

**HILLTOP APARTMENTS SITE
REMEDIAL ACTIONS SUMMARY**

**1509 South Mission Street
Wenatchee, Washington**

Project Number 06-111

September 17, 2007

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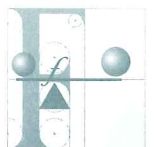


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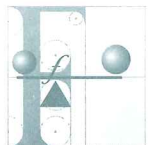
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EXECUTIVE SUMMARY

Fulcrum Environmental Consulting, Inc. (Fulcrum) was retained by Vaughn Bay Construction, Inc. (VBC) to assist with construction and development activities that would result in disruption of agricultural chemical-impacted soils. Identified contaminants of concern were limited to lead and arsenic. Site development consisted of construction of the Hilltop Apartments encompassing a five-building apartment complex with associated asphalt-paved parking and landscape areas, located at 1509 South Mission Avenue in Wenatchee, Washington. The purpose of remedial activity was to facilitate new construction within the limits of applicable state and federal environmental regulations. Remediation and construction activities were conducted concurrently.

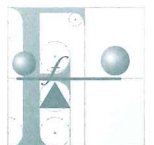
Conclusions

During construction, site soils were relocated from the higher elevated southern portion of the site to the lower elevated northern portion of the site. Following construction of the Hilltop Apartments buildings and associated paved areas, the remaining landscape areas were capped with clean fill and/or physical barriers, vegetation, and rock cover.

Residual concentrations of agricultural chemicals historically present onsite have been contained beneath protective barriers rendering future ecological and agricultural exposure to residual agricultural chemicals unlikely. A restrictive deed covenant has been filed to notify future site owners of material presence. An Operations and Maintenance (O&M) Plan is in place that outlines measures necessary to maintain protective barriers, summarize measures necessary in the event that barriers are breached, and provide a mechanism for notifying management and future contractor of material presence.

Recommendations

On behalf of Vaughn Bay, Construction, Inc., Fulcrum recommends a “No Further Action” (NFA) determination from Washington State Department of Ecology for the Hilltop Apartments site in Wenatchee, Washington. Fulcrum also recommends implementation of the *Hilltop Apartments Agricultural Soil Operations and Maintenance Plan*.



1.0 INTRODUCTION

Fulcrum Environmental Consulting, Inc. (Fulcrum) was retained by Vaughn Bay Construction, Inc. (VBC) to assist with typical construction and development activities that resulted in disruption of agricultural chemical-impacted soils. Site development consisted of construction of the Hilltop Apartments encompassing a five-building condominium complex with associated asphalt-paved parking areas located at 1509 South Mission Avenue in Wenatchee, Washington. See Figure 1 for General Site Location. The purpose of remedial activity was to facilitate new construction within the limits of applicable state and federal environmental regulations. Remediation and construction activities were conducted concurrently. Documentation contained within this report is sufficient to demonstrate protection for human health and the environment and to obtain a “No Further Action” (NFA) determination by Washington State Department of Ecology (Ecology).

2.0 SCOPE OF WORK

Fulcrum was retained by VBC to provide third party oversight and documentation of Remediation Plan implementation at the Hilltop Apartment site. Vaughn Bay Construction (VBC) produced the construction specification including site grading, dust control, and stormwater design. Vaughn Bay Construction also acted as the General Contractor for the project. Tri-Valley Construction, Inc. (Tri-Valley) was the primary excavation contractor during the remedial phases of the project.

As a portion of current site conditions Fulcrum evaluated select reports and investigation findings completed for the site prior to remediation implementation. See Section 3.0 Project Background for a summation of reports reviewed. Fulcrum does not warrant information contained within the reports completed by others. Reviewed reports may have exceeded the six-month data validity date and have been used as supplementary information in reviewing site conditions.

2.1 Site Description

The Hilltop Apartments site consists of multiple parcels totaling approximately 1.58-acres in the southern portion of Wenatchee, Washington. The site is located on the east side of South Mission Street, south of Crawford Street and north of Vista Street. See Figure 1 for a site location map.

Though the site was previously developed into an orchard, the site was vacant, grass-covered land at the outset of development activities. A private residence with a detached garage is present at the center of the site’s western boundary and is surrounded by the site on the north, south, and east sides. The residence is not part of the development and was not included in site investigation and evaluation.

The site is bordered to the west by South Mission Street with commercial and residential properties and Lincoln Park beyond. The site is situated on a northeast-facing slope with elevation dropping approximately 30-feet from the site’s southwest corner to northeast corner. Vacant land is located at the south and east boundaries. Site elevation is approximately 790-feet above mean sea level.



3.0 PROJECT BACKGROUND

3.1 Investigations Completed by Hammond Collier Wade Livingstone

In September of 2003, Hammond Collier Wade Livingstone (HCWL) of Wenatchee, Washington, collected composite soil samples from five locations in the 0 to 10-inch below ground surface (BGS) soil horizon. Samples were submitted for total lead and arsenic analyses. Analytical results were compared with Ecology's Model Toxic Control Act (MTCA) Method A Unrestricted Land Use (Method A) values. Arsenic concentrations ranged from 30.9 to 109-parts per million (ppm) exceeding the MTCA Method A value of 20-ppm. Lead concentrations ranged from 189 to 1,090-ppm with four of the five analytical results exceeding the MTCA Method A value of 250-ppm. Samples were not submitted for organochlorinated pesticide (OCP), organochlorinated herbicide (OCH) or organophosphorus pesticide (OPP) analysis. Refer to the letter regarding *Lead Arsenic Testing of Soil*, prepared by HCWL in September 2003 for additional information.

A geotechnical investigation for the site was completed by HCWL in August 2005. Review of the HCWL reports for the site indicates that site soils consist primarily of sand silt or silty sands over sandy gravels. Local variations in soil depths and type were noted. Maximum depth of the exploration was 39-feet BGS and no groundwater was encountered. Refer to the *Geotechnical Report for Hill Top Apartments*, prepared by HCWL in August 2005 for additional details regarding geotechnical findings.

In October of 2005, HCWL completed a Phase I Environmental Site Assessment (ESA) for the site. Historic site use was identified as orchard, though the era and length of production was not specified. No evidence was reported in the Phase I ESA suggesting that historic chemical mixing or storage areas have existed onsite. The ESA concluded that lead and arsenic contaminated soils remain onsite along with miscellaneous "household-type" debris. The ESA also identified the Lincoln Park Landfill, a former city landfill, as an offsite and up-gradient concern. Refer to the *Phase I Environmental Site Assessment*, prepared by HCWL, October 2005.

3.2 Investigation Completed by Fulcrum Environmental Consulting, Inc.

In April 2006, Fulcrum was retained by VBC to conduct a limited Phase I ESA-level investigation, conduct additional soil sampling, and provide assistance with remedial design. Fulcrum's limited Phase I ESA investigation included review of historical aerial photographs and an interview with a local resident. Review of the historical data indicated the site had been operated as an orchard from at least the mid-1950s and likely as early as the 1940s. Documentation suggested that the orchard had been in operation through the mid-1990s. The research further indicated that agricultural-related buildings or material storage areas were not historically located onsite.

In April 2006, Fulcrum conducted an initial soil sampling event including sampling of surface soils, as well as sampling of soils at depth, with focus on specific areas of design concern, such as planned stormwater infiltration areas. Analytical parameters were expanded from HCWL's investigation to include OCP, OCH, and OPP. Analytical results confirmed the presence of arsenic concentrations above applicable cleanup levels in soils at 2-feet BGS. Lead was only identified in one sample above applicable cleanup levels. The pesticide dichlorodiphenyltrichloroethane (4,4'-DDT or DDT) and the



daughter component, dichlorodiphenyldichloroethylene (4,4'-DDE or DDE), were identified in several samples in concentrations below regulatory cleanup levels. The herbicide 2,4-dichlorophenoxyacetic acid (2,4-D) was identified in several shallow soil samples in concentrations below regulatory cleanup levels and was likely associated with recent application to site soils for weed control.

Fulcrum drafted a remediation plan in May 2006 titled, *Hilltop Apartment Site Remediation Plan* (Remediation Plan), for the site based on the limited Phase I ESA historical research, applicable regulatory limitations, and the initial soil sampling event completed in April of 2006. The Remediation Plan presented site background, proposed remedial threshold levels, and sequence of remedial activities. The proposed remediation approach was submitted and a request made for a written response to Ecology's Central Regional Office. Ecology's response is included in Appendix A.

4.0 ENVIRONMENTAL SETTING

4.1 Regional Setting

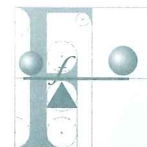
The site is adjacent to the Columbia River at the physiographic junction of the Okanogan Highlands and the Columbia River Basin of North Central Washington. The region has long hot summers with an average annual precipitation of 15-20 inches per year.

