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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

August 13, 2009

Mr. Ron Carpenter
Bremerton School District
200 Bruenn Avenue
Bremerton, WA 98312

Re: Opinion pursuant to WAC 173-340-515(5) on the "Revised Work Plan for Additional Soil and Air Quality Characterization" for the following Hazardous Waste Site:

- Name: Crownhill Elementary School
- Address: 1500 Rocky Point Road NW, Bremerton
- Facility/Site No.: 99722456
- VCP No.: NW2147

Dear Mr. Carpenter:

Thank you for submitting documents regarding your proposed remedial action for the Crownhill Elementary School facility (Site) for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding a review of submitted documents/reports pursuant to requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the Site:

- Arsenic (As), cadmium (Cd), chromium (Cr), lead (Pb), mercury (Hg), carcinogenic Polyaromatic hydrocarbons (cPAH) and vinyl chloride in Soil.

Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.



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Ecology's Toxics Cleanup Program has reviewed the following information regarding your proposed remedial action(s):

1. Revised Work Plan for Additional Soil and Air Quality Characterization Crownhill Elementary School, dated July 13th 2009, prepared by Terracon

The reports listed above will be kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Appointments can be made by calling the NWRO resource contact at 425.649.7239.

The Site is defined by the extent of contamination caused by the following release(s):

- Arsenic (As), cadmium (Cd), chromium (Cr), lead (Pb), mercury (Hg), carcinogenic Polycyclic aromatic hydrocarbons (cPAH) and vinyl chloride in Soil.

The Site is more particularly described in Enclosure A to this letter, which includes a detailed Site diagram. The description of the Site is based solely on the information contained in the documents listed above.

Based on a review of supporting documentation listed above, pursuant to **requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the Site, Ecology has determined:**

- The sixteen proposed soil sampling locations as depicted in Figure 5 of the "Revised Work Plan for Additional Soil and Air Quality Characterization", appear to be appropriately located;
- The Historic Activity Map – 1946, which was included in the "Revised Work Plan for Additional Soil and Air Quality Characterization", shows the Site may extend to the west beyond Dora Avenue and to the east of the school property. Soil sampling to the west of Dora Avenue and to the east of school property will be required in order to determine if the Site extends beyond the Crownhill Elementary School property boundary;
- Upon completion of the soil borings please note and comment on type of soil and any groundwater encountered. Utilizing all borings performed at the site a three dimensional map of the Site will help to complete a Site conceptual model;
- The three proposed air sampling locations as depicted in Figure 5 of the "Revised Work Plan for Additional Soil and Air Quality Characterization", appear to be appropriately located;
- Once the Site has been fully characterized the Bremerton School District should prepare the Remedial Investigation and Feasibility Study for Ecology review and comment.

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This opinion does not represent a determination by Ecology that a proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit appropriate documentation to Ecology and request such an opinion under the VCP. **This letter also does not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.**

Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at 425.649.4446.

Sincerely,



Dale Myers
Site Manager
NWRO Toxics Cleanup Program

dm/kp

Enclosures (2): Figure No. 5 "Proposed Sampling Locations
 Historic Site Activity Map - 1946

cc: Mr. Sean Donnan, Terracon
 Russ Olsen (NWRO VCP Unit Supervisor)

