



Anchor Environmental, L.L.C.
1423 3rd Avenue, Suite 300
Seattle, Washington 98101
Phone 206.287.9130
Fax 206.287.9131

Memorandum

To: Commander (dpw), 13th District Coast Guard, ATTN: PATON Manager

From: Carl Stivers, NW Natural "Gasco" Site Project Coordinator, Anchor Environmental, L.L.C.

CC: Sean Sheldrake, EPA
Robert Wyatt, NW Natural
Patty Dost, Schwabe Williamson & Wyatt
Randy Pratt, Parametrix

Date: January 15, 2008

Re: Submittal of Private Aids to Navigation Application (CG-2554 Rev. 03-03)

On behalf of NW Natural, this memorandum is intended to submit the Private Aids to Navigation Application (CG-2554) for the installation of four buoys at the NW Natural "Gasco" site (Site) located in the Willamette River in Portland, Oregon. This application was submitted with an understanding of the rules, regulations, and procedures pertaining to private aids to navigation as set forth in the Code for Federal Registration (CFR) Title 33, Chapter 1, Part 66. The proposed buoys are to be used to demarcate the perimeter of an engineered clean pilot cap placed over a portion of the Site remediation area as part of an Environmental Protection Agency (EPA) Superfund cleanup action and to notify vessel operators that the pilot cap area should not be disturbed. The remainder of this memo provides the necessary information identified to complete the application per the instructions identified in CFR Title 33, Chapter 1, Part 66.01-5.

Note, this memorandum was previously submitted on August 20, 2007. Discussions with Petty Officer Lucia Mack of the United States Coast Guard Sector Portland office indicated that the geographical latitude and longitude coordinates were reversed. This memorandum incorporates the corrected coordinates.

Background and Purpose

The Gasco Site is located within the Portland Harbor Superfund Site at approximately river mile (RM) 6.5 in the Willamette River (Figure 1). NW Natural entered into an Administrative Order on Consent (Order) with EPA on April 28, 2004, to perform a number of actions associated with removing a tar body (as defined in the Order) at the surface of the nearshore sediment adjacent to the Site. As part of these actions, NW Natural designed and constructed an engineered pilot cap over a portion of the removal action area (Figure 2). The purpose of the engineered pilot cap is to place a barrier over a portion of the removal area and monitor the performance of the pilot cap until the Portland Harbor Superfund Site Remedial Investigation/Feasibility Study (RI/FS) is completed and a final remedy is evaluated for the Site. The pilot cap monitoring information collected in the interim will be used to help evaluate contaminant loading through the cap due to residual contamination in sediments and/or potential groundwater migration through the cap, and to help determine whether capping might be an effective remedy for future remediation at the Site.

Site remediation consisted of dredging of the identified surface tar body followed by placement of 18 inches of an engineered pilot cap material in the pilot cap area and 6 inches of a fringe cover material (i.e., clean fine sand) surrounding the pilot cap area. The engineered pilot cap encompasses approximately 16,800 square feet (sf) and is composed of a 12-inch "cap" layer (i.e., clean coarse sandy material) overlain with a 6-inch "armor" layer (i.e., 1.5-inch minus material) (Figure 2). The pilot cap material was selected to be protective for the 25-year flow event (82 percent chance of non-exceedance in a 5-year period) in the river.

To successfully monitor the pilot cap performance, it will be necessary to limit potential disturbance to the cap by vessel activity. Therefore, NW Natural is requesting to install four nearshore buoys (outside the navigation channel; Figure 3) to demarcate the location of the pilot cap and notify vessel operators that this area should not be disturbed. The buoys are proposed to be maintained in place until EPA determines that the pilot cap and/or additional underlying contaminated sediment should be removed as part of a future final remediation of the Site or NW Natural provides other written notification for their removal.

In addition to the proposed buoy placement, a memorandum was submitted to the US Coast Guard on September 7, 2006 requesting the establishment of a regulated navigation area (RNA)

at the Site to further prevent disturbance to the pilot cap area. It is our understanding that this request is currently being processed.

Required Information

Specific details, as requested in CFR Title 33, Chapter 1, Part 66.01-5, related to the application procedure are provided below:

1. **The proposed position(s) of the aid to navigation and a chart or sketch showing the proposed locations:** Figure 3 depicts the proposed buoy locations and the geographic coordinates for each location.
2. **The name and address of the person at whose expense the aid will be maintained:** Robert Wyatt, NW Natural, 220 NW Second Avenue Portland, Oregon, 97109.
3. **The name and address of the person who will maintain the aid to navigation:** Robert Wyatt, NW Natural, 220 NW Second Avenue Portland, Oregon, 97109.
4. **The time and dates during which is proposed to operate the aid:** The buoys should be placed as soon as possible and last in perpetuity, or until removal of the buoys is approved by EPA and NW Natural.
5. **The necessity for the aid:** To demarcate the location of the engineered clean pilot cap area to notify vessel operators that this area should not be disturbed.
6. **The characteristics of the buoys:** A description of the buoys is provided in Attachment A.

