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Matt McClincy
Oregon DEQ
2020 SW 4th Avenue, Suite 400
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December 20, 2006

Re: Location of Gasco Offshore Boring GS-06 Adjacent to Pilot Cap Area

Dear Mr. McClincy:

As you know offshore boring work has resumed for the winter work window at the Gasco site. The purpose of this letter is to apprise you of issues related to boring GS-06 and the adjacent pilot cap area. Anchor provided DEQ with the December 6, 2006 letter *Addendum to Offshore Final Phase I Field Sampling Approach, NW Natural, Gasco Site, Portland, Oregon*. On page 2 of that letter we addressed the Protection of the Pilot Cap during the advancement of boring GP-06.

As currently sited, Boring GS-06 is located at the base of the shoreline embankment, adjacent to the nearshore edge of the pilot cap. The location of the boring, as shown on the attached PDF Figure 15, is between borings GS-07 and GS-05, which have been completed. Boring GS-06 is in a key location to provide subsurface groundwater quality and geotechnical data for the groundwater source control alternatives analysis. The attached PDF, Figure 4, shows the locations of the cap, and the organo-clay mat relative to the location of Boring GS-06.

A barge mounted sonic drill rig is currently working at location GS-03. Anchor staff have measured the dimensions of the barge and evaluated ways of conducting boring GS-06 while protecting the Pilot Cap. Barge and drill rig measurements have shown that we can drill the hole without drilling through the cap, however, the pipe spuds used to stabilize the barge would need to be placed on the cap armored area in order for the boring to be conducted. Because of the distance from the pipe spuds to the end of the barge, it is not possible to drill along the shoreline in the Pilot Cap area without placing the pipe spuds on the cap armor. Other methods of securing the vessel such as anchors or tie off to shore are too unstable for this type of drilling and may cause damage to the drill rig.

We have also evaluated if the project data needs could be met by shifting the location of GS-06. If we move GS-06 upstream away from the capped area, it will be nearly adjacent to boring GS-07. We cannot move the boring downstream because the barge mounted drill cannot get under

the overwater pipeway adjacent to GS-06. We cannot access the area inside the pipeway from a land based drill because of equipment access limitations.

For all of these reasons we recommend completing boring GS-06 at it's current location. Anchor believes that the Pilot Cap armor layer will minimize and possibly prevent damage to the cap from the placement of the pipe spuds. However, in any case we will follow the protocol for protecting and repairing from possible spud placement damage, as specified on page 2 of the December 6, 2006 letter. We will also make all reasonable steps to avoid placing the pipe studs on the area underlain by the organo-clay mat. Following is the text portion of the letter that addresses this issue.

- *Spudding of the barge on the cap: Although we do not think the spuds would be expected to penetrate the armor layer we will (1) attempt to orient the barge in such a manner as to avoid spudding on the cap and (2) if this is not possible, then the locations of the spuds on the cap will be recorded and we will place one cubic yard of similar armor stone in both locations after the drilling is complete.*

Following completion of the boring, the spud locations will be marked with buoys when the barge is moved. We will then place armor stone at the spud locations as specified above. The repaired area will be inspected by a diver to confirm completion of the repair.