Enclosure A

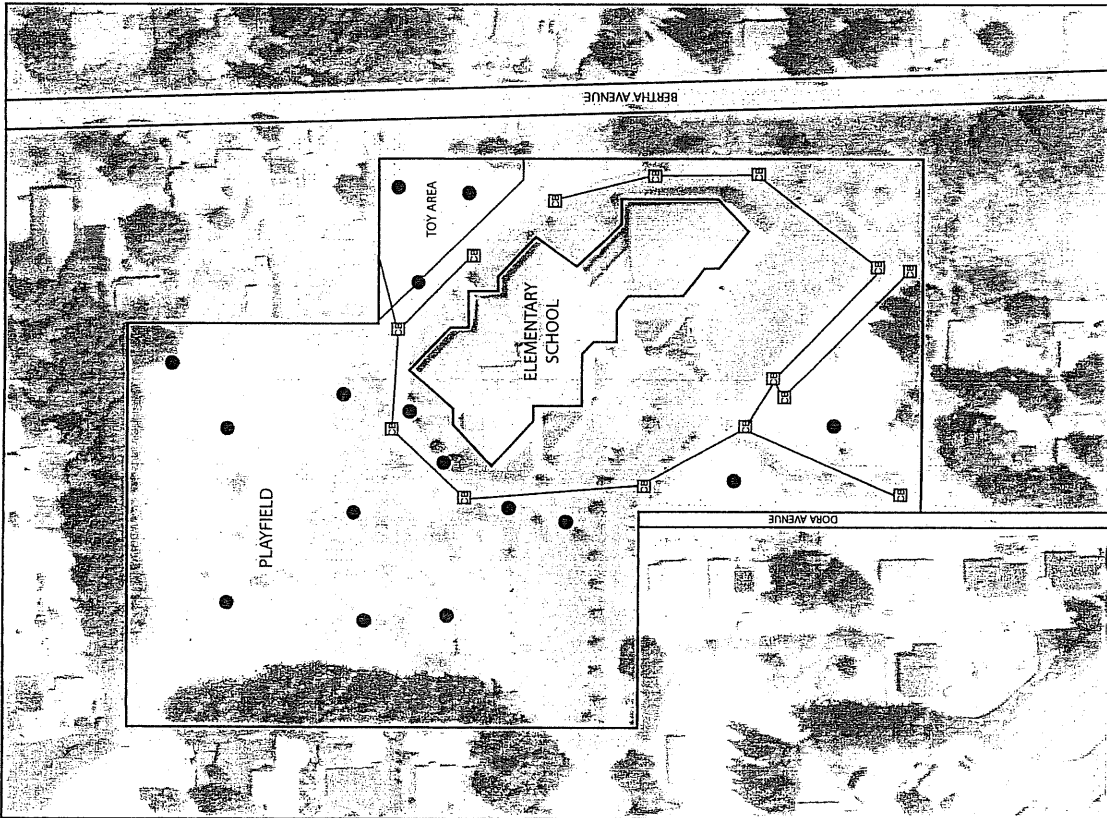
Description and Diagram of the Site

The Crownhill Elementary School is located at 1537 Bertha Avenue, Bremerton in a predominately residential area. The site and property occupies the former location of a natural ravine that has been filled with uncontrolled material by the Navy's Puget Sound Naval Shipyard (PSNS). Dumping occurred in this ravine up to the late 1940s. Materials reportedly disposed of in the landfill include oils, scrap metal, and equipment parts, resulting in the relatively flat present site topography.

The Site lies in the eastern portion of the Western Upland of the Puget Trough. The surface topography of the property slopes gently to the west-southwest. Surface drainage for the property generally flows to the west.

Soil found to depths of approximately five feet generally consisted of loose, brown to gray, silty medium grained fill sand with some gravels. Underlying the fill soil to about ten feet in depth consist of black silty sand with a considerable amount of debris. A horizon (approximately one foot) of stiff silt underlies the debris-laden soil and is followed by native sandy soil at greater depth. At depths below 75 feet, sandy soil becomes increasingly silty and graded to hard silt at about 100 feet.

Static groundwater ranges at depths of 83 feet to 125 feet below ground surface and appears to be not impacted by the landfill.



LEGEND

- [] — CATCH BASIN / STORM SEWER ALIGNMENT
- PROPOSED SOIL SAMPLING LOCATIONS
- PROPOSED AIR SAMPLING LOCATIONS



FIG. No.