To the west of the site, the Okanogan Highlands are metasedimentary rocks uplifted and deformed by plutonic intrusions and faulting. To the east, the Columbia River Basin is characterized by a thick and laterally continuous sequence of basalt flows whose present-day surface has been scoured by glacial and alluvial forces. Thick accumulations of alluvial and glacial gravels associated with the ancestral Columbia River mantle the canyon cut by the present-day Columbia River. The site is located on an ancestral terrace of the Columbia River.

4.2 Local Setting

The Columbia River is located approximately ¼-mile east of the site and the surrounding land surface is generally sloping towards the river. An unnamed, eastward-flowing stream or drainage is located approximately 200-feet north of the site, at the base of steep slope. Land surface elevation drops approximately 50-feet from the northern boundary of the site to the stream surface.

Site soils are described by the National Resource Conservation Service (NRCS) *Soil Survey of Chelan Area, Washington* (1975) as the Peshatin loam, 8 to 15-percent slope. The Peshatin soils are described as well-drained, medium-textured soils that formed in unsorted glacial till. The till is mostly gravel and cobblestones of granite, schist, gneiss, basalt, and sandstone. Some ice-rafted, bouldery deposits are also present. Peshatin soils occur on terraces and slopes are 0 to 45-percent. Elevations range from 700 to 1,000-feet above sea level. Surface soils are described as a surface layer of grayish-brown loam, stony in places, and about 7-inches thick. Below this layer is brown loam approximately 11-inches thick. The substratum is light brownish-grey, very cobbly, sandy loam that extends to a depth of at least 60-inches. Peshatin loam soils of 8 to 15-percent slopes are further described as having medium runoff rates, and a moderate hazard of water erosion. If the soil is irrigated, runoff is rapid and the hazard of erosion is high.



Review of the report indicates that site soils generally consist of topsoil underlain by 1 to 5-feet of silty sand or sandy silt underlain by gravel and sands.

4.3 Soil Lithology and Well Log Data

4.3.1 Near Surface Soil Stratigraphy

A geotechnical investigation for the site was completed by HCWL in August 2005. Review of the HCWL reports for the site indicates site soils consist primarily of sand silt or silty sands over sandy gravels. Local variations in soil depths and consistencies were noted. Maximum depth of the exploration depth was 39-feet BGS. Refer to the HCWL reports for details on HCWL's findings.

Fulcrum's experience with the site supports HCWL's findings with sandy silts and some silty clays from ground surface to depths ranging from 2 to 5-feet BGS. In the northern portion of the site, these surface soils were underlain by silts from approximately 3-feet BGS to 5-feet BGS with fine sands below. In the southern portions of the site, the surface soils were underlain medium to coarse sands with abundant pebbles from approximately 2 to 5-feet BGS and extending to the explored depth of the test pits (maximum of approximately 8-feet BGS).

4.3.2 Well Log Data

Review of HCWL's geotechnical report indicated no groundwater in their soil borings to the maximum explored depth of 39-feet BGS. Fulcrum also reviewed Ecology's Well Logs website at <http://apps.ecy.wa.gov/welllog> for recorded well logs within a ½-mile of the site. No well logs were identified near the site.

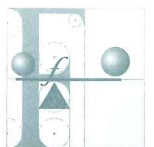
Depth to groundwater depth cannot be conclusively determined without drilling and measuring. However, based upon review of HCWL's geotechnical report, local geology, and local topography, depth to groundwater at the site is greater than 40-feet BGS and likely to be found at elevations similar to the bed of the unnamed stream located several hundred feet north of the site and approximately 50-feet below the site elevation. Local groundwater elevations will likely fluctuate seasonally and potential exists for perched groundwater in the near surface due to presence of laterally discontinuous clay lenses.

Given inferred depth to groundwater and the low mobility of the identified COCs (arsenic and lead) in the subsurface, it is unlikely the contaminants at the site have adversely impacted local groundwater.

5.0 REMEDIAL DESIGN

5.1 Evaluation of Remedial Threshold Values

Ecology's MTCA regulations provide a basis for remediation and are indicative of industry standards. The Area-Wide Soil Contamination Task Force Report published in 2002 also provides guidance for remediation of lead-arsenic containing soils. Following is a summary of MTCA and Task Force guidance applicable to the site.



5.1.1 MTCA Regulations

In March of 1989, the Model Toxics Control Act (MTCA) went into effect in Washington State. The MTCA regulations set standards to ensure quality of cleanup and protection of human health and the environment. A major portion of the MTCA regulation (completed in 1991) was the development of numerical cleanup standards and requirements for cleanup actions. Three options were established under MTCA for site-specific cleanup levels: Method A, B, and C. Method A defines cleanup levels for 25 of the most common hazardous substances found at sites. Method B levels are set using a site risk assessment, which enables consideration of site-specific characteristics. Method C is similar to Method B, however the individual substance's cancer risk portion of the assessment is set at 1 in 100,000 rather than 1 in 1,000,000. Revisions in 2001 changed some MTCA cleanup levels.

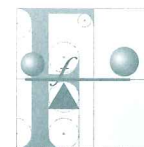
5.1.2 Area-Wide Soil Contamination Task Force Report

In 2002, the Washington State Departments of Agriculture, Ecology, Health, and Community, Trade, and Economic Development (CTED) convened a Task Force to evaluate and prepare a statewide strategy to respond to area-wide soil contamination (lead and arsenic) found throughout Washington State. Elevated lead and arsenic concentrations are primarily a result of industrial activities (metal smelters) and agricultural applications and have resulted in long-term impact to soil. The Task Force was directed to make recommendations for future management and for addressing area-wide soil contamination in the state.

Residual concentrations of historically applied arsenic, lead, and organic-based pesticides are common on orchard property throughout Washington State and other regions where agricultural crops have been grown. The Task Force guidance specifically identified sites with area-wide contamination as those related to historic metal smelter operations and historic agricultural application of lead arsenate pesticides. The Task Force classified residential soils as those locations where potential exposure to children is more likely and frequent, with up to 100- mg/kg for arsenic and 700-mg/kg for lead as the low-to-moderate risk range. For properties where exposure to children is less likely or less frequent, such as commercial properties, Ecology considers total arsenic concentrations of up to 200-mg/kg and total lead concentrations of up to 700 to 1,000-mg/kg to be within the low-to-moderate risk range. Conversely, areas with indications of a spill, release, or product storage, and concentrations above these levels, are identified as needing additional investigation and remediation.

5.2 Remedial Threshold Value Selected

MTCA Method A unrestricted use levels are conservative and appropriate for land use at the site. The corresponding published values will be used as a threshold to evaluate need for remedial action and institutional control. For areas where lead and arsenic are identified above MTCA Method A methods, the Task Force area-wide soil contamination values for commercial property will be utilized to evaluate need for further investigation and remedial action selection.



5.3 Points of Compliance

During remediation, points of compliance were the ground surface within the boundary of the site. Residual agricultural chemical concentrations in site soils are a pervasive problem in the Wenatchee area. Urban sprawl has resulted in many historic orchard properties being subdivided for residential and commercial development. The Hilltop Apartments site is one portion of what was historically a much larger orchard region. Remediation through onsite management of impacted soils across the entire site, but not beyond site boundaries, was therefore determined to be the points of compliance.

6.0 REMEDIAL ACTIVITIES

6.1 Remedial Activities

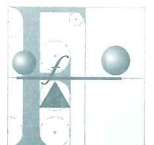
Construction was initiated in May 2006 and gross grading was completed in July 2007. Fulcrum provided assistance with remedial design criteria relative to residual agricultural concentrations. Vaughn Bay Construction was the General Contractor for the site and Tri-Valley was the primary excavation contractor. Other subcontractors, such as plumbing, electrical, and landscaping, had relatively minor contact with site soils. Fulcrum provided limited hazard communication, environmental documentation, limited health and safety monitoring, and limited oversight of remedial activities. Appendix B contains subject site photographic documentation.

A site safety meeting was held on the morning of May 23, 2006. Meeting attendees included representatives from Fulcrum, Tri-Valley and VBC. The meeting topics included a review of the agricultural chemicals identified and associated health hazards, engineering controls instituted, personnel protective equipment utilized, and personal exposure monitoring.

After the meeting, Tri-Valley initiated site cutting and grading activities. Due to weather conditions, water applications were not necessary for dust control. Site vegetation was left at this location and periodically wetted to facilitate decomposition. The decomposed vegetation was later reworked into site fill material and topsoil.

