



Periodic Review

Harvest Orchard Park Retirement Community
620 North 34th Avenue
Yakima, Washington 98902

Facility Site ID #: 1431907
Cleanup Site ID #: 3933

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1.0 Introduction

This document is the Department of Ecology's review of post-cleanup site conditions and monitoring data to assure that human health and the environment are being protected at the Harvest Orchard Park Retirement Community property (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA), Chapter 173-340 of the Washington Administrative Code (WAC).

Cleanup activities at this Site were completed through the Voluntary Cleanup Program (VCP) under VCP Project No. CE0287. The cleanup actions resulted in residual concentrations of lead and arsenic that exceed MTCA Method A cleanup levels for soil established under WAC 173-340-740(2). The MTCA Method A cleanup levels for soil are established under WAC 173-340-740(2). It was determined that institutional controls in the form of a restrictive covenant were required for the Site to be eligible for a no further action (NFA) determination. WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

- (a) Whenever the department conducts a cleanup action
- (b) Whenever the department approves a cleanup action under an order, agreed order or consent decree
- (c) Or, as resources permit, whenever the department issues a no further action opinion
- (d) And one of the following conditions exists:
 - 1. Institutional controls or financial assurance are required as part of the cleanup
 - 2. Where the cleanup level is based on a practical quantitation limit
 - 3. Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

- (a) The effectiveness of ongoing or completed cleanup actions;
- (b) New scientific information for individual hazardous substances or mixtures present at the Site;
- (c) New applicable state and federal laws for hazardous substances present at the Site;
- (d) Current and projected Site use;
- (e) Availability and practicability of higher preference technologies; and
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

2.0 Summary of Site Conditions

2.1 Site History

The Site, the Orchard Park Independent Retirement Living community, is located on the northwest corner of the intersection of North 34th Avenue and Fairbanks Avenue in Yakima, Washington. The Site, approximately 4.19-acres in size, is operated as an independent living complex which was constructed in 1988. Prior to construction of the retirement center, the property was part of a larger fruit orchard. Historically, the Yakima Valley region has been used for agricultural purposes and as a result pesticides including 4,4 dichlorodiphenyltrichloroethane (DDT) and arsenic-containing compounds were used beginning in the 1940s. The Site is currently owned by Harvest Orchard Park Retirement Residences and corresponds with Yakima County Assessor parcel number 181315-44419.

A vicinity map is available as Appendix 6.1 and a Site plan is available as Appendix 6.2.

2.2 Site Investigations

According to historical references, the Site had been utilized as a fruit orchard since at least the 1920s. A subsurface investigation completed at the Site by PLSA Engineering (PLSA) in 1990 reported the presence of arsenic and lead in the soil, possibly introduced from the previous pesticide applications, at concentrations greater than the Ecology MTCA soil cleanup level for total arsenic and lead.

2.2.1 AEG Investigations

AEG conducted a *Limited Site Characterization* in April 2007 to determine the presence and concentration of arsenic contamination in the soil, at selected areas at the Site, as a result of historical usage of pesticides at the property. Ten test pits were advanced at the Site using a hand shovel, to a maximum depth of 13 inches below ground surface (bgs). Eight of the ten samples contained elevated concentrations of arsenic, ranging from 25 milligrams per kilogram (mg/Kg) to 92 mg/Kg. These concentrations were above the Ecology MTCA Method A soil cleanup level for arsenic of 20 mg/Kg.

AEG performed a *Supplemental Site Characterization* in November 2008 to further determine the presence and location of arsenic in the soil, building upon the previous 2007 *Limited Site Characterization*. During this event, 20 samples were collected and submitted for laboratory analysis. Four of the 20 soil samples submitted for laboratory analysis contained elevated concentrations above the Ecology MTCA Method A cleanup level of arsenic, ranging from 24.5 mg/Kg to 33.4 mg/Kg. These samples were collected in the landscaped area located generally on the western half of the Site.

AEG conducted a *Soil Sampling-Baseline & Characterization* in January 2010. The objective of the soil sampling was to establish a baseline data on potential constituents of concern and characterize the soil for the remedial action. During this event, soil samples were collected at selected locations at the Site. The collected samples were submitted for laboratory analysis and

were specifically analyzed for: MTCA 5 Metals (total lead, arsenic, cadmium and chromium via EPA Method 7000 series), total mercury, TCLP, and organochlorine pesticides.