5

PROPOSED SAMPLING LOCATIONS

Crownhill Elementary School
 1500 Rocky Point Road
 Bremerton WA, 98312

Terracon
 Consulting Engineers and Scientists

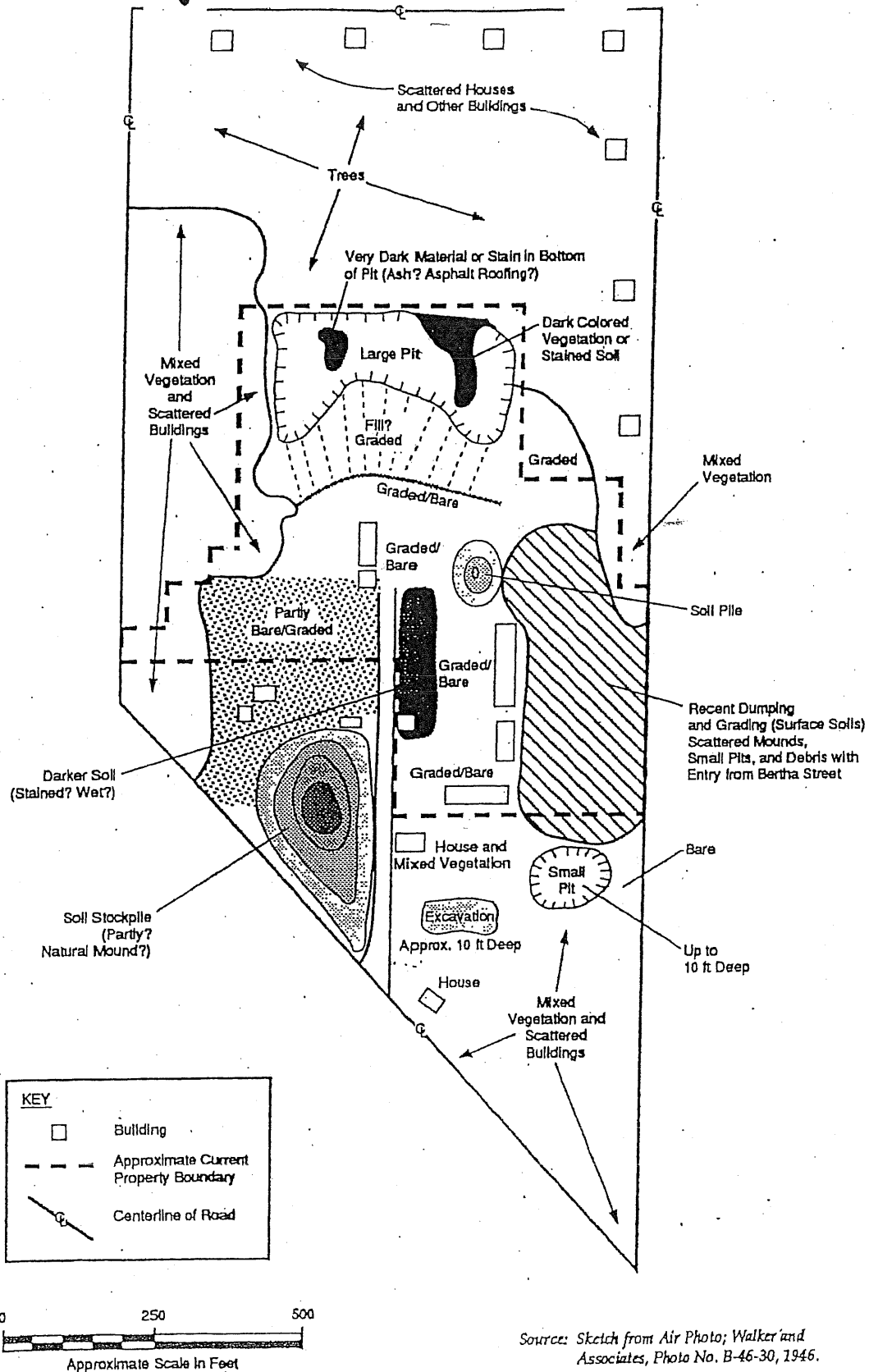
21905 64th Ave W, #100 Mountlake Terrace, WA 98043
 PHL (206) 771-3304 FAX (206) 771-5566

Project No.	81097011
Scale:	NTS
File No.	Figure 5.pdf
Date:	June 15, 2009

Source:
 Washington State Department of Natural Resources
 2003 Aerial Photograph

Drawn By:	SWD
Checked By:	LCS
Approved By:	SWD

FIGURE 7: LANDAU FIGURE



283001.10 Heery International/ESA/Report 2/94



Historic Site Activity Map - 1946

Figure 1