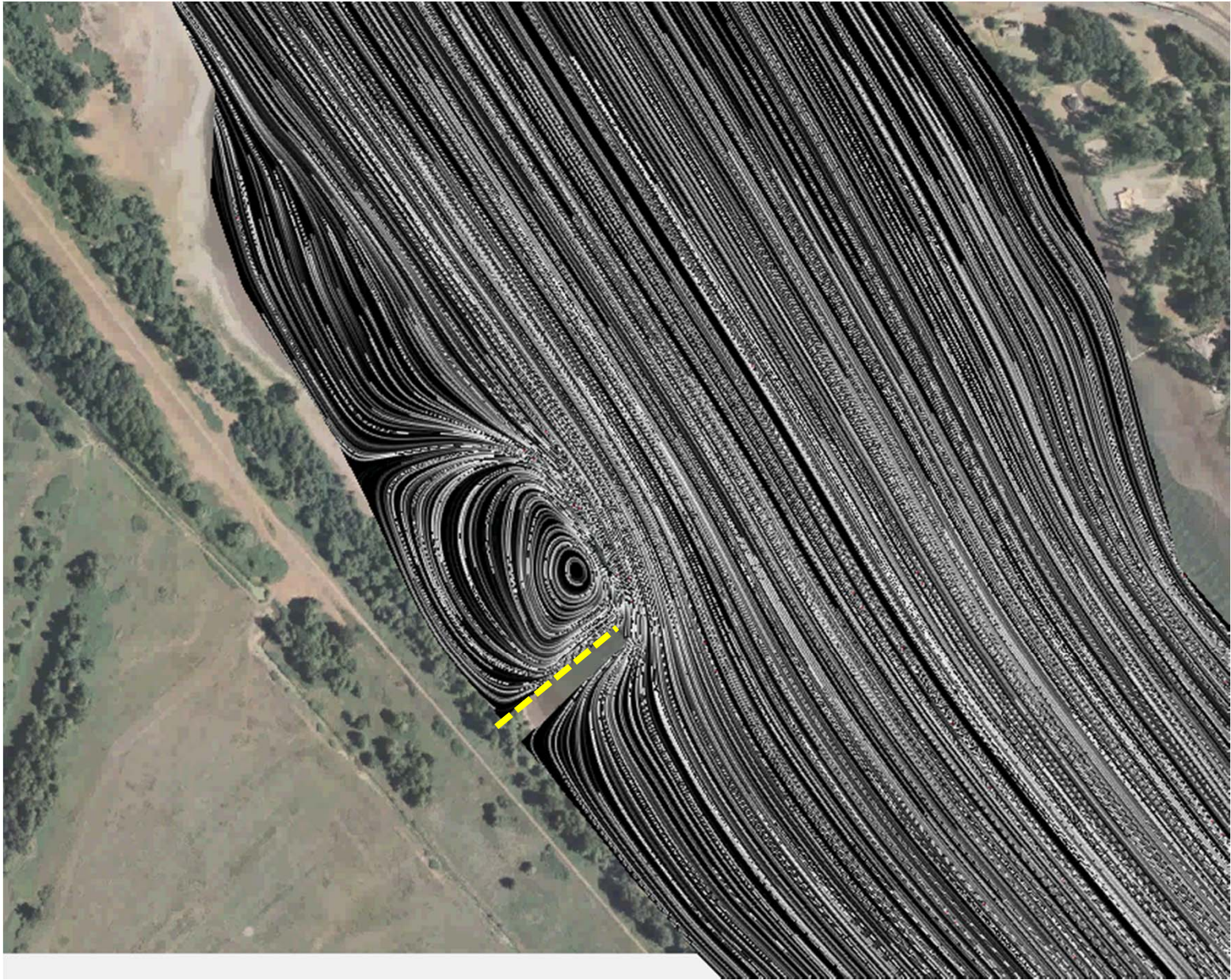
# 3. Solutions to Project Challenges



# 3. Solutions to Project Challenges

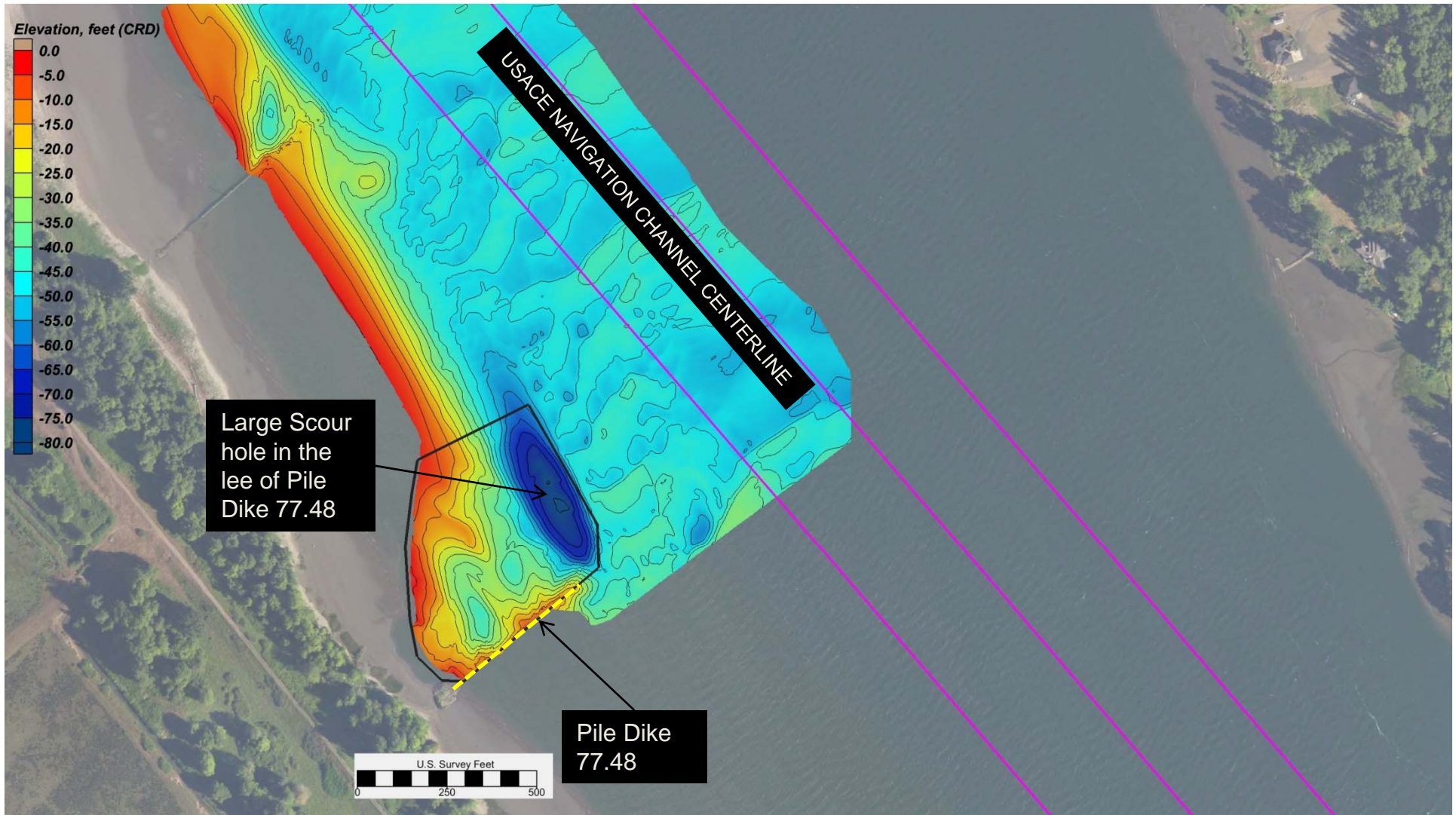


**COAST & HARBOR  
ENGINEERING**



**COAST & HARBOR  
ENGINEERING**

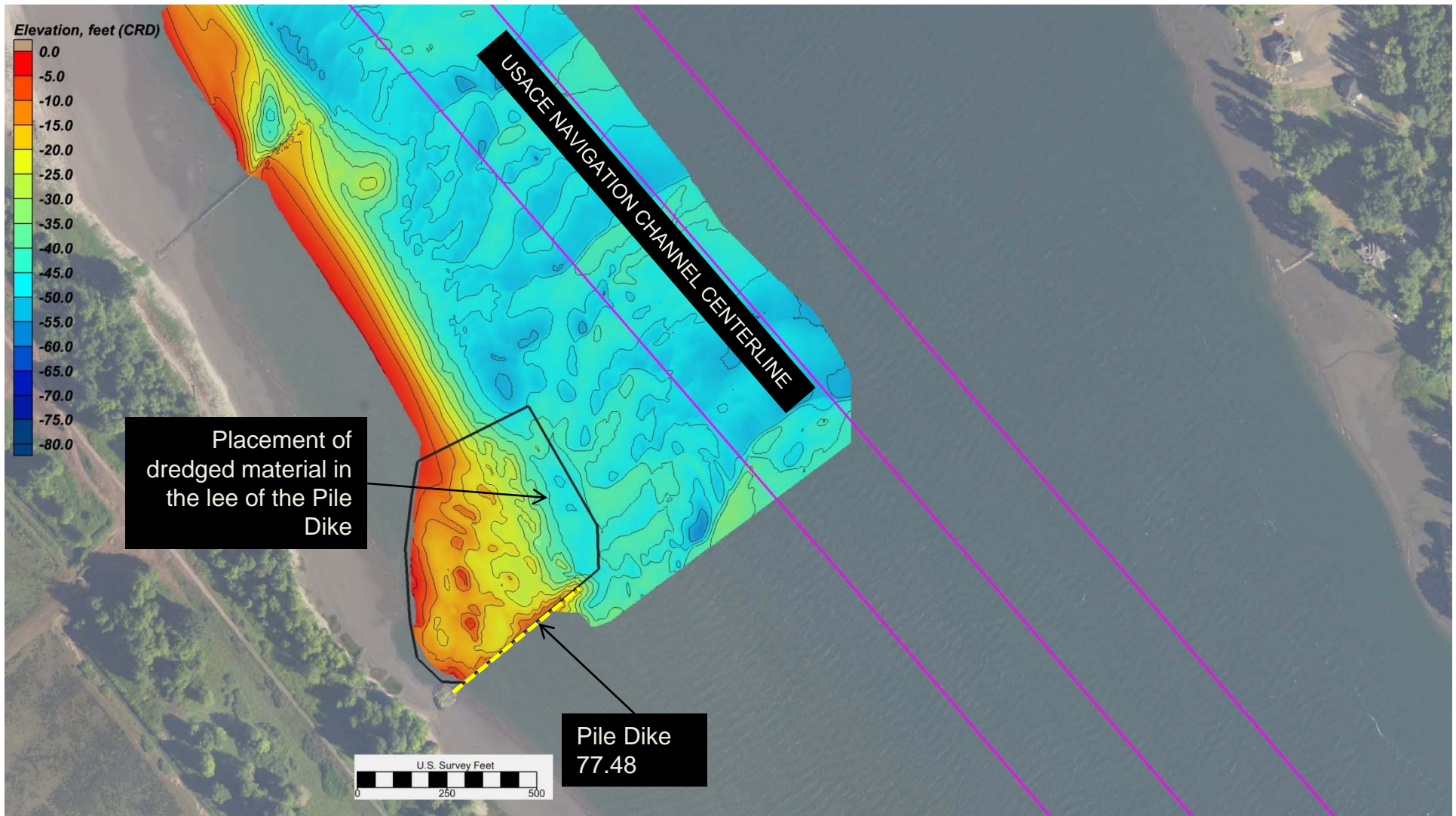
# 3. Solutions to Project Challenges



**COAST & HARBOR  
ENGINEERING**



# 3. Solutions to Project Challenges



**COAST & HARBOR  
ENGINEERING**