Site grading operations were largely complete by the end of June 2006, but some excavation activities necessary for utility and building foundation installation continued into March 2007. Fulcrum periodically observed work practices and procedures to assess compliance with the remediation plan. Onsite equipment utilized for site grading included a grader, bulldozer, excavator, skid-steer, dump truck, roller/compactor, and water truck. Water was applied as necessary throughout the gross grading process sufficient to wet soils and prevent visible dust generation and yet not result in offsite runoff. Site grading activities were discontinued during periods of excessive wind velocity.

The site grading plan called for significant (1 to 3-feet) cutting on the south and west portions of the parcel. Material cut from this area was relocated on the north portion of the parcel. The soil type prevented application of dust suppression water from being effective greater than approximately 6-inches to 1-foot below current surface.



Sediment catch basins were installed as a portion of the stormwater management system. Catch basins were configured to flow to the site drywells. The infiltration zone for the drywells was installed below the horizon of lead impacted soil (2-foot BGS) at an approximately total depth of 16-foot BGS.

Visual and particulate monitoring of the work area documented that site soils remained on site during grading activity and that dust control measures were adequate to prevent visual dust generation beyond parameters previously defined. Personal monitoring conducted during grading activities indicated that engineering controls were sufficient to prevent employee exposure to onsite concentrations of residual agricultural chemicals.

6.2 Post-Grading/Pre-Landscaping Sampling

After site grading was completed and prior to site landscaping, Fulcrum collected soil samples in the same approximate grid locations as initial site sampling at a depth of 6-inches BGS. Samples were collected on April 18, 2007. The purpose of sampling was to evaluate near surface soils prior to spreading topsoil, planting of vegetative cover and installation of physical barriers including fabric and round rock or bark. Following sample collection, topsoil, sod and other landscaping vegetation was installed. Analytical results are summarized in the following table. Analytical laboratory results are presented in Appendix C.

Table 6.2 Post-Grading/Pre-Landscaping Remedial Sampling Results

Sample ID	Sample Location Description	Arsenic (mg/kg)	Lead (mg/kg)
1	Southwest corner on soil mound- former TP-2 location	167	NA
2	East of evergreen trees, 8-ft from the retaining wall	146	NA
3	Northwest corner of the site, north of the north access road, 25-ft from edge of property	39.7	104
4	Between concrete block wall and edge of hill	32.8	113
5	Approximately 8-ft from Building #1 and 14-ft from concrete block wall	39.4	59.7
6	Approximately 8-ft from building #1, walkway, and concrete block wall	33.5	NA
7	Exterior north line of Building #3, approximately 8-ft from concrete block wall and 8-ft from Building #3	24.4	NA
8	Approximately 8-ft southeast of Building #3	16.8	NA
9	East of Building #4	31.4	NA
10	Between Buildings #4 and #5	13.8	NA
MTCA Action Levels		20	250

Ten post-grading samples were collected from the site and submitted for lead and arsenic analysis. All post grading samples collected and analyzed for lead were documented to have concentrations below MTCA Method A threshold values suggesting no additional remedial requirements are necessary. Post-grading arsenic analysis documented areas above the MTCA Method A threshold, but below the Task Force values for low to moderate risk soils for commercial property, suggesting that the methods identified in the Remedial Plan will be sufficient to protect human health and the environment. See Figure 2 for sample locations.



7.0 DUST MONITORING DURING SITE ACTIVITY

Engineering controls were designed to prevent dust from drifting beyond property boundaries. Fulcrum monitored dust generation in the field using visual indicators and a hand held laser particulate monitor.

The effectiveness of dust control was periodically assessed using visual indicators. Control measures were considered sufficient when equipment-generated dust did not extend beyond the impacting equipment by more than the length of the equipment and did not drift beyond property boundaries. Field observations confirmed that dust control measures instituted were adequate to suppress dust generation and that dust did not migrate beyond property boundaries. Tri-Valley diligently applied water to the site surface and soil piles temporarily staged onsite pending relocation. Equipment used by Tri-Valley was operated at reduced speed when necessary to augment engineering controls for dust suppression.

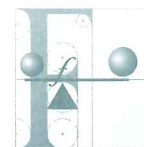
A real-time particulate monitor was also used periodically to confirm compliance with NESHAP and Ecology's environmental nuisance dust regulations. Fulcrum used a six channel (0.5, 0.7, 1.0, 2.0 5.0 and 10 microns), ARTI Handheld Particle Counter (HHPC-6) to evaluate airborne particulate concentrations. Particle readings were periodically taken upwind and downwind of soil impacting activities.

Upwind readings were used to determine background dust concentrations. Downwind concentrations collected during the same relative time period were compared with background levels to determine if measurable dust was migrating downwind. In addition, the particle counter was used to measure dust concentrations at the property perimeter, near dust generating equipment, and to help determine personal exposure. Monitoring results indicate elevated levels of dust only in close proximity to operating heavy equipment and little, or no, significant difference between background dust levels and worksite conditions. Complying with NESHAP and Ecology's environmental nuisance dust regulations, dust concentrations downwind of construction were not significantly greater than corresponding upwind concentrations.

8.0 POST-CONSTRUCTION SITE CONDITIONS

8.1 Residual Agricultural Chemical Concentrations

By remedial design, soil with residual agricultural chemical concentrations above the selected remedial threshold has been left onsite. Due to site grading requirements, much of the material above remedial threshold levels has been relocated to the northern portion of the property. Native soil containing residual agricultural chemicals above the remedial threshold has been covered with impermeable parking, sidewalk, or building footprint areas; or has been capped with 6-inches of topsoil and an additional 2- to 3-inches of sod or in select locations landscaping fabric covered with approximately 3 inches of gravel. Site capping prevents inadvertent surface contact and windborne or mechanical (physical relocation) migration.



8.2 Sensitive Species or Environments

The site is in a suburban development area. No sensitive species or environments have been identified at the site. All media at this site containing agricultural chemicals above remedial threshold levels has been covered with impermeable surfaces or capped with clean materials. These protective barriers are being managed through institutional controls. Therefore, no future sensitive species or environments are likely to be threatened by the residual concentrations.

8.3 Known Potential Threats to Public Health

Since all media with concentrations above remedial threshold levels have managed to prevent site contact or off-site migrations, there is no known or potential threat to public health.

9.0 INSTITUTIONAL CONTROLS

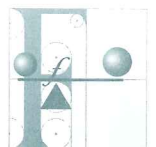
Institutional controls in the form of a restrictive deed covenant and AN Operations and Maintenance Plan (O&M Plan) have been instituted. A copy of the restrictive deed covenant filed with the appropriate county will be forwarded to Ecology under separate cover. Appendix D contains a copy of the Operations and Maintenance Plan.

The purpose of the restrictive deed covenant is twofold: 1) The covenant will notify future owners of the presence of soils containing residual concentrations of agricultural chemicals above selected remedial thresholds; 2) The covenant will notify future owners of the existence of an Operations and Maintenance Plan for the Hilltop Apartments site soils.

The purpose of the O&M Plan is to institute long term onsite management of materials above remedial threshold values. The O&M Plan describes the procedure for notifying building tenants, maintenance workers, and repair contractors of the residual agricultural chemical presence. In addition, the O&M Plan outlines what controls are in place to prevent exposure or off site migration, how site workers can protect themselves from exposure, and what to do in the event that soils need to be excavated or protective barriers are breached. A copy of the O&M Plan will be maintained onsite along with other site maintenance manuals.