Analytical results of this sampling indicated elevated concentrations of arsenic, ranging from 20 mg/Kg to 31 mg/Kg, and lead, ranging from 319 mg/Kg to 338 mg/Kg. These concentrations exceed the Ecology MTCA Method A soil cleanup levels for arsenic and lead, respectively.

In February 2010, all involved parties, including AEG, EMG, the Site's former owner, the Site's current owner, and Ecology agreed on a course of independent Remedial Action at the Site consisting of excavating the metal contaminated soil (MCS) and replacing it with clean imported topsoil to create a natural barrier to human contact with the contaminants of concern.

2.3 Remedial Actions

AEG performed a final Remedial Action at the Site which involved the removal of approximately six inches of heavy metals (arsenic and lead) contaminated soil (MCS) from the Site, and imported clean fill soil and sod to create a natural cap at the Site. The excavation and backfill activities occurred from March 16 through April 9, 2010. AEG provided daily oversight during the excavation, removal, and disposal of a total of 906 tons of MCS, which was disposed offsite at a regulated landfill, Wasco County Landfill in The Dalles, Oregon.

Analytical results of final excavation documentation soil samples, collected from approximately four to six inches bgs, indicate presence of elevated concentrations of arsenic throughout the Site. Soil laboratory analytical results for final documentation soil samples did not indicate elevated concentrations of lead.

Laboratory analyses of the backfill material indicate either no detectable concentration or a detection of arsenic at level below Ecology MTCA Method A cleanup level for arsenic.

2.4 Institutional Controls

Due to the presence of residual contaminated soil, institutional controls were required for the Site to be eligible for a NFA determination. Institutional controls were not implemented at the Site.

3.0 Periodic Review

3.1 Effectiveness of completed cleanup actions

3.1.1 Direct Contact

The Site continues to be occupied by a residential care facility. Soils with arsenic and lead concentrations higher than MTCA Method A cleanup levels are still present at the Site. Asphalt, building structures and a clean soil cover serve to reduce potential exposure by direct contact. Based upon the Site visit conducted on June 7, 2016, no repair, maintenance or contingency actions have been required. A photo log is available as Appendix 6.4.

3.1.2 Institutional Controls

Institutional controls in the form of an environmental covenant were required for the Site to be eligible for an NFA. A covenant is necessary prohibit activities that will result in the release of contaminants contained as part of the cleanup, prohibit any use of the property that would threaten the integrity of the cleanup, and notify future property owners of contamination at the Site. Without an environmental covenant, the remedy for the Site fails to be protective of human health and the environment.

3.2 New scientific information for individual hazardous substances for mixtures present at the Site

There is no new pertinent scientific information for the contaminants related to the Site.

3.3 New applicable state and federal laws for hazardous substances present at the Site

Cleanup levels for lead and arsenic have not changed since remedial actions were conducted at the Site. Contamination remains at the Site above MTCA Method A cleanup levels and the cleanup action is still protective of human health and the environment.

3.4 Current and projected Site use

The Site is currently used for residential purposes. There have been no changes in current or projected future Site or resource uses.

3.5 Availability and practicability of higher preference technologies

The remedy implemented included containment of hazardous materials, and it continues to be an appropriate remedy for the Site with the implementation of institutional controls. While higher preference cleanup technologies may be available, they are still not practicable at this Site.

3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels

The analytical methods used at the time of the remedial action were capable of detection well below MTCA Method A cleanup levels. The presence of improved analytical techniques would not effect decisions or recommendations made for the Site.

4.0 Conclusions

- The cleanup actions completed at the Site fail to be protective of human health and the environment.
- Soil cleanup levels have not been met at the Site and the cleanup actions do not comply with cleanup standards under WAC 173-340-740(6)(f), since the long-term integrity of the containment systems is not ensured and the requirements for containment technologies have not been met.
- An environmental covenant must be recorded for the Site to be eligible for a NFA determination.

Based on this periodic review, additional actions are required by the property owner. It is the property owner's responsibility to continue to inspect the Site to assure that the integrity of the surface cover is maintained.