### 3. Solutions to Project Challenges

---

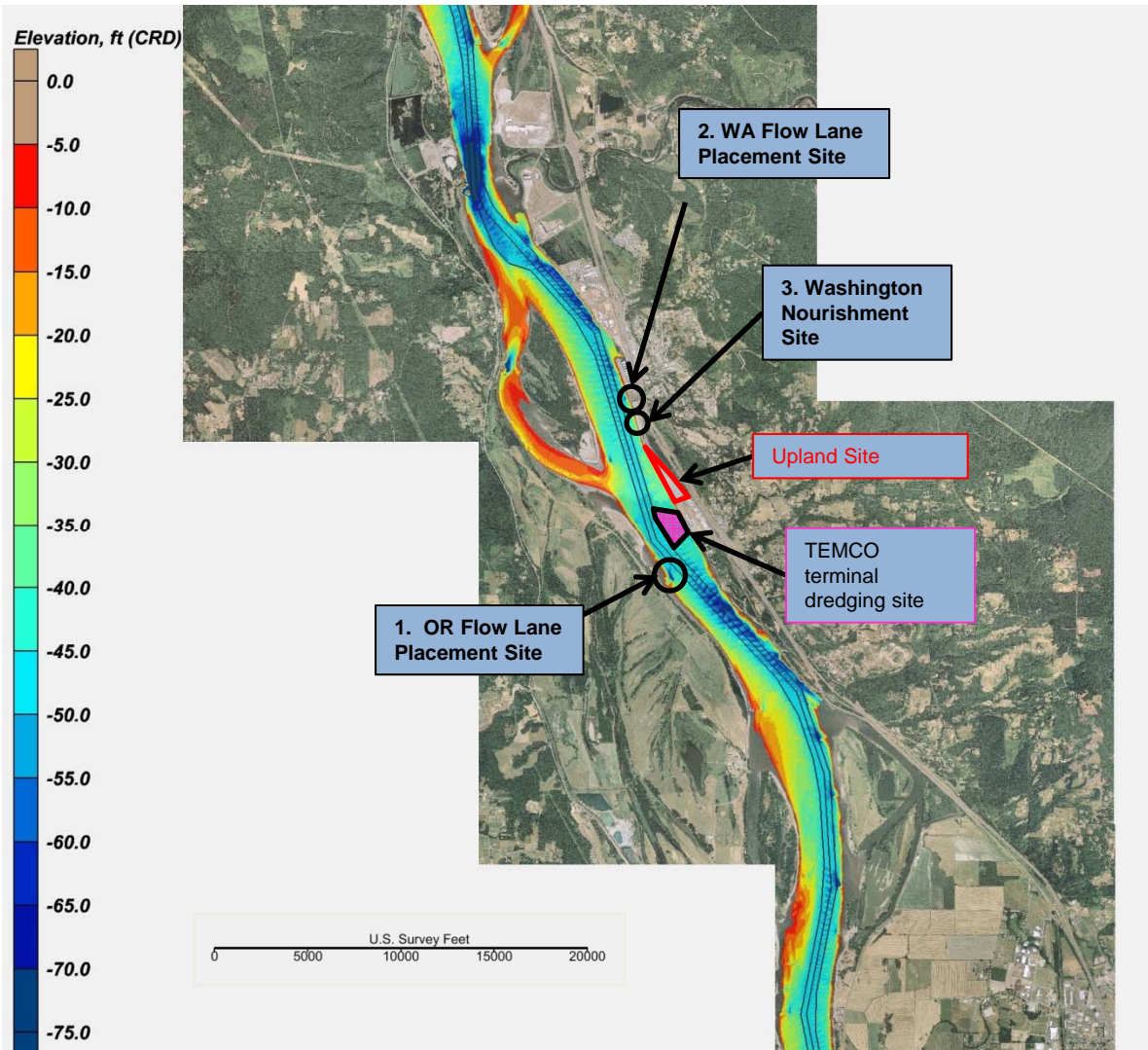


### 3. Solutions to Project Challenges

---



# 3. Solutions to Project Challenges

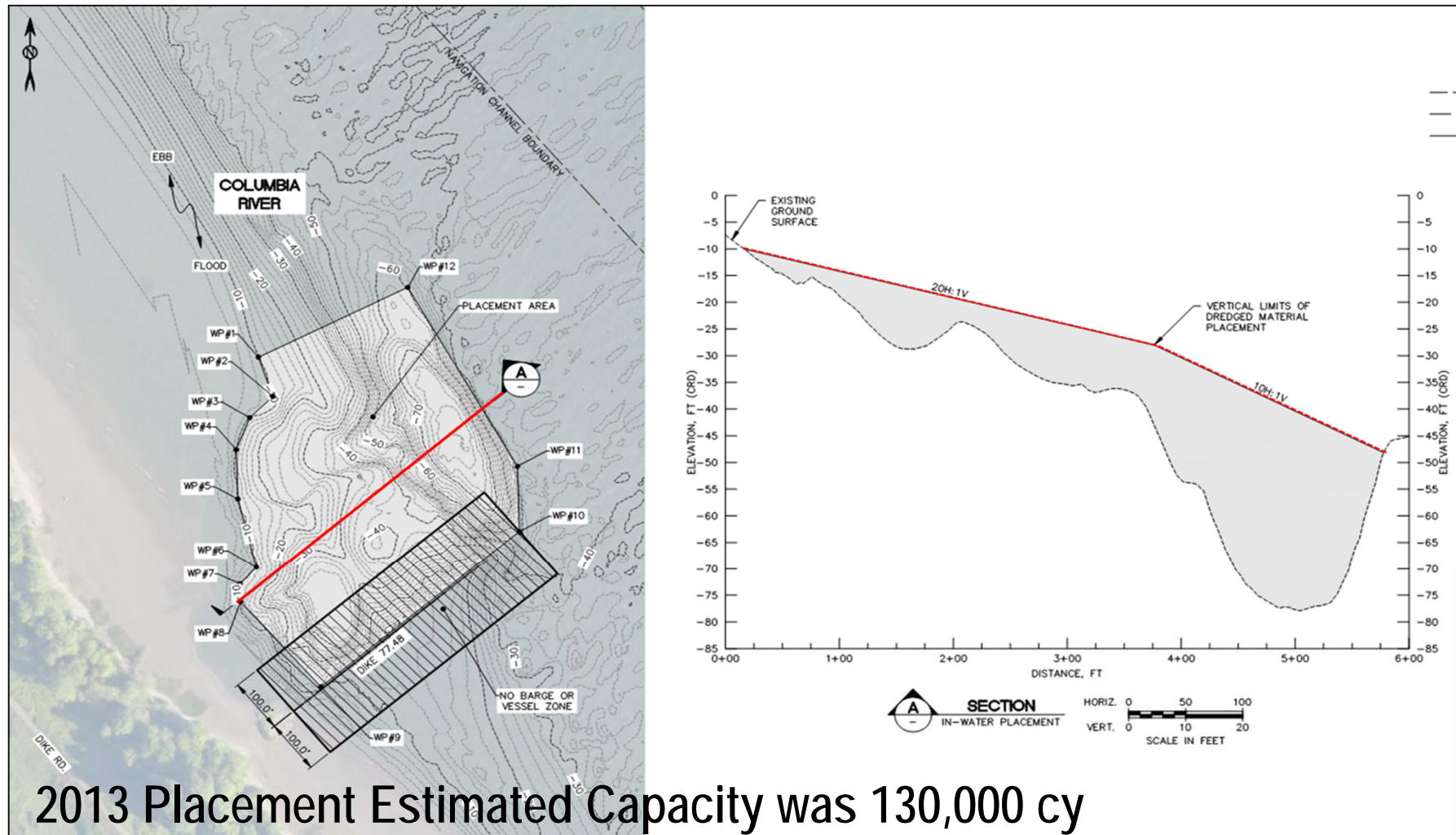


1. Oregon In-Water Placement Site
2. Washington In-Water Placement Site
3. Washington Beach Nourishment Site (*Not use during 2013 dredging*)