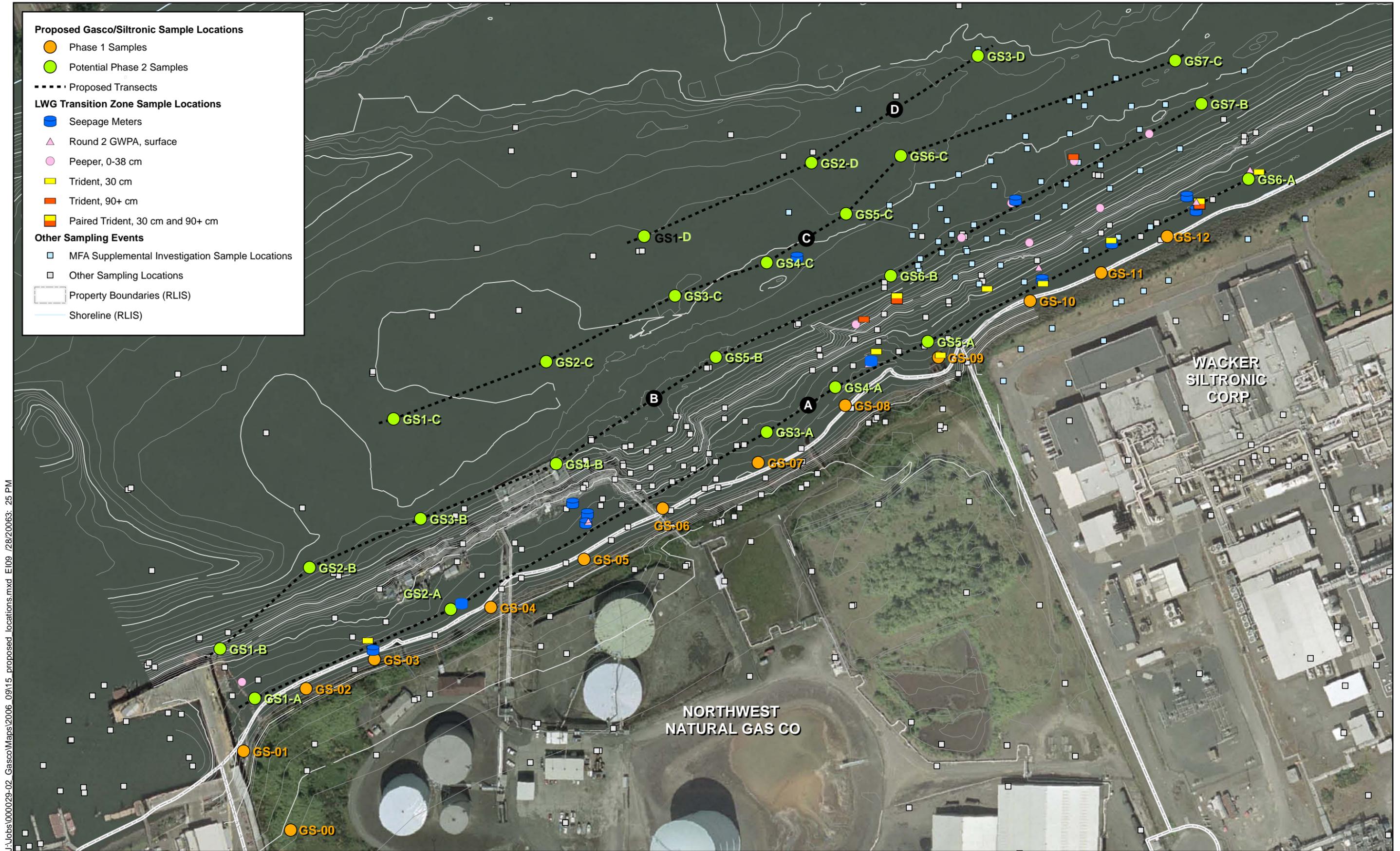
Please confirm that this approach is approved by DEQ. Also, please note that we have copied EPA on this letter because of our notification requirements related to activities that may affect the cap.

Respectfully Submitted,

John E. Edwards, RG, CEG
Anchor Environmental, L.L.C.

Cc: Bob Wyatt, NW Natural
Dana Bayuk, DEQ
Sean Sheldrake, EPA
Patty Dost, Schwabe, Williamson, Wyatt
Tim Stone, Anchor