Please provide documentation that this memo has been received and an estimate of the application review timeline. If you need additional information please feel free to contact Ryan Barth at (206) 287-9130 or rbarth@anchorenv.com.

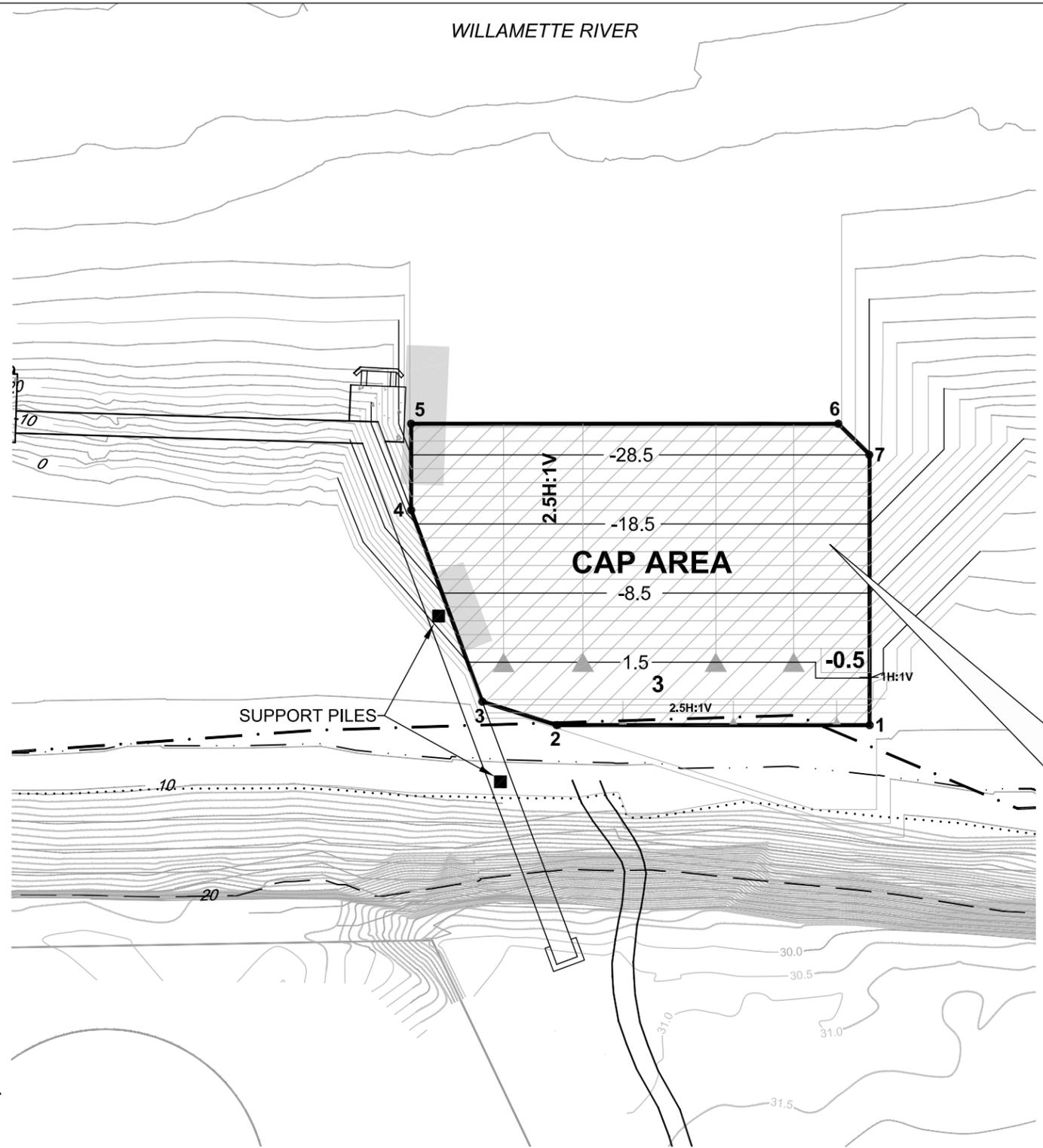
Attachments:

- Figure 1 Site Vicinity Map
- Figure 2 Engineered Clean Pilot Cap Area and Configuration
- Figure 3 Proposed Buoy Placement Locations
- Attachment A – Private Aids to Navigation Application (CG-2554 Rev. 03-03)

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Legend:

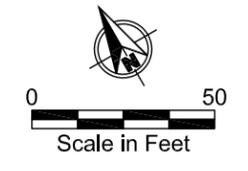
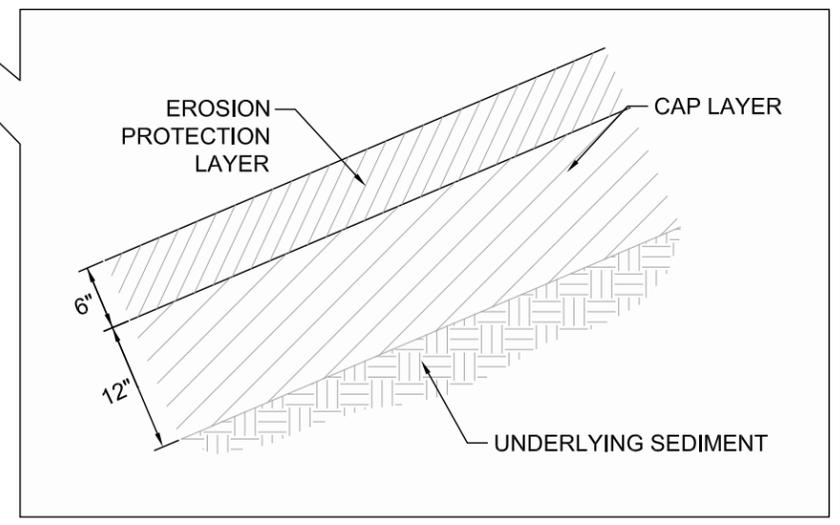
- Support Pile Location
- Design 15' Dredging Offset to Protect Piles
- · — Property Line
- — — OHW = 20.41 ft NAVD 88
- · — · — OLW = 7.91 ft NAVD 88
- 50% River Stage Elevation = 10.23 ft NAVD 88
- ▨ 3 Design Extent and Elevation of 18 in Thick Cap



Point	Northing	Easting	Latitude	Longitude
1	705540.45	7624020.54	45° 34' 47.07004"	122° 45' 28.98045"
2	705597.17	7623922.29	45° 34' 47.60275"	122° 45' 30.38356"
3	705618.02	7623903.1	45° 34' 47.80327"	122° 45' 30.66080"
4	705690.73	7623915.3	45° 34' 48.52613"	122° 45' 30.51702"
5	705717.98	7623931.0	45° 34' 48.79753"	122° 45' 30.30807"
6	705640.54	7624065.17	45° 34' 48.07022"	122° 45' 28.39244"
7	705625.17	7624069.29	45° 34' 47.91969"	122° 45' 28.32853"