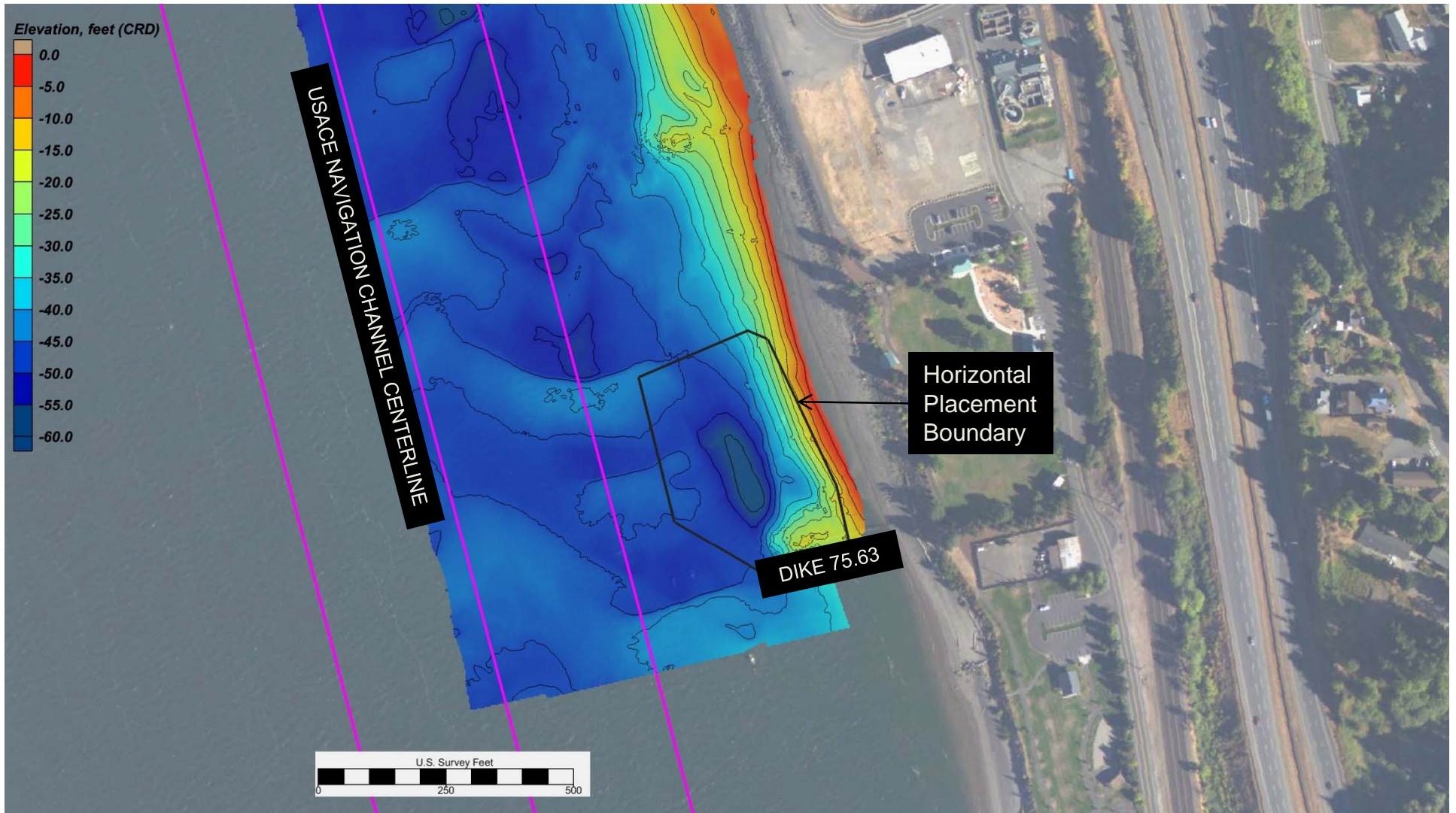


COAST & HARBOR  
ENGINEERING

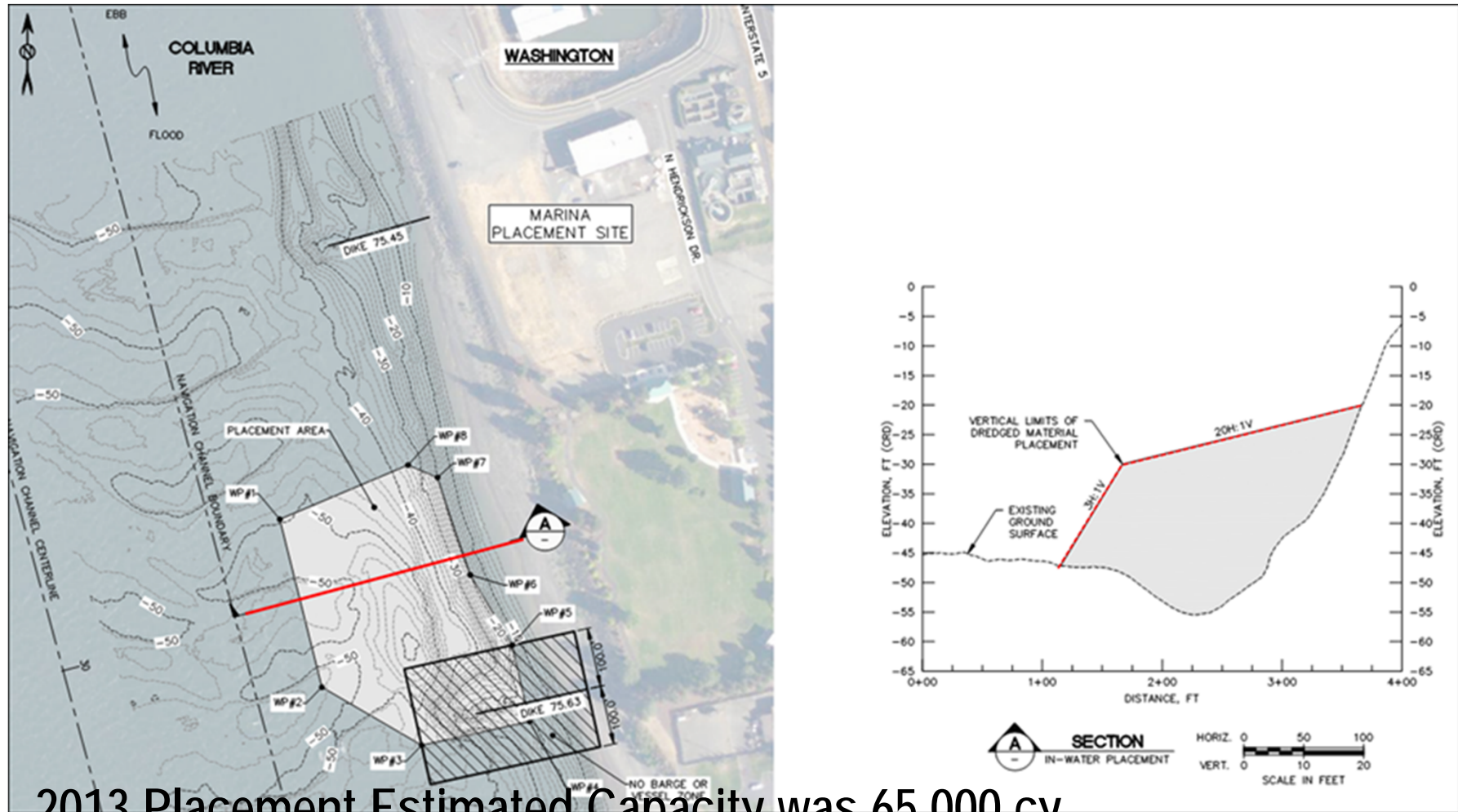
### 3. Solutions to Project Challenges – OR Placement Site



### 3. Solutions to Project Challenges – WA Placement Site

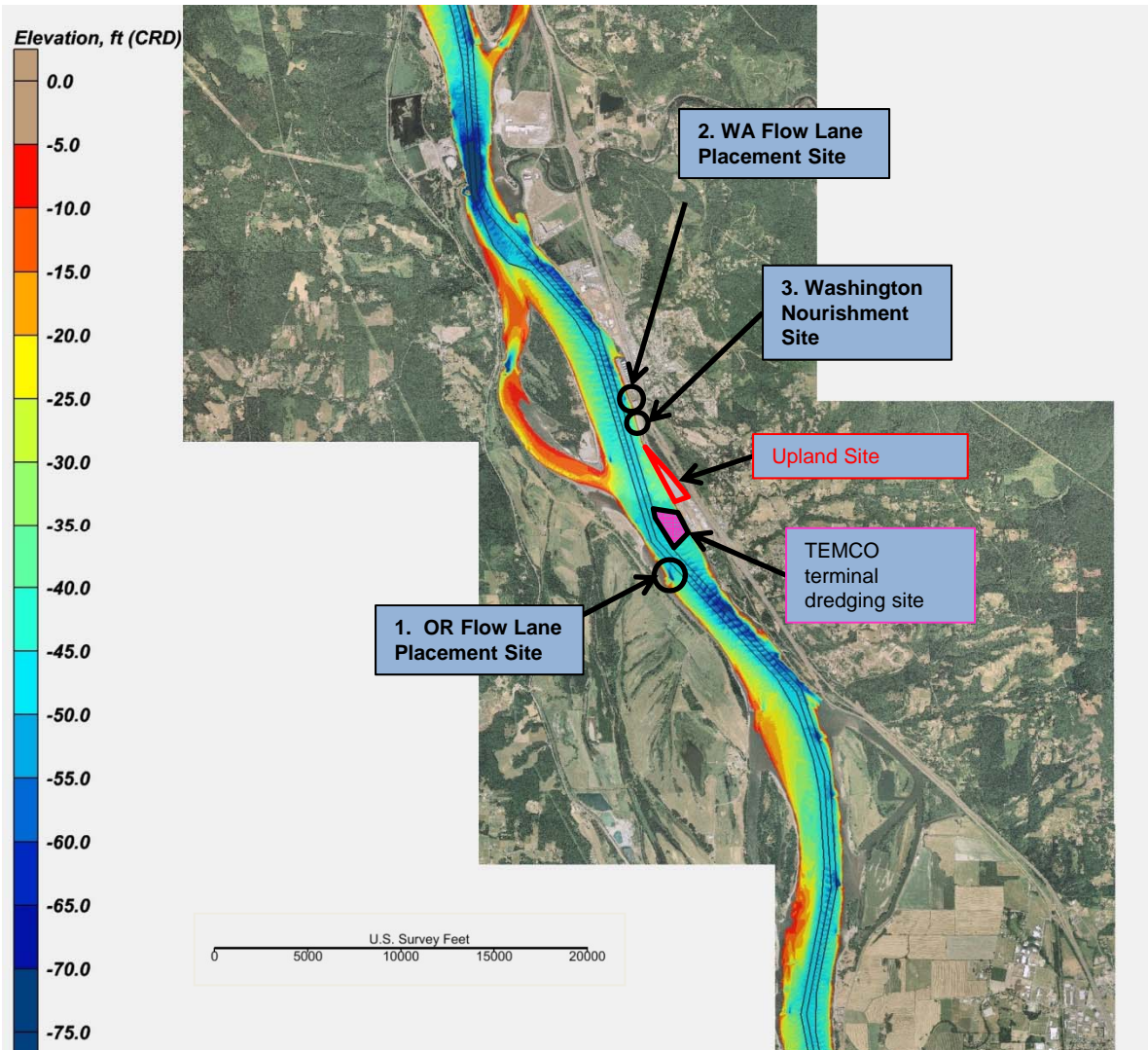


### 3. Solutions to Project Challenges – WA Placement Site



2013 Placement Estimated Capacity was 65,000 cy

# 4. 2013 Implementation of Dredging and Disposal



1. Oregon In-Water Placement Site
2. Washington In-Water Placement Site
3. Washington Beach Nourishment Site (*Not use during 2013 dredging*)