10.0 CONCLUSIONS

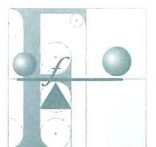
During construction, site soils were relocated from the higher elevated southern portion of the site to the lower elevated northern portion of the site. Following construction of the Hilltop Apartments buildings and associated paved areas, the remaining landscape areas were capped with clean fill and sod or alternately in select locations landscaping fabric and rock. Statistical analysis of site capping material sampling confirmed that the upper confidence level of near surface agricultural chemical concentrations is below the selected remedial threshold. As a further barrier, soil capping materials were overlaid with sod and other landscaping materials. Residual concentrations of agricultural chemicals historically present onsite have been contained beneath protective barriers rendering future ecological and agricultural exposure to residual agricultural chemicals unlikely. A restrictive deed covenant has been filed to notify future site owners of material presence. An O&M Plan is in

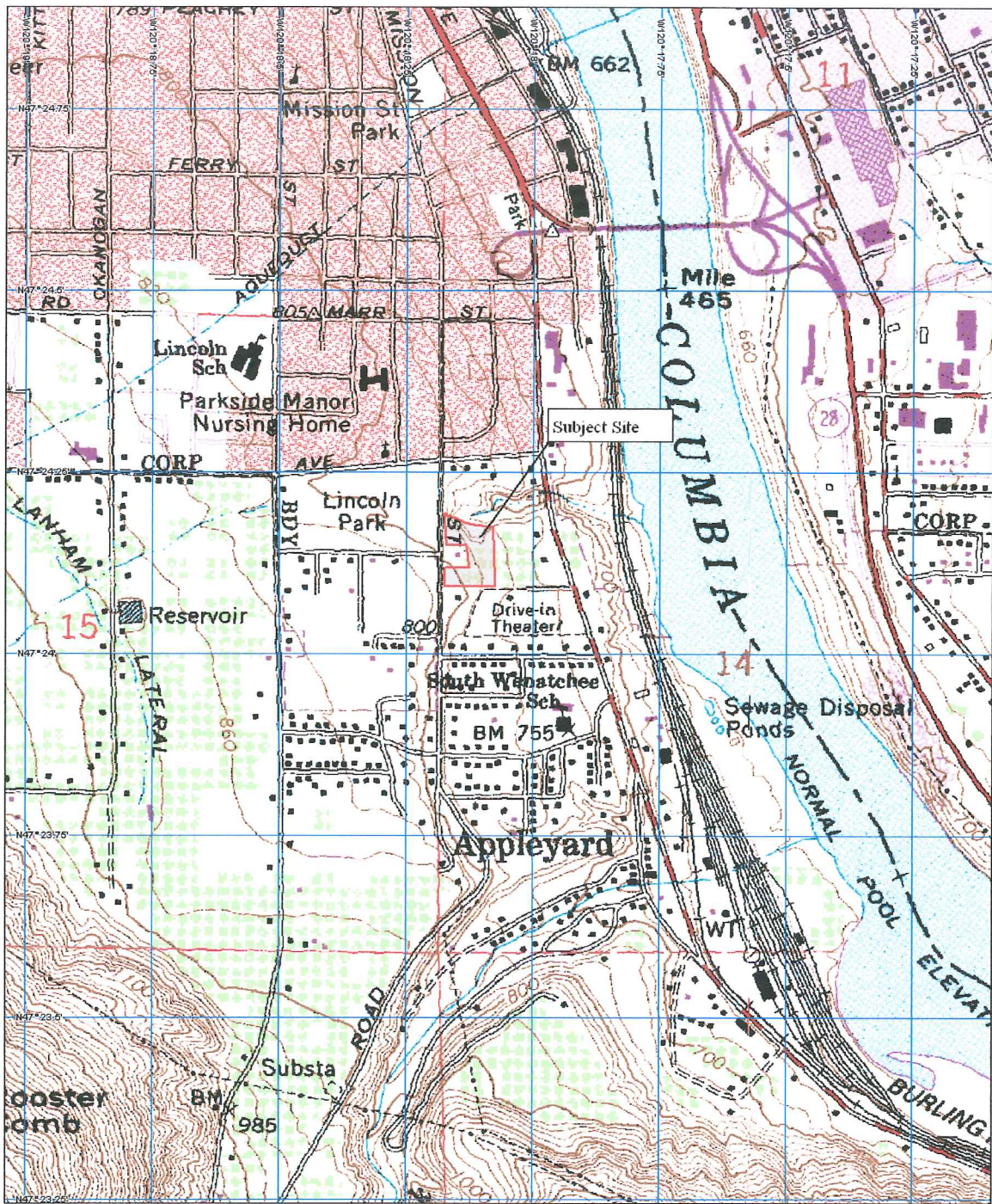


place that outlines measures necessary to maintain protective barriers and summarizes measures necessary in the event that barriers are breached. On behalf of Vaughn Bay, Construction, Inc., Fulcrum seeks a “No Further Action” (NFA) determination from Ecology for the Hilltop Apartments site in Wenatchee, Washington.

11.0 LIMITATIONS

Fulcrum Environmental Consulting, Inc. has performed professional services in accordance with universally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. The conclusions are based upon field observations, field screening, and independent laboratory analysis. Opinions contained in this report apply to conditions existing at the time services were performed. Fulcrum Environmental Consulting, Inc. does not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report. Fulcrum Environmental Consulting, Inc. assumes no liability for conditions that were excluded in our scope of services, or conditions not generally recognized as predictable when services were performed. Fulcrum Environmental Consulting, Inc. is not responsible for the impact of changes in environmental standards, practices, or regulations subsequent to the performance of services.





3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
 350 ft Scale: 1:12,000 Detail 1:40 Datum: WGS84



LEGEND

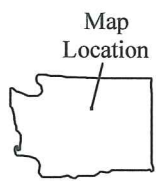
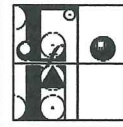


Figure 1: Site Location Map

VBC--Hilltop Apartments
 1509 S. Mission St.
 Wenatchee, WA 98801



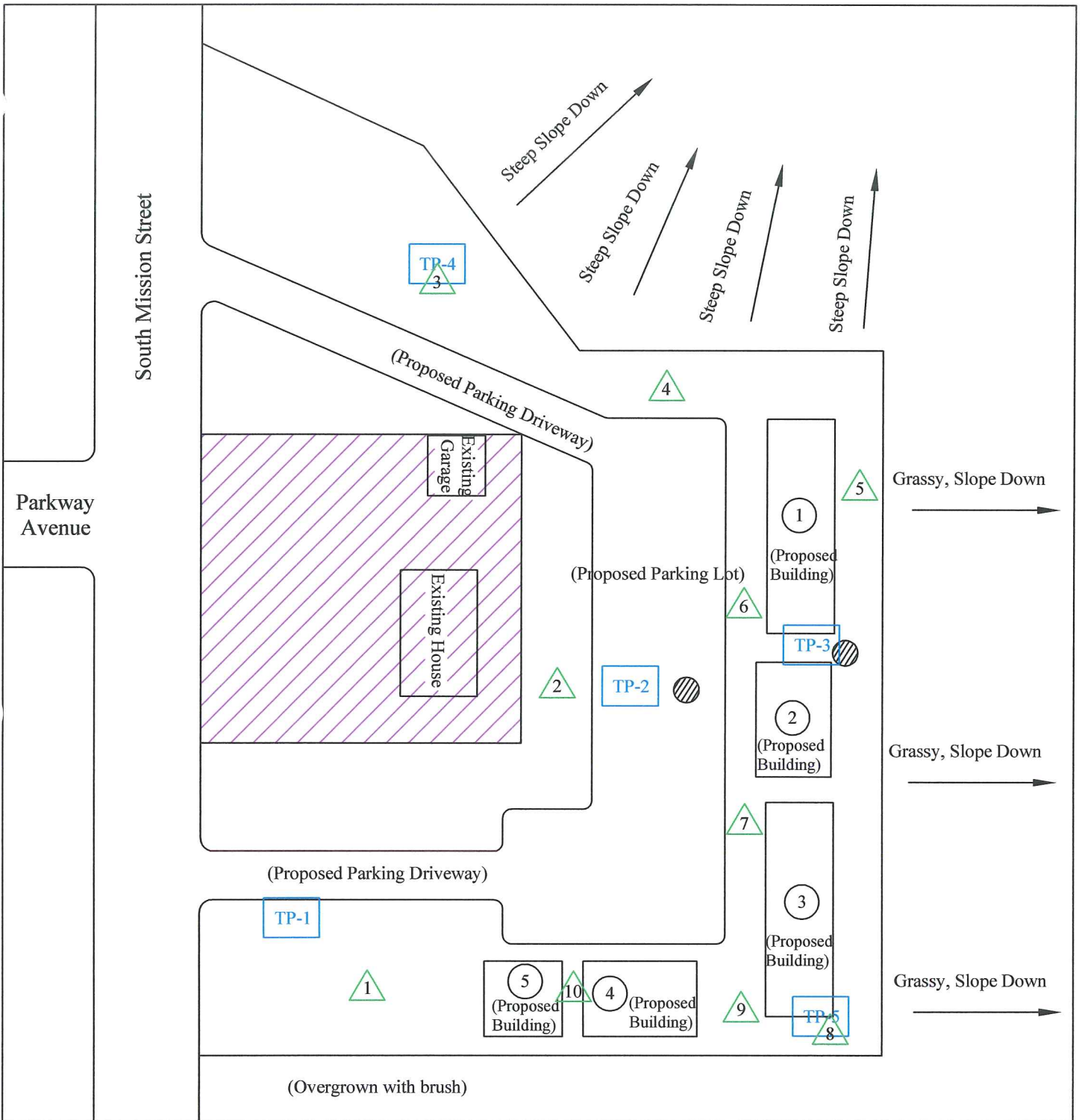
FULCRUM ENVIRONMENTAL CONSULTING, INC.
 222 North Second Street, Suite A
 Yakima, Washington 98901
 (509) 574-0839