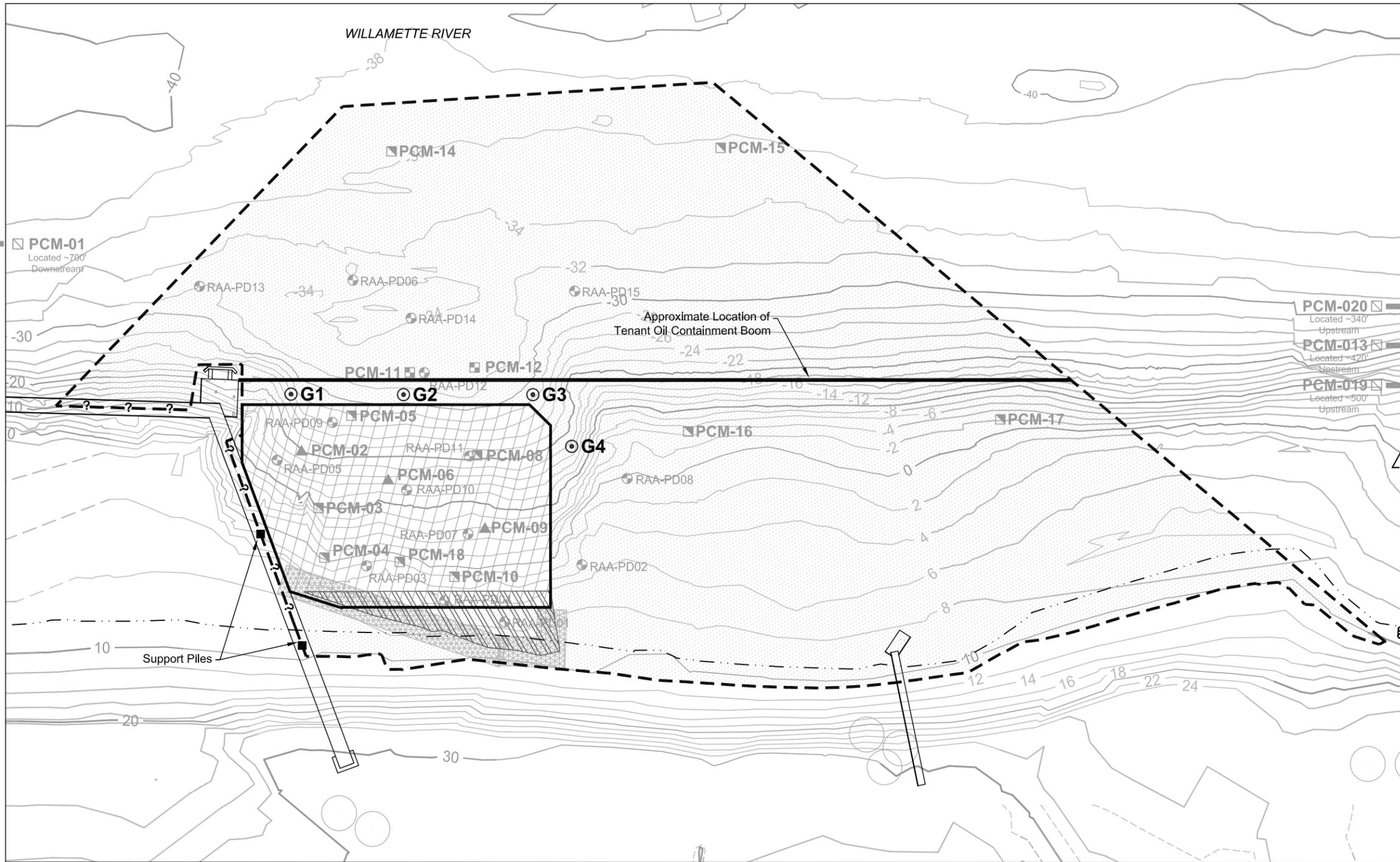
- Notes:**
1. Coordinate Datum: Oregon State Plane North NAD 83 (ft).
 2. Coordinates in NAD 83 (ft) in degrees, minutes, seconds.

- Notes:**
1. Bathymetric contours provided by the Lower Willamette Group as part of the Portland Harbor Superfund Site study (2003).
 2. Upland topography directed by Anchor Environmental as part of upland investigation (2002).
 3. Horizontal Datum: Oregon State Plane North NAD 83 (International Feet).
 4. Vertical Datum: NAVD 88 (ft).



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- Legend:**
- G1** ⊙ Proposed Buoy Placement
 - Support Pile Location
 -  Extent and Elevation of 18 in Thick Cap
 -  Extent and Elevation of 6 in Thick Cover
 -  Reactive Organo-Clay Mat (RCM) Location
 -  Lateral Extents of Surf Zone Armoring d50 = 3 inches
 - PCM-02** ▲ Co-located Core, Porewater, Near-Bottom Surface Water & Depositional Surface Sediment Sample
 - PCM-03** ▽ Co-Located Core, Porewater & Near-Bottom Surface Water Sample
 - PCM-01** □ Background Near-Bottom Surface Water Sample
 - PCM-11** ▣ Seepage Monitoring Core
 - RAA-PD13** ⊙ Post-Dredge Surface Sediment Sample (October 2005)



- Notes:**
1. Post-construction bathymetric contours produced from surveys provided by Blue Water Engineering dated August 2006.
 2. Upland topography directed by Anchor Environmental as part of upland investigation (2002).
 3. Horizontal Datum: Oregon State Plane North NAD 83 (International Feet).
 4. Vertical Datum: NAVD 88 (Feet).
 5. Former drainage ditch location from Phase 1 Remedial Investigation Summary Report (HAI 1998).

Point	Northing	Easting	Latitude	Longitude
G1	705709.72	7623956.72	45° 34' 48.72303"	122° 45' 29.94396"
G2	705679.14	7624009.13	45° 34' 48.43575"	122° 45' 29.19534"
G3	705644.28	7624069.51	45° 34' 48.10831"	122° 45' 28.33291"
G4	705609.71	7624073.75	45° 34' 47.76832"	122° 45' 28.25977"

- Notes:**
1. Coordinate Datum: Oregon State Plane North NAD 83 (ft).
 2. Coordinates in NAD 83 (ft) in degrees, minutes, seconds.



Figure 3
Proposed Buoy Placement Locations
NW Natural "Gasco" Site