4.1 Next Review

The next review for the Site will be scheduled five years from the date of this periodic review. In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

5.0 References

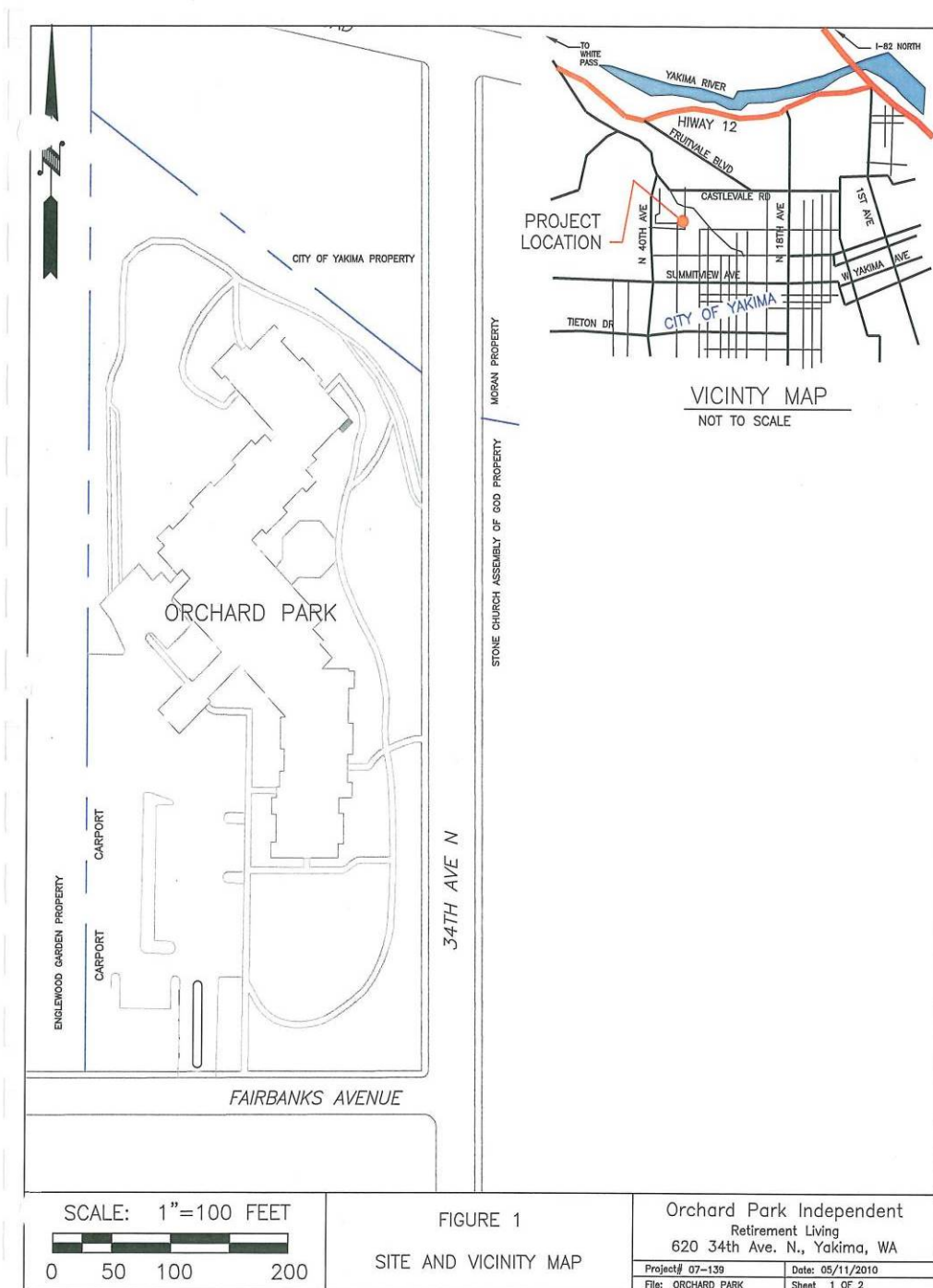
Associated Environmental Group, LLC. *Final Remedial Action*. June 3, 2010.

Ecology. *Further Action Determination Letter*. June 30, 2010.