Map By: TPC







Project Number: 06-111

Date: May 8, 2006

Project Name: Hilltop Apt. VCP



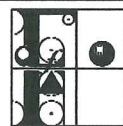
LEGEND

-  Excluded Area
-  Drywell
-  Post-Grading, 04/18/07
-  Testpit, 04/12/06
-  N
-  Map Location

Scale: 1" = 65'

Figure 2: Post-Grading Sample Locations

VBC--Hilltop Apartments
 1509 South Mission Street
 Wenatchee, Washington 98801



FULCRUM ENVIRONMENTAL CONSULTING, INC.
 222 North Second Street, Suite A
 Yakima, Washington 98901
 (509) 574-0839

Map By: TPC

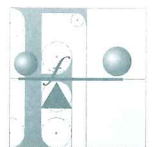
Project Number: 06-111

Date: April 25, 2007

Project Name: Hilltop Apts. VCP

APPENDIX A

Ecology Letter





RECEIVED MAY 16 2006

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

15 West Yakima Avenue, Suite 200 • Yakima, Washington 98902-3452 • (509) 575-2490

May 15, 2006

Ms. Peggy Williamson
Fulcrum Environmental Consulting, Inc.
222 N 2nd Street, Suite A
Yakima, WA 98901-2361

Re: Opinion pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the following Hazardous Waste Site:

- Name: Hilltop Apartments Development Site
- Address: 1509 South Mission Street
- Facility/Site No.: 5823960
- VCP No.: CE0244

Dear Ms. Williamson:

Thank you for submitting documents regarding your proposed remedial action for the Hilltop Apartments 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 whether your proposed remedial action is likely to be sufficient to meet the specific substantive 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:

- Lead in Soil;
- Arsenic 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.



Ms. Peggy Williamson
May 15, 2006
Page 3

remedial action report to Ecology upon completion of the remedial action 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.**

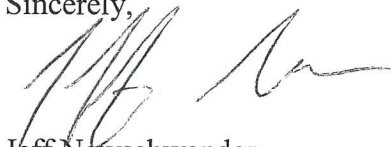
Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

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.

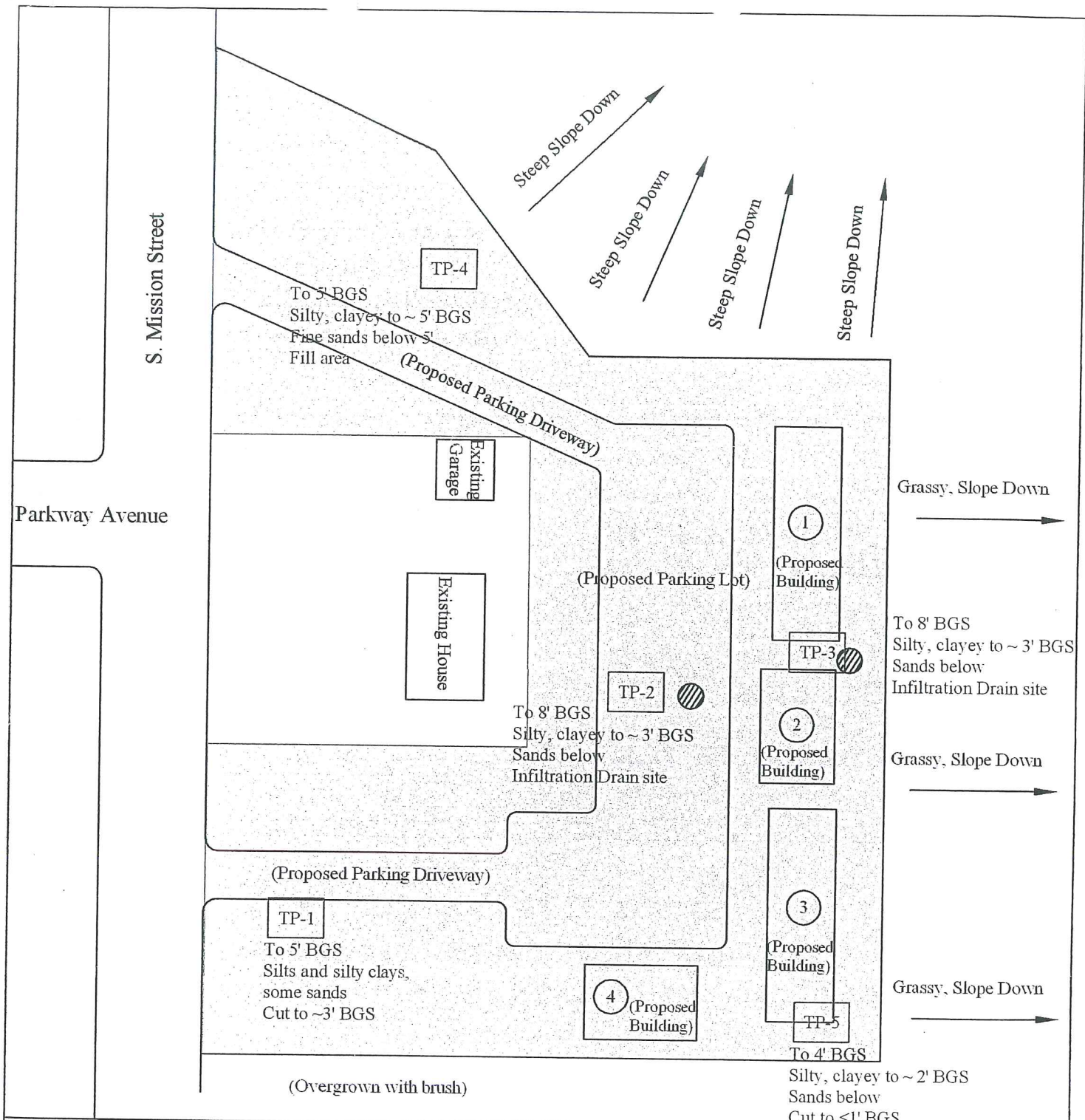
If you have any questions regarding this opinion, please contact me at (509)454-7842.

Sincerely,



Jeff Newschwander
Environmental Specialist
Toxics Cleanup Program - CRO

Enclosure



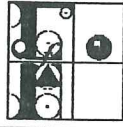
LEGEND

- Drywell
- Testpit, 04/12/06
- Subject Site



Scale: 1" = 65'

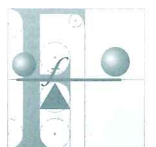
Figure 2: Site Plan
VBC--Hilltop Apartments
 1509 S. Mission St.
 Wenatchee, WA 98801

 **FULCRUM ENVIRONMENTAL CONSULTING, INC.**
 207 WEST BOONE AVENUE
 SPOKANE, WASHINGTON 99201
 (509) 459-9220 www.efulcrum.net

MAP BY: TPC	PROJECT NUMBER: 06-111
DATE: April 25, 2006	REVIEWED BY:

APPENDIX B

Subject Site Photographs





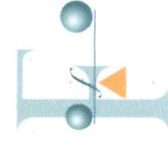
Construction of Retaining Wall West of the East Units



Construction of East Units (South View)



Retaining Wall Construction Between Units





Application of Waddles as a Portion of Stormwater Management during Construction



Fabric Application Between Parking and Units



Fabric Application Around Retaining Wall

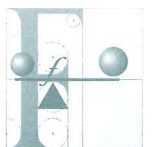


Landscaping Bark Over Fabric on West Side of Parcel



APPENDIX C

Laboratory Reports and Chain-of-Custody Forms



May 15, 2007

Peggy Williamson
Fulcrum Environmental-Yakima
222 North Second Street, Suite A
Yakima, WA/USA 98901

RE: VBC-Hilltop

Enclosed are the results of analyses for samples received by the laboratory on 05/01/07 09:25.
The following list is a summary of the Work Orders contained in this report, generated on 05/15/07
13:21.

If you have any questions concerning this report, please feel free to contact me.