10/5//2013 As you know, we finally received our US Army Corps of Engineers Section 10/404 permit to continue maintenance dredging into 2013. The permit authorizes maintenance dredging from August through December, and increases our total dredge quantity from 630,000 cy to 2.1 million cy, and also approves flow lane placement in Oregon and Washington, as well as beach nourishment and upland disposal. We received all federal, state, and local permits within 8 months of submittal. This was no small feat, as it generally takes 1-2 years to acquire dredging permits, and I want to commend you on your work on our maintenance dredging project.

A special thanks to Vladimir Shepsis and his team from Coast and Harbor for their leadership on the project including engineering and working closely with the Corps navigation group. I want to recognize Sally Fisher and her team for their excellent work on the sediment sampling and analysis and preparation of permit documents, and coordination with the Corps and PSET. I also want to thank Brian Carrico for his work on the SEPA and shorelines.

Great work team!

Thanks all.

Tabitha Reeder  
Environmental Manager  
Port of Kalama  
380 W. Marine Drive  
Kalama, WA 98625

[www.portofkalama.com](http://www.portofkalama.com)

[360-673-2325](tel:360-673-2325) voice

[360-673-5017](tel:360-673-5017) fax



**COAST & HARBOR  
ENGINEERING**

10/5//2013 As you know, we finally received our US Army Corps of Engineers Section 10/404 permit to continue maintenance dredging into 2013. The permit authorizes maintenance dredging from August through December, and increases our total dredge quantity from 630,000 cy to 2.1 million cy, and also approves flow lane placement in Oregon and Washington, as well as beach nourishment and upland disposal. **We received all federal, state, and local permits within 8 months of submittal.** This was no small feat, as it generally takes 1-2 years to acquire dredging permits, and I want to commend you on your work on our maintenance dredging project.

A special thanks to Vladimir Shepsis and his team from Coast and Harbor for their leadership on the project including engineering and working closely with the Corps navigation group. I want to recognize Sally Fisher and her team for their excellent work on the sediment sampling and analysis and preparation of permit documents, and coordination with the Corps and PSET. I also want to thank Brian Carrico for his work on the SEPA and shorelines.

Great work team!

Thanks all.

Tabitha Reeder  
Environmental Manager  
Port of Kalama  
380 W. Marine Drive  
Kalama, WA 98625

[www.portofkalama.com](http://www.portofkalama.com)