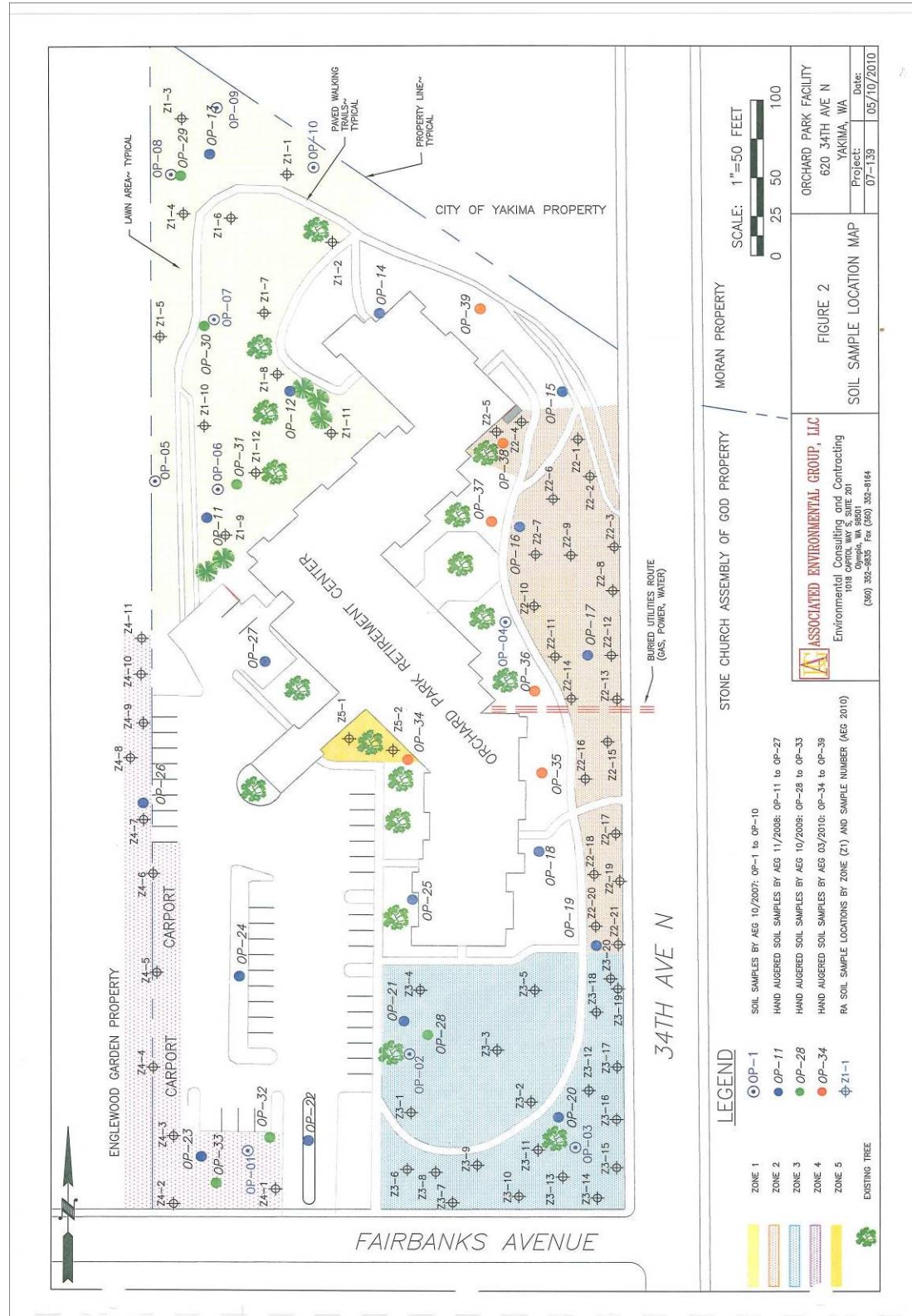
Ecology. *Site Visit*. November 27, 2017.

6.0 Appendices

6.1 Vicinity Map



6.2 Site Plan



6.3 Photo log

Photo 1: Property Entrance - from the southeast



Photo 2: Site Landscaping - from the southeast



Photo 3: Paved Parking Area - from the southeast



Photo 4: Building Border and Landscaped Area - from south