Attachment: Boring Location Map, Figure 15
Monitoring Station Map, Figure 4



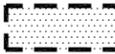
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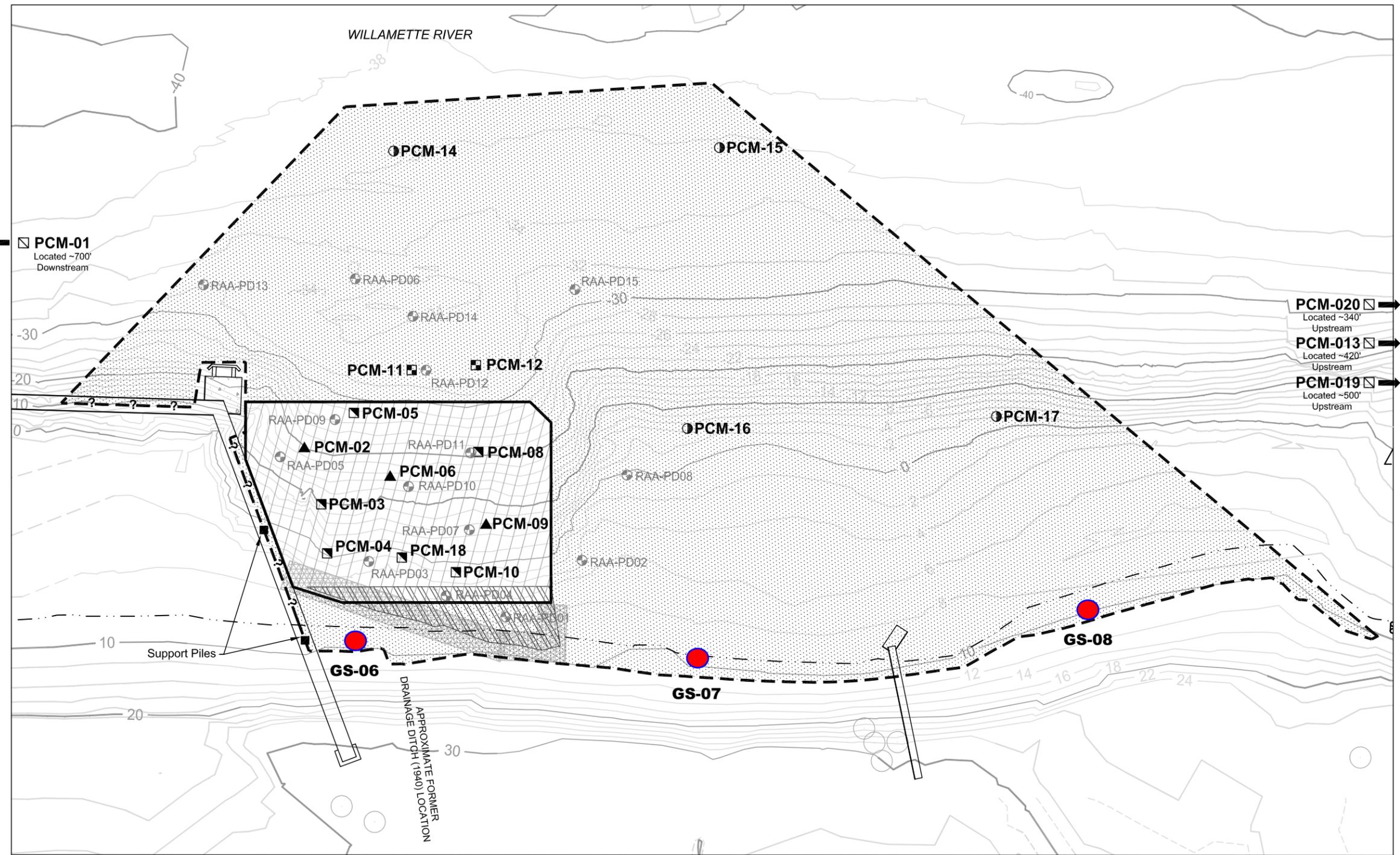


NOTES:
 Approximate Phase 2 locations to show general intent of plan. Actual Phase 2 locations will be dependent on the findings from Phase 1.
 Deep sediment and groundwater sampling will be performed at Transect A and B locations.
 Deep sediment, groundwater, and TZW/Shallow sediment sampling will be performed at Transect C and D locations.

Figure 15
 Proposed Subsurface Soil, Groundwater, and Sediment Sampling Locations Gasco/Siltronic Site

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- Legend:**
- 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
 - PCM-14** ○ Depositional Surface Sediment Sample
 - 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).