

June 11, 2010

Jeanne Webb
Director of Development & Planning
Town of East Hartford
740 Main Street
East Hartford, CT 06108

Dear Ms. Webb,

This Letter Health Consultation (LHC) has been completed for the Former Kilty Farms site between 107-109 Ellington Rd and 132 Goodwin Street in the town of East Hartford, Connecticut. Information for this LHC has been obtained from the Phase II Environmental Site Assessment (Fuss and O'Neil, 2009), an Executive Summary for a Limited Phase III Environmental Site Assessment (Fuss and O'Neil, March 2010), and from discussions with the Director of Development and Planning for East Hartford.

Statement of Issues

This LHC has been prepared in response to a request by the Town of East Hartford. The town of East Hartford plans to acquire this property for use as open space. The town requested that the Connecticut Department of Public Health (CT DPH) evaluate soil sampling data and a remedial plan for the site to determine whether the site will be safe for use as open space after remedial activities have been completed. Evaluating past/current exposures was not part of the scope of the town's request.

Site Background

The former Kilty Farms property is a 9.62-acre undeveloped agricultural parcel of land between Ellington Road and Goodwin Street in East Hartford, Hartford County, Connecticut. A Phase II Environmental Site Assessment (ESA) prepared in June 2009, indicated the existence of three Recognized Environmental Conditions (areas) (RECs) associated with the site. REC refers to an area on the property that needs to be further investigated because contamination is present. The objective of the Phase II investigation, completed in June 2009 was to determine if a release of potentially hazardous substances has occurred at the RECs. The objective of the Limited Phase III ESA, prepared (March 2010) was to further characterize the site to determine the degree and extent of the identified releases on the property and perform limited onsite groundwater sampling.

The three RECs that were investigated include:

REC-01: An area of historical agricultural use which had known pesticide use.
REC-02: Debris piles located in the eastern portion of the property that may have impacted surrounding soil on the property.

REC-03: Used for automobile storage, repair and maintenance. Auto fuel may have been released to the shallow soil beneath the storage area. This area once had a garage, which is no longer present.

A Limited Phase III ESA was performed to obtain data to further characterize and delineate the extent of releases identified during the previous Phase II ESA. The results indicated that releases of petroleum products and pesticides have occurred at the 3 RECs as discussed in the previous paragraph.

Environmental Sampling

A preliminary round of sampling as part of the Phase II ESA was performed in May 2009. As part of a Limited Phase III ESA, additional soil sampling was taken in December 2009. A summary of the type of contaminants that were analyzed in soil in each area of concern is located in Table 1. The results of the first set of samples are summarized in Table 2. The actual limited Phase III ESA was not available, so CT DPH relied on a summary of the results provided by the town of East Hartford.

REC-01

As part of the Phase II ESA, ten soil samples were taken in REC-01 at less than 1 foot (ft) below ground surface (bgs) and tested for lead, arsenic, and the pesticides dichlorodiphenyltrichloroethane (DDT), and dichlorodiphenyldichloroethylene (DDE). Although, DDT, DDE, arsenic, and lead were detected in the soil at this depth, they do not exceed the Connecticut Remediation Standard Regulations Direct Exposure Criteria (CT RSRs). The CT RSRs are extremely protective and were developed to protect children and adults who have contact with soils on daily basis for many years (30 years).

In addition, sixteen subsurface soil samples at 8 locations were taken as part of the Limited Phase III ESA at depths of 0.5 to 1 ft bgs and 1-1.5 ft bgs and analyzed for the same pesticides. The results of this round of sampling indicate that the pesticides DDE and DDT were detected in this area but do not exceed the CT RSRs.

As part of the Limited Phase III ESA, there was some limited groundwater sampling performed in this area of the site. It was noted that pesticides were not present in the groundwater; however, the depth of the wells or the number of wells are unknown. It is also unknown whether the wells were tested for any other contaminants besides pesticides.

REC-02

Three soil samples were taken at less than 1ft bgs for this area of the site. The samples were analyzed for lead, arsenic, chromium, mercury, cadmium, total petroleum hydrocarbons (TPHs), and polycyclic aromatic hydrocarbons (PAHs). Lead and several PAHs are the only contaminants that were detected in these soil samples above the CT RSRs.

Twelve additional soil samples were taken as part of the Limited Phase III ESA at depths of 0-2 ft bgs and 2-4 ft bgs in 6 additional sample locations in this area of the site. It was observed that the contamination (lead and PAHs) is limited in size and is located at a depth of less than 1ft bgs.

REC-03

Three soil samples were collected at less than 1ft bgs throughout this area of the site in June 2009 as part of the Phase II ESA. The samples were analyzed for arsenic, barium, cadmium, chromium, mercury, lead, volatile organic compounds (VOCs), PAHs, and TPHs. Only TPHs and lead were detected in the soil samples above the CT RSRs around the former garage and driveway.

To further characterize REC-03, eight additional soil samples were collected as part of the Limited Phase III ESA at 2 depth intervals of 0-2 and 2-4 ft bgs from 4 additional sampling locations. The results from both rounds of sampling indicate that the release area likely extends from the around the former garage to the driveway area. Perchloroethylene (PCE) was detected but its concentration was well below the CT RSRs in the driveway area. In addition, TPHs were detected in one soil sample above the CT RSRs in the driveway area.

In and around the former garage area, soils at 0-4 ft bgs are impacted by TPHs, lead, and PAHs at levels below the CT RSRs. Deep soils (6 ft bgs) beneath the former garage are impacted by PAHs at levels above the CT RSRs and TPHs.