<u>Work Order</u>	<u>Project</u>	<u>ProjectNumber</u>
BQE0032	VBC-Hilltop	06-111

TestAmerica - Seattle, WA



Blake T. Meinert, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



Fulcrum Environmental-Yakima 222 North Second Street, Suite A Yakima, WA/USA 98901	Project Name:	VBC-Hilltop	Report Created: 05/15/07 13:21
	Project Number:	06-111	
	Project Manager:	Peggy Williamson	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1	BQE0032-01	Soil	04/18/07 17:00	05/01/07 09:25
2	BQE0032-02	Soil	04/18/07 17:00	05/01/07 09:25
3	BQE0032-03	Soil	04/18/07 17:00	05/01/07 09:25
4	BQE0032-04	Soil	04/18/07 17:00	05/01/07 09:25
5	BQE0032-05	Soil	04/18/07 17:00	05/01/07 09:25
6	BQE0032-06	Soil	04/18/07 17:00	05/01/07 09:25
7	BQE0032-07	Soil	04/18/07 17:00	05/01/07 09:25
8	BQE0032-08	Soil	04/18/07 17:00	05/01/07 09:25
9	BQE0032-09	Soil	04/18/07 17:00	05/01/07 09:25
10	BQE0032-10	Soil	04/18/07 17:00	05/01/07 09:25

TestAmerica - Seattle, WA



Blake T. Meinert, Project Manager

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Fulcrum Environmental-Yakima 222 North Second Street, Suite A Yakima, WA/USA 98901	Project Name: VBC-Hilltop Project Number: 06-111 Project Manager: Peggy Williamson	Report Created: 05/15/07 13:21
---	---	-----------------------------------

Total Metals by EPA 6000/7000 Series Methods
TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQE0032-01 (1)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	167	----	5.94	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 11:31	
BQE0032-02 (2)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	146	----	5.29	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 11:38	
BQE0032-03 (3)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	39.7	----	5.25	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 11:44	
Lead	"	104	----	2.10	"	"	"	"	"	
BQE0032-04 (4)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	32.8	----	5.90	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 11:51	
BQE0032-05 (5)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	39.4	----	5.11	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 11:57	
Lead	"	113	----	2.04	"	"	"	"	"	
BQE0032-06 (6)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	33.5	----	4.71	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 12:16	
Lead	"	59.7	----	1.88	"	"	"	"	"	
BQE0032-07 (7)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	24.4	----	4.52	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 12:23	
BQE0032-08 (8)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	16.8	----	5.07	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 12:29	
BQE0032-09 (9)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	31.4	----	5.30	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 12:36	
BQE0032-10 (10)		Soil		Sampled: 04/18/07 17:00						
Arsenic	EPA 6010B	13.8	----	5.13	mg/kg dry	1x	7E03038	05/03/07 13:55	05/04/07 12:42	

TestAmerica - Seattle, WA



Blake T. Meinert, Project Manager

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Fulcrum Environmental-Yakima 222 North Second Street, Suite A Yakima, WA/USA 98901	Project Name: VBC-Hilltop Project Number: 06-111 Project Manager: Peggy Williamson	Report Created: 05/15/07 13:21
---	---	-----------------------------------

Physical Parameters by APHA/ASTM/EPA Methods
TestAmerica - Seattle, WA

Analyte	Method	Result	MDL*	MRL	Units	Dil	Batch	Prepared	Analyzed	Notes
BQE0032-01 (1)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	84.2	----	1.00	%	1x	7E08058	05/08/07 15:31	05/09/07 00:00	
BQE0032-02 (2)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	88.3	----	1.00	%	1x	7E08059	05/08/07 15:36	05/09/07 00:00	
BQE0032-03 (3)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	95.3	----	1.00	%	1x	7E08059	05/08/07 15:36	05/09/07 00:00	
BQE0032-04 (4)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	87.4	----	1.00	%	1x	7E08059	05/08/07 15:36	05/09/07 00:00	
BQE0032-05 (5)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	91.5	----	1.00	%	1x	7E08059	05/08/07 15:36	05/09/07 00:00	
BQE0032-06 (6)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	92.3	----	1.00	%	1x	7E08059	05/08/07 15:36	05/09/07 00:00	
BQE0032-07 (7)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	93.7	----	1.00	%	1x	7E08059	05/08/07 15:36	05/09/07 00:00	
BQE0032-08 (8)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	94.9	----	1.00	%	1x	7E08059	05/08/07 15:36	05/09/07 00:00	
BQE0032-09 (9)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	91.6	----	1.00	%	1x	7E08059	05/08/07 15:36	05/09/07 00:00	
BQE0032-10 (10)		Soil				Sampled: 04/18/07 17:00				
Dry Weight	BSOPSPLO03R0 8	92.9	----	1.00	%	1x	7E08059	05/08/07 15:36	05/09/07 00:00	

TestAmerica - Seattle, WA



Blake T. Meinert, Project Manager

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Fulcrum Environmental-Yakima 222 North Second Street, Suite A Yakima, WA/USA 98901	Project Name: VBC-Hilltop Project Number: 06-111 Project Manager: Peggy Williamson	Report Created: 05/15/07 13:21
---	---	-----------------------------------

Total Metals by EPA 6000/7000 Series Methods - Laboratory Quality Control Results
 TestAmerica - Seattle, WA

QC Batch: 7E03038 Soil Preparation Method: EPA 3050B

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7E03038-BLK1)								Extracted: 05/03/07 13:55						
Lead	EPA 6010B	ND	---	2.00	mg/kg wet	1x	--	--	--	--	--	--	05/04/07 10:59	
Arsenic	"	ND	---	5.00	"	"	--	--	--	--	--	--	"	
LCS (7E03038-BS1)								Extracted: 05/03/07 13:55						
Lead	EPA 6010B	262	---	2.00	mg/kg wet	1x	--	250	105%	(80-120)	--	--	05/04/07 11:06	
Arsenic	"	283	---	5.00	"	"	--	"	113%	"	--	--	"	
Duplicate (7E03038-DUP1)				QC Source: BQE0032-01				Extracted: 05/03/07 13:55						
Lead	EPA 6010B	1160	---	2.38	mg/kg dry	1x	1240	--	--	--	6.67%	(30)	05/04/07 11:25	
Arsenic	"	152	---	5.94	"	"	167	--	--	--	9.40%	"	"	
Matrix Spike (7E03038-MS1)				QC Source: BQE0032-01				Extracted: 05/03/07 13:55						
Lead	EPA 6010B	1540	---	2.38	mg/kg dry	1x	1240	297	101%	(69-121)	--	--	05/04/07 11:12	
Arsenic	"	469	---	5.94	"	"	167	"	102%	(66-121)	--	--	"	
Post Spike (7E03038-PS1)				QC Source: BQE0032-01				Extracted: 05/03/07 13:55						
Lead	EPA 6010B	25.3	---		ug/ml	1x	20.8	5.00	90.0%	(75-125)	--	--	05/04/07 11:18	
Arsenic	"	7.99	---		"	"	2.81	"	104%	"	--	--	"	

TestAmerica - Seattle, WA

Blake T. Meinert

Blake T. Meinert, Project Manager

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Fulcrum Environmental-Yakima 222 North Second Street, Suite A Yakima, WA/USA 98901	Project Name: VBC-Hilltop Project Number: 06-111 Project Manager: Peggy Williamson	Report Created: 05/15/07 13:21
---	---	-----------------------------------

Physical Parameters by APHA/ASTM/EPA Methods - Laboratory Quality Control Results
 TestAmerica - Seattle, WA

QC Batch: 7E08058 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7E08058-BLK1)										Extracted: 05/08/07 15:31				
Dry Weight	BSOPSP00 3R08	100	---	1.00	%	1x	--	--	--	--	--	--	05/09/07 00:00	

QC Batch: 7E08059 Soil Preparation Method: Dry Weight

Analyte	Method	Result	MDL*	MRL	Units	Dil	Source Result	Spike Amt	% REC	(Limits)	% RPD	(Limits)	Analyzed	Notes
Blank (7E08059-BLK1)										Extracted: 05/08/07 15:36				
Dry Weight	BSOPSP00 3R08	99.8	---	1.00	%	1x	--	--	--	--	--	--	05/09/07 00:00	

TestAmerica - Seattle, WA



Blake T. Meinert, Project Manager

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Fulcrum Environmental-Yakima

222 North Second Street, Suite A
Yakima, WA/USA 98901

Project Name: **VBC-Hilltop**

Project Number: 06-111

Project Manager: Peggy Williamson

Report Created:
05/15/07 13:21

Notes and Definitions

Report Specific Notes:

None

Laboratory Reporting Conventions:

- DET - Analyte DETECTED at or above the Reporting Limit. Qualitative Analyses only.
- ND - Analyte NOT DETECTED at or above the reporting limit (MDL or MRL, as appropriate).
- NR/NA - Not Reported / Not Available
- dry - Sample results reported on a Dry Weight Basis. Results and Reporting Limits have been corrected for Percent Dry Weight.
- wet - Sample results and reporting limits reported on a Wet Weight Basis (as received). Results with neither 'wet' nor 'dry' are reported on a Wet Weight Basis.
- RPD - RELATIVE PERCENT DIFFERENCE (RPDs calculated using Results, not Percent Recoveries).
- MRL - METHOD REPORTING LIMIT. Reporting Level at, or above, the lowest level standard of the Calibration Table.
- MDL* - METHOD DETECTION LIMIT. Reporting Level at, or above, the statistically derived limit based on 40CFR, Part 136, Appendix B. *MDLs are listed on the report only if the data has been evaluated below the MRL. Results between the MDL and MRL are reported as Estimated Results.
- Dil - Dilutions are calculated based on deviations from the standard dilution performed for an analysis, and may not represent the dilution found on the analytical raw data.
- Reporting Limits - Reporting limits (MDLs and MRLs) are adjusted based on variations in sample preparation amounts, analytical dilutions and percent solids, where applicable.
- Electronic Signature - Electronic Signature added in accordance with TestAmerica's *Electronic Reporting and Electronic Signatures Policy*. Application of electronic signature indicates that the report has been reviewed and approved for release by the laboratory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

TestAmerica - Seattle, WA



Blake T. Meinert, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report shall not be reproduced except in full, without the written approval of the laboratory.