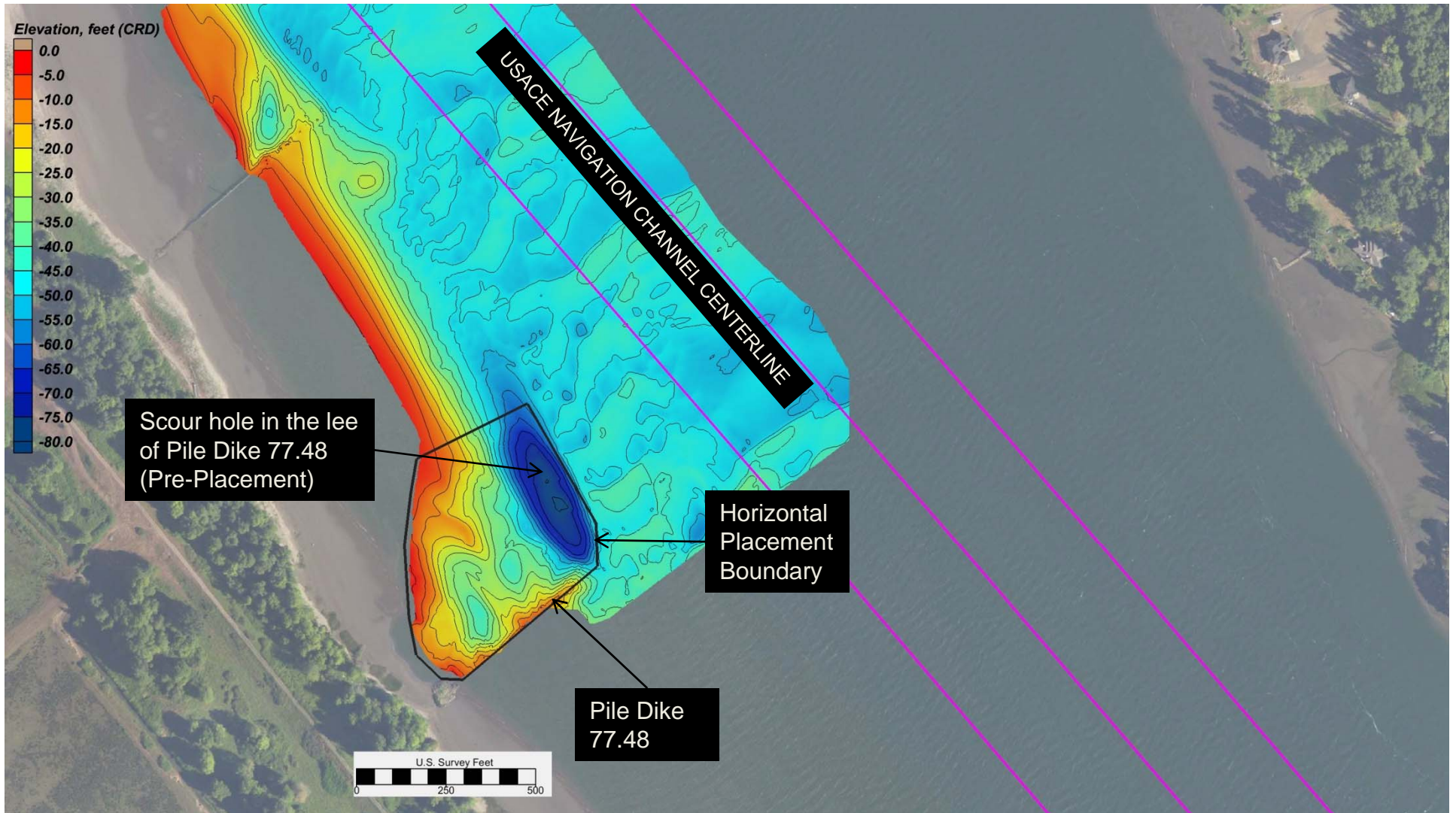
[360-673-2325](tel:360-673-2325) voice

[360-673-5017](tel:360-673-5017) fax

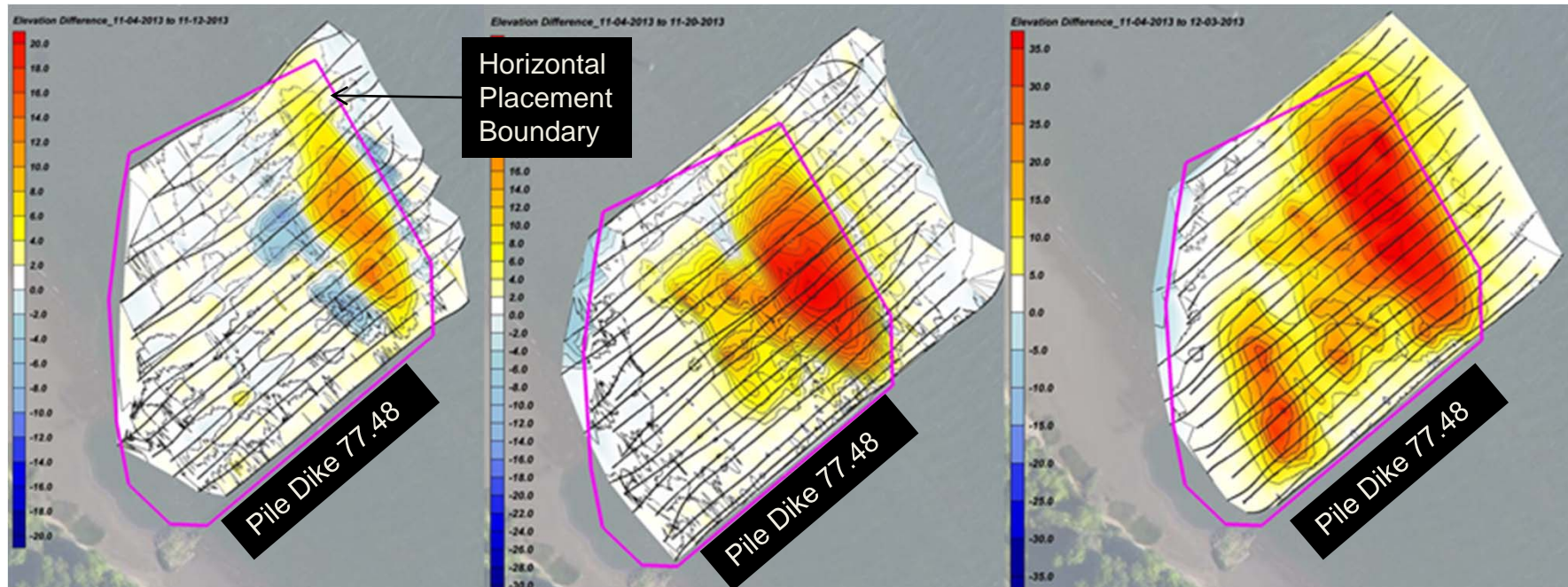


**COAST & HARBOR  
ENGINEERING**

# OR Flow Lane Placement Site - Pre-Placement Survey



# OR In-Water Placement Site - Monitoring



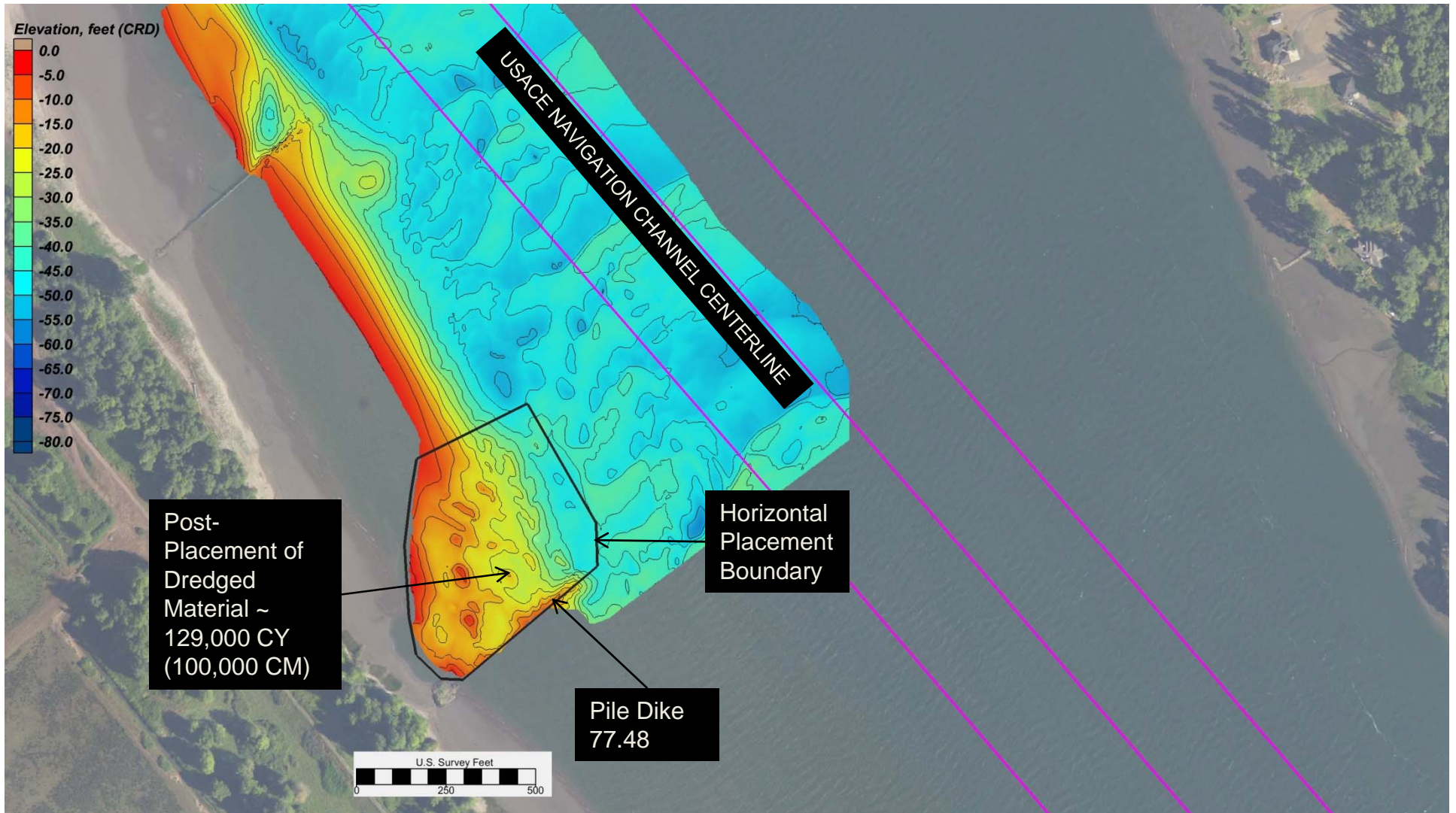
November 15, 2013

December 5, 2013



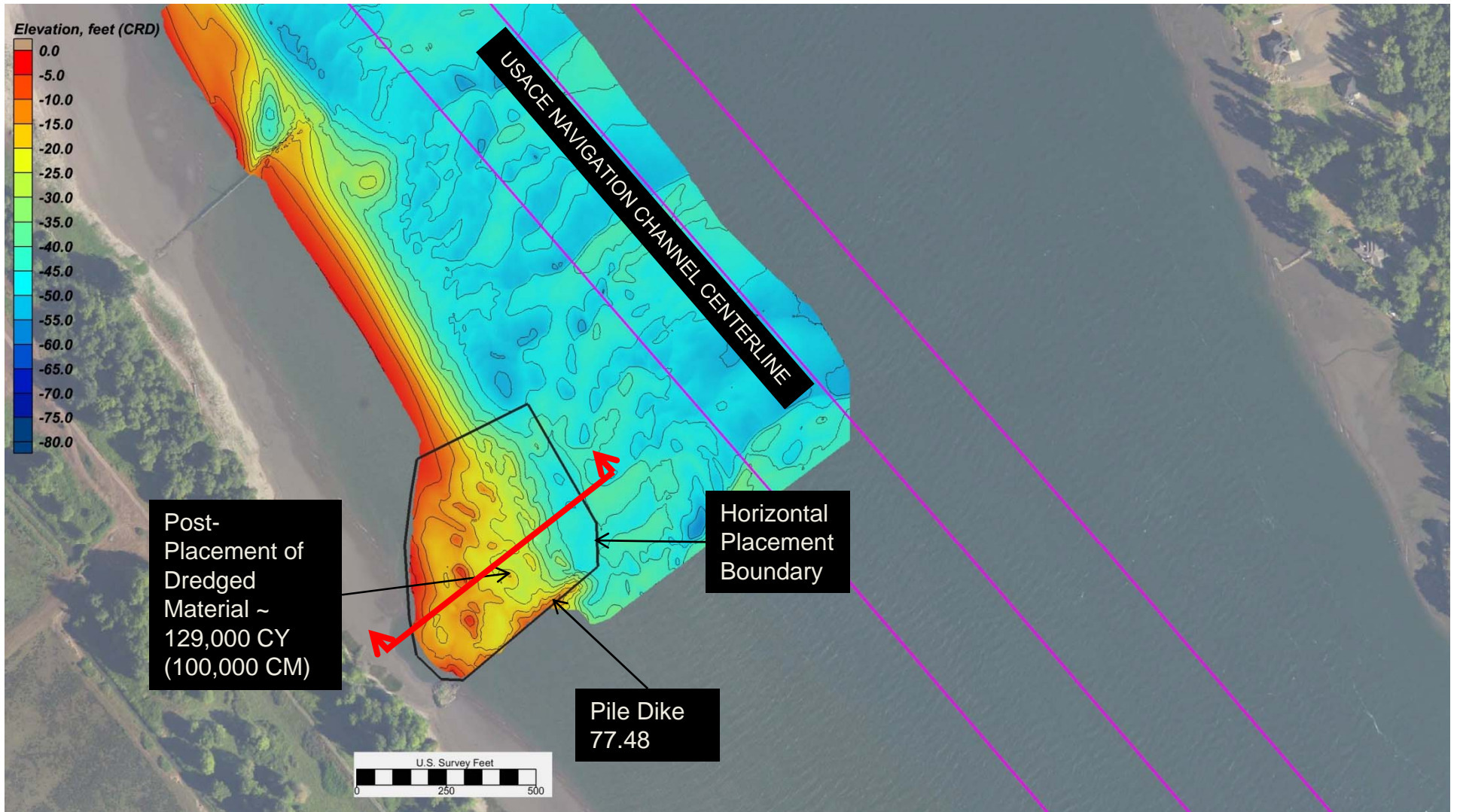
**COAST & HARBOR  
ENGINEERING**