Table 1. Contaminant Categories Analyzed for at Each Area of Concern at the Former Kilty Farms Site, June and December 2009.

Contaminant category	Site		
	REC-01	REC-02	REC-03
Metals	+	+	+
Pesticides	+	n/a	n/a
VOCs	n/a	n/a	+
PAHs	n/a	+	n/a
TPH	n/a	+	n/a

+ indicates this contaminant category was analyzed

n/a indicates that this contaminant category was not analyzed

Table 2. Summary of Results* From Samples Taken From the Former Kilty Farms Site at less than 1 Foot bgs, June 2009.

Area of Concern	Contaminant	Number of Samples Exceeding CT RSR/Total number of Samples	Concentration Range (ppm#)	Comparison Value [^]
REC-02	Lead	1/3	35.6-902	400
	Benzo(a)anthracene	1/3	<390-2200	1000
	Benzo(a)pyrene	1/3	<39-1900	1000
	Benzo(b)fluoranthene	1/3	<390-3700	1000
	Indeno(1,2,3-cd)pyrene	1/3	<390-1500	1000
REC-03	Lead	2/3	155-3610	400
	TPH	1/3	440-4,700	500

* Only contaminants found to exceed CT RSRs are included in this Table.

Parts per million

[^]Source of the Comparison Values is the Connecticut Remediation Standard Regulations Direct Exposure Criteria (CT RSRs). CT RSRs are soil standards that were developed to be protective of children and adults who have contact with soils on a daily basis for many years (30 years) in a residential setting (CT DEP 1996).

< = Less than

Proposed Cleanup Plan

The town has proposed excavating soil within the three RECs where contaminant levels exceed the CT RSRs. In areas where lead is the only contaminant present in the soil above state cleanup standards, the town is proposing excavating up to two feet of soil and replacing it with clean soil. In all other areas where lead and other contaminant levels in soil exceed the CT RSRs at depths of 4 ft bgs or less, the town is proposing to excavate up to 4 feet of contaminated soil and backfilling it with clean soil.

To summarize the town's cleanup plan:

REC-01

1. Since the soil does not exceed the state cleanup standards, no remedial plans are proposed in this area.

REC-02

1. Remove debris piles in this area.
2. Remove up to 4 ft of soil in areas around debris piles where PAH and lead concentrations exceed the CT RSRs.
3. Remove up to 2 ft of soil in areas around debris piles where lead is the only contaminant exceeding CT RSRs.
4. Backfill the excavated areas with 2 to 4 feet of clean material.

REC-03

1. Remove up to 2 ft of soil in areas around the garage where lead is the only contaminant that exceeds the CT RSRs and is possibly due to lead based paint flaking from the garage (although the paint has not been tested to confirm this). Backfill the excavated area with clean soil.
2. Remove up to 4 ft of soil in areas around the former garage and driveway where both TPH and lead concentrations exceed the CT RSRs and backfill it with clean soil.
3. Backfill 4 feet of clean soil in the excavated area that was once the former garage to create a physical barrier to prevent human contact from the contaminated soil.

Evaluation of Proposed Cleanup Plan

As requested, CT DPH has evaluated the public health protectiveness of the town's proposed cleanup plan given the plan to use the property as open space.

Exposure Pathways

Since the town is planning on excavating all areas (up to 2 or 4 ft bgs) where contaminant levels in soil exceed the CT RSRs, surface soil exposure is not a complete pathway for this site. In addition, since the area is to be used as open space, there are no plans to drill drinking water wells, and therefore, exposure to groundwater is not a complete pathway. Therefore, there are no known completed pathways of exposure for the site after the remedial activities have taken place.

However, it is important to note that there is known soil contamination at 6 ft bgs under the garage area as noted above. As long as there is no direct contact with this area, this exposure pathway is not complete.

Conclusions

As requested by the town of East Hartford, CT DPH focused on evaluating the health protectiveness of the town's cleanup proposal for contaminated soil at the Former Kilty Farms site. Lead, PAHs, and TPHs levels in subsurface and surface soil in the Former Kilty Farms site are present in levels that exceed the CT RSRs. The town's proposal of removing contaminated soil and replacing it with up to 4 ft of clean soil in areas with multiple contaminants and 2 feet for areas with only lead contamination is an appropriate cleanup method given that the town has designated this site as open space. In conclusion, using this site as open space after it is remediated is not expected to harm people's health.

Recommendations

1. CT DPH recommends that an environmental land use restriction be placed on the property for soil in areas where contamination remains at concentrations exceeding the CT RSRs.
2. CT DPH recommends that additional groundwater testing be performed if any drinking water wells are planned for the site.
3. CT DPH recommends that the town of East Hartford consult with CT DPH if any changes to the current cleanup plan are made or if there are changes with the future use of the site.

Please contact me at (860) 509-7583 if you have questions or need further information.

Sincerely,

Sharee M. Rusnak, MSPH, ScD
Epidemiologist
Site Assessment and Chemical Risk Unit
Environmental and Occupational Health Assessment Program.

References:

Fuss & O'Neill 2009. Phase II Environmental Site Assessment. Vacant Lot-Former Kilty Farms. Fuss and O'Neil. June 2009

Fuss and O'Neil, March 2010, Limited Phase III Environmental Site Assessment. Executive Summary. Fuss and O'Neil March 2010.