TestAmerica

ANALYTICAL TESTING CORPORATION

11720 North Creek Pkwy N Suite 400, Bothell, WA 98011-8244
 425-420-9200 FAX 420-9210
 11922 E. First Ave, Spokane, WA 99206-5302
 509-924-9200 FAX 924-9290
 9405 SW Numbus Ave, Beaverton, OR 97008-7145
 503-906-9200 FAX 906-9210
 2000 W International Airport Rd Ste A10, Anchorage, AK 99502-1119
 907-563-9200 FAX 563-9210

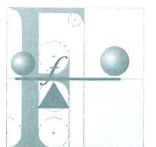
CHAIN OF CUSTODY REPORT

Work Order #: **DXE 0032**

CLIENT: Fulcrum Environmental REPORT TO: Peggy Williamson ADDRESS: 202 W. Second Street, Suite A Yakima, WA 98942 PHONE: 509 574-0839 FAX: 509 575-8453 PROJECT NAME: VBC - Hilltop PROJECT NUMBER: 06-111		INVOICE TO: Fulcrum Environmental 222 N. Second St, Suite A Yakima, WA 98942 P.O. NUMBER: 06111		TURNAROUND REQUEST in Business Days * Organic & Inorganic Analyses <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 Petroleum Hydrocarbon Analyses <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1 STD.	
SAMPLED BY: RKM		PRESERVATIVE: 06111		OTHER: Specify:	
CLIENT SAMPLE IDENTIFICATION		REQUESTED ANALYSES		*Turnaround Request less than standard may incur Rush Charges.	
1	8562 4/18/07 1700			S	2 SW
2					East Canyon E-8' Retaining wall
3					NW
4					NC
5					8' Bldg 1045
6					8' SW Bldg 105
7					8' NW Bldg 105
8					SE Bldg 307
9					E Bldg 408
10					Blown 445
RELEASED BY: Peggy Williamson PRINT NAME: Peggy Williamson RELEASED BY:		DATE: 4/05/07 TIME: 2:35pm DATE:		RECEIVED BY: Colette Weaver PRINT NAME: Colette Weaver RECEIVED BY:	
FIRM: Fulcrum		FIRM: Fulcrum		FIRM: TA-Seattle DATE: 05-01-07 TIME: 0925	
ADDITIONAL REMARKS:		FIRM:		FIRM:	

APPENDIX D

Hilltop Apartments Agricultural Soil Operations and Maintenance Plan



**HILLTOP APARTMENTS SITE
LEAD AND ARSENIC SOIL INSTITUTIONAL CONTROLS
OPERATIONS AND MAINTENANCE PLAN**

**1509 South Mission Street
Wenatchee, Washington**

Project Number 06-111

September 17, 2007

Prepared For: Vaughn Bay Construction, Inc.
1911 65th Avenue West
Tacoma, Washington 98466
(253) 460-3000

Prepared By: Fulcrum Environmental Consulting, Inc.
222 North Second Street, Suite A
Yakima, Washington 98901
(509) 574-0839

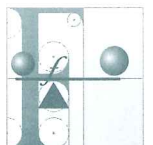
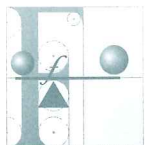


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1.0 INTRODUCTION

The purpose of this Lead and Arsenic Soil Institutional Control Operations and Maintenance Plan (O&M Plan) is to establish long-term on-site management of protective barriers overlaying impacted soils in excess of selected remedial threshold concentrations (threshold concentrations). The agricultural chemicals identified at the Hilltop Apartments site located at 1509 South Mission Avenue in Wenatchee, Washington, are lead and arsenic. The threshold concentrations selected for these agricultural chemicals are 250 parts per million (ppm) for lead and 20 ppm for arsenic. Site soils containing these agricultural chemicals in excess of threshold concentrations have been spread on the site, graded, and covered with at least 6-inches of clean topsoil and then overlain with sod, or hydro-seeded. Alternately select areas of topsoil were overlain with fabric and either rock or bark as a portion of landscaping.

1.1 Policy Statement

It is the policy of Vaughn Bay Construction (VBC) and the Hilltop Apartments, to provide a safe and healthful work environment for all employees, tenants, and site contractors. A portion of the Safety and Health Program for the Hilltop Apartments includes the safe management of impacted soil located beneath protective barriers. Additionally, it is the intention of VBC to comply with all federal, state, and local regulations pertaining to occupational safety and health, and environmental protection.

1.2 Objective

The objective of this O&M Plan is to reduce the risk of exposure to onsite workers and migration beyond property boundaries of impacted soil. This O&M Plan describes the procedure for notifying tenants, maintenance workers, and repair contractors of residual agricultural chemical presence. In addition, the O&M Plan outlines what controls are in place to prevent exposure or offsite migration, how site workers can protect themselves from exposure, and what to do in the event that soils need to be excavated or protective barriers breached.

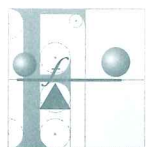
2.0 NOTIFICATION PROCEDURES

Notifying personnel who may potentially disturb site soils is the best prevention of inadvertent worker exposure, offsite migration of impacted soils, or destruction of protective barriers.

2.1 Maintenance and Landscape Workers

It is unlikely that during routine maintenance and landscape tasks that workers will encounter impacted site soils in excess of threshold concentrations. However, during non-routine tasks, such as replacement of large shrubs/trees or sprinkler line repair, maintenance and landscape workers may encounter agricultural chemical impacted soils.

As part of a Hazard Communication program, facility management will notify their employees who may be expected to encounter impacted soils of the presence, location, and expected concentrations of agricultural chemicals. Employees will also be notified of how to protect themselves should they encounter impacted soils in excess of threshold concentrations and how to replace materials so that the integrity of the site barriers remains sound.



2.2 Occasional Site Workers or Contractors

Occasional site workers or contractors are those individuals or companies under contract, who are brought on-site to complete a specific task. Many tasks, such as painting or mowing, will not require that impacted soil be contacted. However some tasks, such as main water line replacement, will require careful excavation and replacement of materials so that agricultural chemical impacted soils do not end up near the surface or become washed or transported off-site.

As part of a Hazard Communication program, facility management will notify occasional site workers/contractors who may be expected to encounter impacted soils of the presence, location, and expected concentrations of residual agricultural chemicals. Occasional site workers or contractors will also be notified of how their employees should protect themselves when they come in contact with impacted soils in excess of threshold concentrations and how to replace materials so that the integrity of the site barriers remains sound.

2.3 Washington State Department of Ecology

Prior written approval from the Washington State Department of Ecology (Ecology) is required before commencement of any activity that will alter, modify, or remove existing structures; or will result in the release or exposure to the environment of soil containing agricultural chemicals that are contained as part of the Remedial Action; or will create a new exposure pathway. Following is some examples of activities that may require written approval from Ecology: drilling, excavation, bulldozing, building demolition, retaining wall replacement or repair, and waterline replacement.

Hilltop Apartments management will also notify Ecology of proposed property use changes to the extent that the protective barriers will no longer be maintained. Ecology may approve inconsistent use after public notice and comment is received.

2.4 Property Transfer

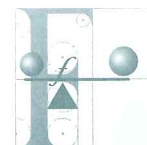
A written notice stating Hilltop Apartments' intent to convey interest in the Hilltop Apartments property will be submitted to Ecology a minimum of 30 days in advance of the event. Interest in the Hilltop Apartments property (title, easement, lease, etc.) will include provisions for continued operations and maintenance of the Remedial Action.

3.0 SITE CONTROLS

As part of construction design, the Hilltop Apartments site has incorporated specific elements to control impacted soils in excess of threshold concentrations. Following is a summary of the specific elements incorporated into the Hilltop Apartments design.