# OR Flow Lane Placement Site – Post-Placement Survey

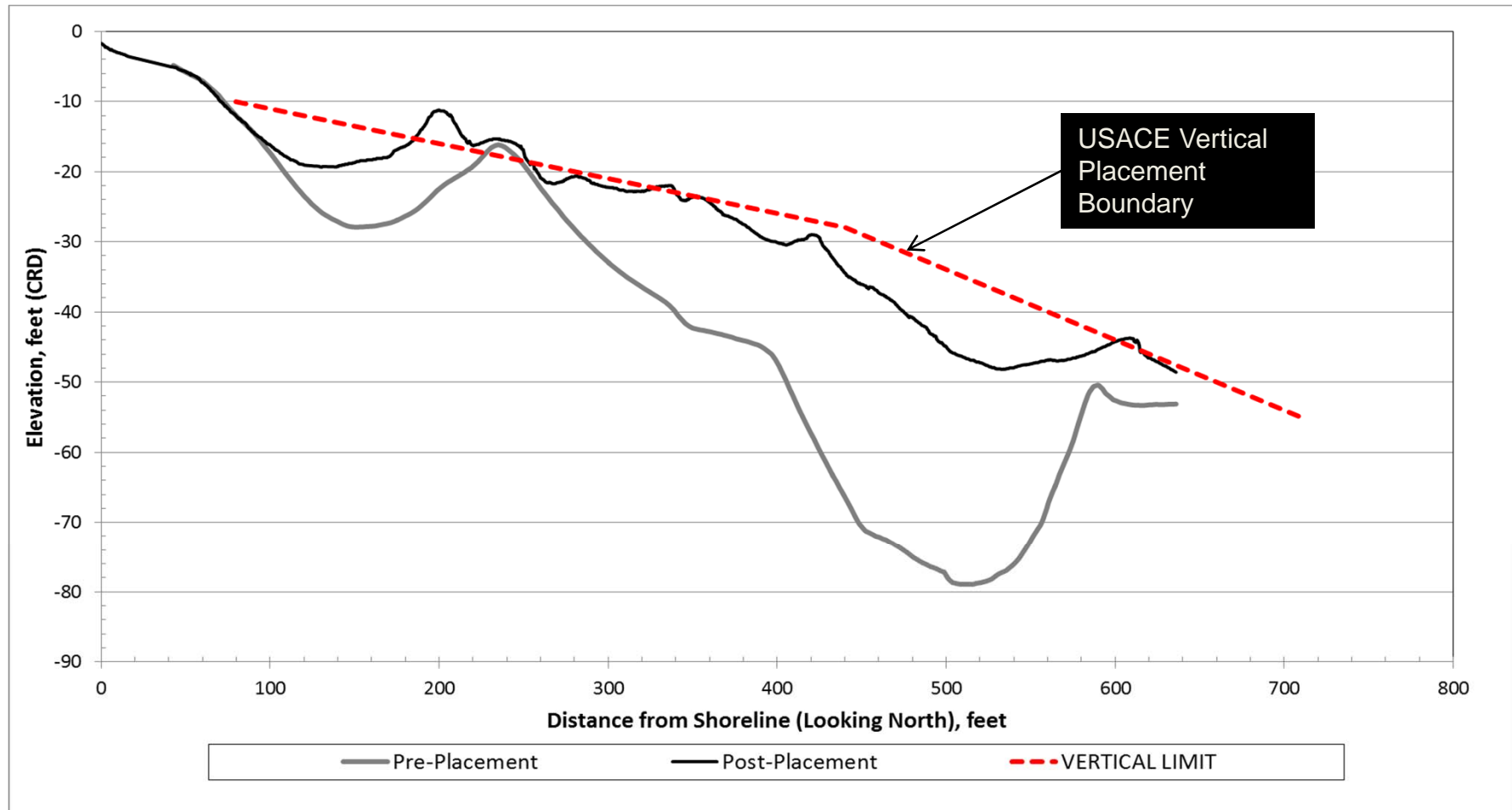


**COAST & HARBOR  
ENGINEERING**

# OR Flow Lane Placement Site – Post-Placement Survey



# OR In-Water Placement Site - Section

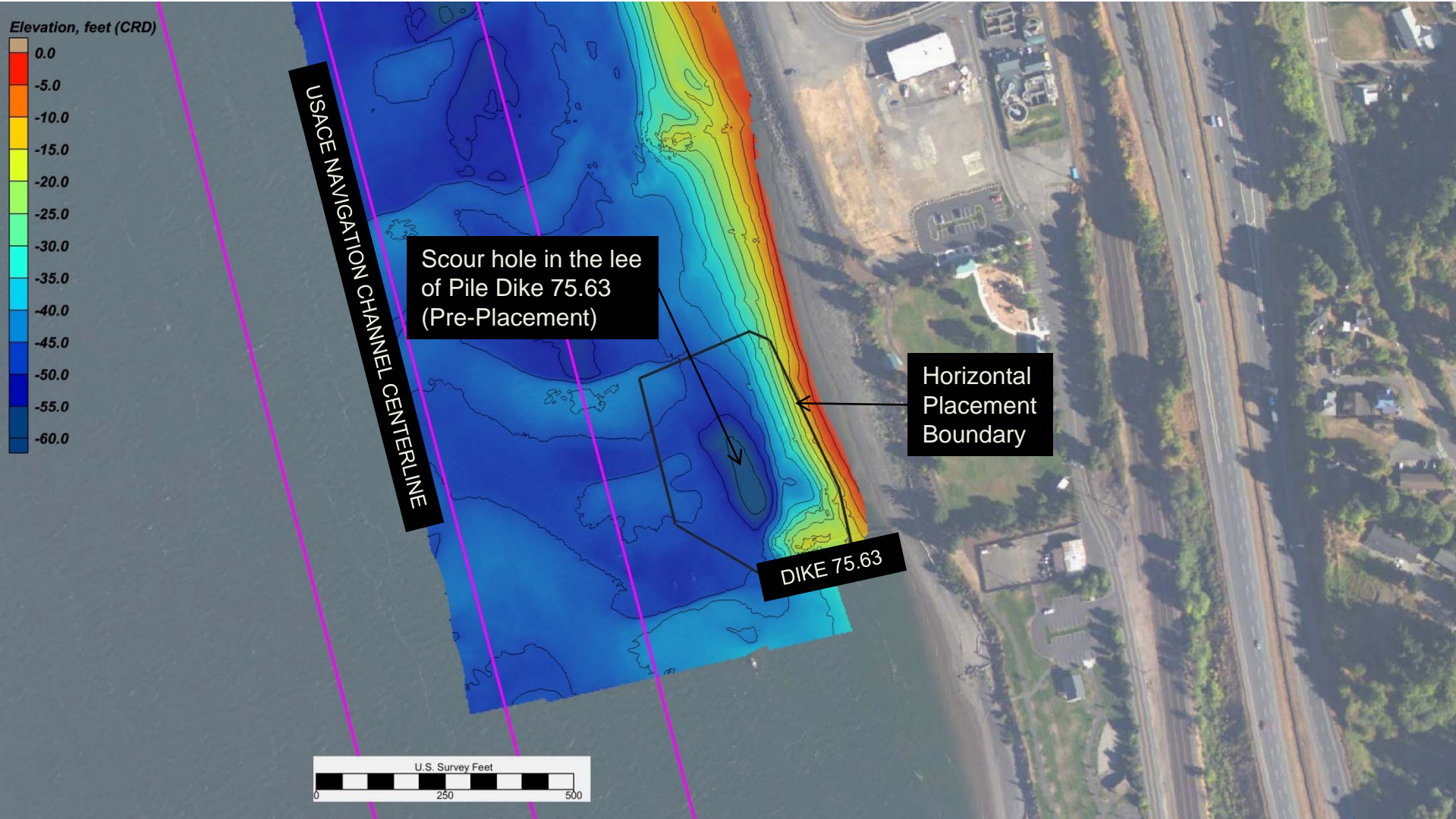


129,000 CY (100,000 CM) of  
Placed Dredge Material



**COAST & HARBOR  
ENGINEERING**

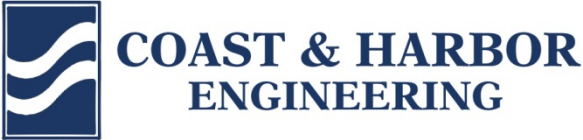
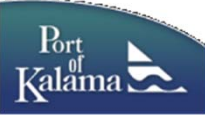
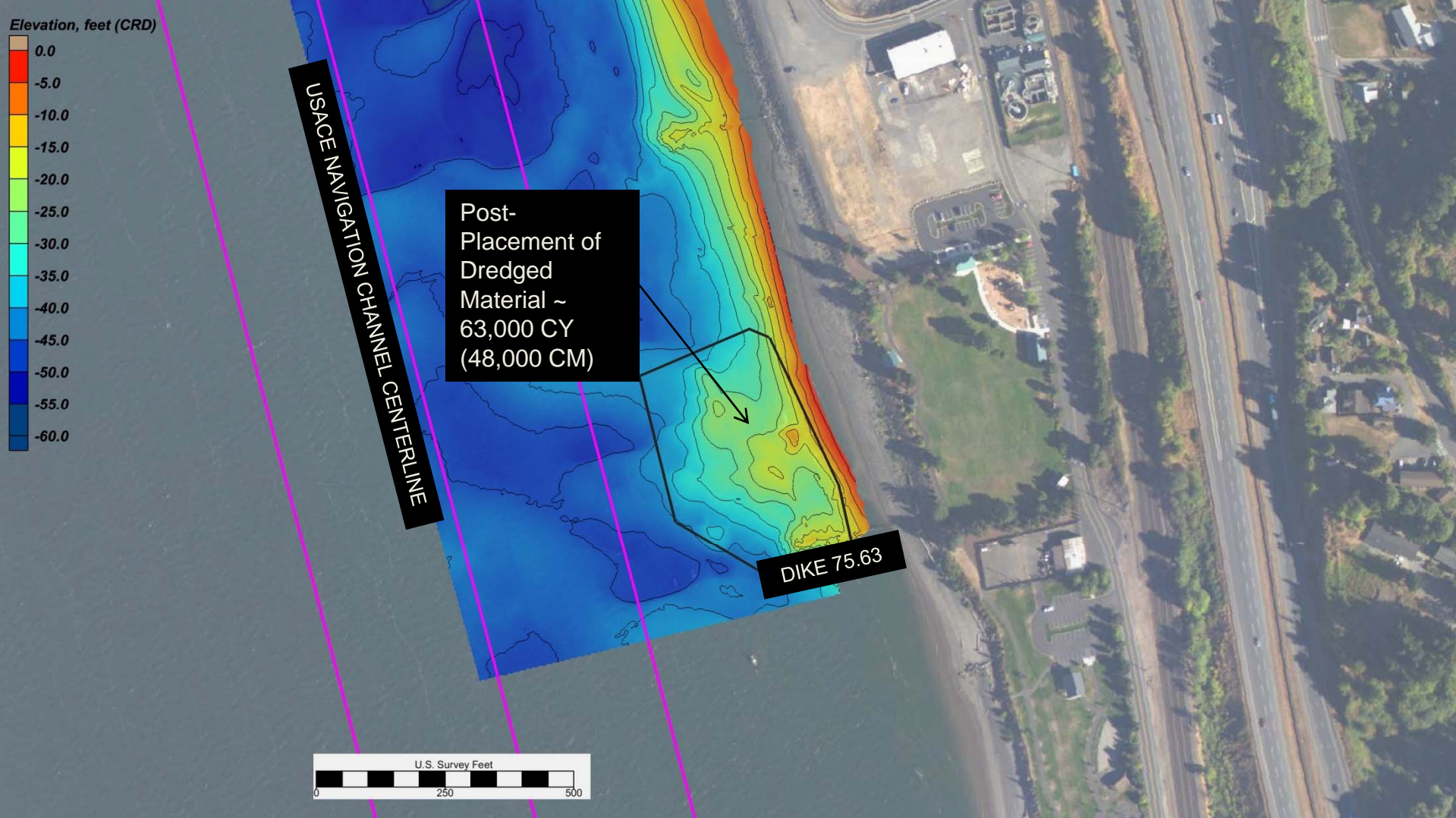
# WA Flow Lane Placement Site – Pre-Placement Survey



**COAST & HARBOR  
ENGINEERING**



# WA Flow Lane Placement Site – Post-Placement Survey



# Conclusions

- **Understanding the physical conditions and limitations of your project Site is an important part of the dredging design.**
- **Our experience indicated that the best solution to dredged material placement into complex physical environments is to work with the nature, not against it.**
- **Credible technical information is a key to the success for permitting complex projects.**
- **Provide technically competent dredging plans and specifications.**
- **As always, selecting an honest contractor is the REAL KEY TO SUCCESS!**



**COAST & HARBOR  
ENGINEERING**



# Port of Kalama, New Approach to Maintenance Dredging and Placement of Dredged Material

*Dredging Summit and Expo 2014, Toronto, Ontario, CA*

*John Dawson, Coast & Harbor Engineering, Inc.*

*Vladimir Shepsis, Coast & Harbor Engineering, Inc.*

# ***THANK YOU!***



**COAST & HARBOR  
ENGINEERING**