3.1 Impermeable Surfaces

The impermeable surfaces at the Hilltop Apartments consist of tenant apartment buildings, paved parking and drive areas, sidewalks, and retaining wall systems. These impermeable materials cover approximately 80 percent of the total site surface of Lot 1.



These impermeable materials are to be maintained in good condition for the life of the buildings. Should replacement of any of these materials or structures be required, contact an environmental and health professional to assess and develop the appropriate procedures to be followed.

3.2 Permeable Surfaces

The permeable surfaces at the Hilltop Apartments consist of small areas of landscaping at Lot 1 and nearly all of Lots 2 and 4. Landscaped areas at Lot 1 that contain impacted soils in excess of threshold concentrations in these areas have been overlain with 6-inches of clean topsoil and approximately 2 to 3-inches of sod or alternately overlain with fabric and either rock or bark. Landscaping at Lots 2 and 4 consists of grading, covering with clean fill and stabilization with hydro-seeding pending future site development. Whenever feasible, low water and fertilizing requiring plants were selected for site plantings. Irrigation in these areas was designed for the least water penetration necessary to sustain landscaping plants.

Near surface (less than 6-inches deep) plantings can be replaced as desired. Plantings at depths greater than 6-inches should be maintained as originally planted. Should replacement of deeper plantings be required, the work procedures outlined in Section 4.0 should be followed. If required, landscape areas should be hand cultivated. Rototilling or other soil relocation activities that disturb materials at depths greater than 6-inches are prohibited.

3.3 Installation of Water Conveying Systems

Water conveying systems at the Hilltop Apartments include the stormwater system and the main water line. The stormwater system was installed at an elevation below impacted soils. Water collected in the stormwater system will not percolate through soils impacted in excess of threshold concentrations. The stormwater system should be maintained as installed. Minor repair or cleanout of the system can be accomplished by following the procedures outlined in Section 4.0. An environmental and health consultant should be contacted to assess and develop a work plan for major repairs or replacement of the stormwater system.

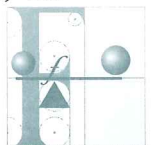
Whenever feasible, the main water line was installed at elevations below impacted soils. However, connections with building systems required that portions of the main water line be installed within elevations containing impacted soils in excess of threshold concentrations. Minor repairs to the main water line can be accomplished by following the procedures outlined in Section 4.0. An environmental and health consultant should be contacted to assess and develop a work plan for major repairs or replacement of the main water line.

4.0 WORKER PROTECTION

Several controls and work practices used singly or in combination, can be employed to reduce potential exposure to impacted soils. Following is a summary of control measures and work practices.

4.1 Dust Suppression

By keeping impacted soils moist during a work activity, dust is less likely to become suspended in the air causing worker exposures or offsite migration. Whenever feasible, the work area should be pre-moistened prior to soil impacting activities. Periodically during soil impacting activities, the



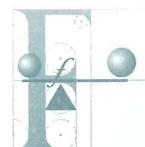
stockpiled soil and the excavation area should be rewetted to enhance dust suppression. A surfactant can be added to dust suppression water to increase the water's effectiveness; however, any additives should be selected with consideration for potential environmental and worker impact.

Other factors that will aid dust suppression are weather conditions and work practices. Impacting materials on low wind days (generally less than 10-miles per hour) will decrease the likelihood of site soils becoming airborne and migrating offsite or resulting in employee exposure. In addition to adequate wetting of site soils (discussed above), work area containment and decontamination (discussed below) are additional work practices that will aid dust suppression.

4.2 Work Area Containment

The goal of work practice implementation is to keep all impacted soils in excess of threshold concentrations within their containment area. Most maintenance and landscaping activities will not impact the in-place protective barriers. However, if maintenance or landscaping activities require excavation greater than 6-inches deep but less than 100-square feet in surface area, the following work practices should be implemented:

1. Lay plastic sheeting on all sides of the proposed excavation ground surface. Sheeting should extend approximately 4- to 10-feet from edge of proposed excavation, depending on estimated amount of material removed. Lap plastic sheeting seams so that dust and soil cannot become lodged or migrate underneath the plastic.
2. Place traffic barriers or other identification around the perimeter of the work area to prevent inadvertent access to the area during excavation.
3. Place the sod and the top approximate 6-inches of soil on one side of the excavation. This is the clean capping material.
4. Place the remaining subgrade soil excavated to facilitate the maintenance or landscaping activity on the side of the excavation opposite of the sod. This is the soil potentially impacted with agricultural chemicals.
5. Conduct the maintenance or landscaping activity.
6. Replace soil potentially impacted with agricultural chemicals in the excavation.
7. Offsite disposal of excavated material is prohibited. Contact an environmental and health profession to determine disposal requirements if excess excavated materials requires transportation offsite.
8. Clean tools, equipment, and protective clothing of remaining soils by dry brushing damp soil followed by wet cleaning. Place the accumulated soil in the excavation.
9. Replace the clean capping soil, compacting as necessary.



10. If the distance from the replaced soil surface to the ground surface exceeds the thickness of the sod then place additional clean soil imported from offsite sources into the excavation until the depth discrepancy matches the sod thickness.
11. Replace the sod.
12. Remove the plastic sheeting.
13. Thoroughly wash hands and face to remove any remaining soil.

4.3 Decontamination

Wet cleaning of tools, equipment, and workers will also reduce potential exposure and offsite migration. After completing the work task and replacing the impacted soil (soil excavated below 6-inches), clean tools and equipment used during the project. Moist soil can be dry brushed from tools, equipment, personnel clothing and from the plastic sheeting where the impacted soil was staged. Following dry brushing, complete the cleaning process by wet wiping or washing these items.

After replacement of the clean topsoil and sod, site workers should proceed to a wash station/facility and thoroughly wash their hands and face to remove any potentially remaining particles of impacted soil in excess of threshold concentrations.

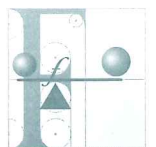
5.0 PROCEDURES FOR BREACHING PROTECTIVE BARRIERS

Planned and unplanned protective barrier breaches may occur at the Hilltop Apartments as part of operations consistent with developed site use. A planned protective barrier breach is the result of a scheduled maintenance or construction activity. For example, installation of a new retaining wall is a planned event that may breach the protective barrier. An unplanned protective barrier breach is the result of an accident or emergency repair activity. For example, the rapid repair of a broken main water line is an unplanned event that could result in a protective barrier breach. Following is a procedure summary for each type of protective barrier breach.

5.1 Planned Protective Barrier Breach

During the planning phase, evaluate the potential for the additional site development or maintenance activity to impact the protective barrier. For small projects (less than 100-square feet of protective barrier) where in-house employees will conduct the work preformed, evaluate the feasibility of implementing the procedures outlined in section 4.0. If the procedures outlined in Section 4.0 can be feasibly implemented, then work can proceed as planned. If Section 4.0 work procedures cannot be feasibly implemented, than work should be put on hold until an environmental and health professional can assess the planned work and recommend alternative work procedures.

For large projects (greater than 100-square feet of protective barrier), an environmental professional should assess and develop work procedures during the project-planning phase. Large projects may also require Ecology notification as summarized in Section 2.0.



5.2 Unplanned Protective Barrier Breach

The first step when an unplanned protective barrier breach occurs is to control the event that caused the breach, then contain any offsite soil migration. Once the site is temporarily stabilized, notify Ecology of the unplanned protective barrier breach and contact an environmental and health professional to assess the extent of protective barrier impact and develop a work plan for repairing or replacing the protective barrier.

6.0 CONCLUSION

Initial soil sampling investigations conducted concurrent with construction, identified lead and arsenic present in site soils above threshold concentrations to an approximate depth of 2-feet below ground surface across the site. During construction, site soils were relocated from the higher elevation western portion of the site to the lower elevation eastern portion of the site. Following construction of the Hilltop Apartments buildings and associated paved areas, the remaining landscape areas were capped with clean topsoil, and sod or hydro-seed; or fabric and rock or bark. Residual concentrations of agricultural chemical historically present onsite have been contained beneath protective barriers rendering future ecological and agricultural exposure to residual chemicals unlikely.

A restrictive deed covenant has been filed to notify future site owners of material presence. A O&M Plan is in place that outlines measures necessary to maintain protective barriers and summarizes measures necessary in the event that barriers are breached. Following is a summary of additional information sources regarding the Hilltop Apartments Voluntary Remedial Action.

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Tacoma, Washington 98466
(253) 460-3000

Fulcrum Environmental Consulting, Inc.
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Central Regional Office
15 West Yakima Avenue, Suite 200
Yakima, Washington 98902
(509) 575-2490

