U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Medford Housing Authority - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region I

Subject: **POLREP #1**
Initial
Medford Housing Authority
01LU
Medford, MA
Latitude: 42.4036000 Longitude: -71.1033000

To:
From: Gary Lipson, On-Scene Coordinator
Date: 10/13/2015
Reporting Period: 2013 - October 13, 2015

1. Introduction

1.1 Background

Site Number:	01LU	**Contract Number:**	
D.O. Number:		**Action Memo Date:**	8/5/2015
Response Authority:	CERCLA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	10/1/2015	**Start Date:**	10/1/2015
Demob Date:		**Completion Date:**	
CERCLIS ID:	MAN000100745	**RCRIS ID:**	
ERNS No.:		**State Notification:**	Yes
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category

Time Critical Removal Action

1.1.2 Site Description

The Site consists of a 10.36 acre parcel containing 30 buildings, 28 of which are multi-apartment unit dwellings, a maintenance building, and a community center. The property includes a ballfield, several play areas containing swing sets, slides, etc., and a small raised bed community gardening area. All of the utilities associated with the MHA (water, sewer, electric, cable, etc.) are below ground.

The Willis Avenue Apartment complex is currently owned and operated by the MHA. The complex's operation and maintenance is funded by income generated from its rent controlled (income dependent) apartments and by annual funding provided by the U.S. Housing and Urban Development Agency (HUD). It is home to approximately 470 individuals, the majority being of Haitian-Creole descent. About 79.4 percent of the population, or 371 residents, is classified as minority (Black, Asian, or American Indian). There are roughly 69 children living there between the ages of 0-6 and 75 children between the ages of 7-12.

According to the EPA flex viewer software program, there are 1,400 and 4,861 people living (nighttime population) within ¼ mile and ½ mile respectively of the center of the Site. There are also 2 public schools and 3 tier 2 facilities within ½ mile.

1.1.2.1 Location

The property that comprises the Site is located on Bonner, Willis, Congress and Exchange Avenues in Medford, Middlesex County, Massachusetts. The geographic coordinates of the intersection of Congress and Exchange Avenues are 42°24'13.1" north and 71°6'11.8" west. The Site is bordered to the north by Bonner Avenue and residential properties, to the south by primarily commercial structures which run along Hicks Avenue, to the east by commercial properties and Mystic Avenue, and to the west by Willis Avenue and residential properties.

1.1.2.2 Description of Threat

Lead has been detected in surface soils at the MHA Willis Avenue Apartments. Although lead is a naturally occurring element and found in higher concentrations in urban settings due to anthropogenic sources, the concentrations detected in this neighborhood are close to, and in many cases exceed, typical urban background concentrations as well as EPA Regional Removal Management Levels (RMLs). These RMLs are

not meant to be action or cleanup levels but rather a starting point to determine if further action is warranted, should the numbers be met or exceeded. The RML for lead in a residential setting is 400 parts per million (ppm). As a screening technology was used to identify lead levels (X-Ray fluorescence) in the field, the OSC selected a concentration of 350 ppm in his analysis of site conditions. This concentration represents a site-specific action level that accounts for the uncertainty of the screening technology. A minimum of 10% of the samples analyzed by XRF were also sent to a laboratory for confirmatory analysis.

During the PA/SI, five of the seven playground locations exceeded the 350 ppm limit within the top foot of soil. In addition, soil within some of the community raised bed gardens and one private garden exceeded the concentration of concern. Lead in surface soil is the primary contaminant at this Site. Lead is a listed CERCLA hazardous substance in 40 CFR 302.4.

Lead in surface soils in the playgrounds and some of the gardens presents a potential health threat through direct exposure to local residents, including children.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

During the summer of 2014, EPA conducted a preliminary assessment / site investigation (PA/SI). Soil samples were collected throughout the approximately 10 acre development from 38 accessible, discrete grassy areas (grids) in between the multi-unit apartment buildings. One additional grid that had been previously sampled by a contractor for the MHA and was not resampled. These grids include 7 designated play areas containing playground equipment such as swing sets and sliding boards. In most instances, multiple samples were collected from each grid and composite samples from the 0 – 1', 1 – 2', and 2 – 3' below grade were collected and analyzed. Individual grab samples were also collected from the community raised bed garden location as well as from private gardens.

The following table indicates the number of **exceedances** of the site specific action level of 350 ppm for a particular grid and depth, as well as the ranges, averages, and/or concentrations of lead within the specific depths of soil.

		0 – 1' below grade	1 - 2' below grade	2 -3' below grade
Grids: 32	Exceed 350 ppm	12 grids	23 grids	25 grids
	Range	398-770 ppm	437-2874 ppm	437-2134 ppm
	Average	492 ppm	1088 ppm	1146 ppm
Play Areas: 7	Exceed 350 ppm	5 play areas	7 play areas	7 play areas
	Range	393-920 ppm	523-2074 ppm	437-1556 ppm
	Average	635 ppm	1075 ppm	963 ppm
Public Raised Bed Gardens: 5	Exceed 350 ppm	2 gardens	NA	NA
	Concentrations	435, 448 ppm		
Private Gardens: 5	Exceed 350 ppm	1 garden	NA	NA
	Concentrations	387 ppm		

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Surface soil (0-1' bg) contains lead above 350 ppm, the level of concern, in five of the seven designated playground areas within the housing complex, the public raised garden bed area, and one private garden. The average concentration of lead in the five play areas is 635 ppm. This concentration is slightly higher than the 600 ppm background level of lead in soil containing coal or wood ash associated with fill material as stated in a MassDEP guidance[1] document. In most cases, this removal action will be limited to removing the top foot of contaminated soil and replacing it with clean fill in the playgrounds as well as the identified gardens. In 2 of the playground grids, the play areas will be raised in a manner similar to the raised garden beds.

Twelve of the 32 non-play area grids are also above 350 ppm in surface soil. Although the average lead concentration in the top foot of soil in these locations is 492 ppm, these areas will not be subject to the removal action. Please refer to the Action Memorandum for the reasoning involved.

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[1] "Technical Update, Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil." This paper was an update in 1992 to section 2.3, Guidance for Disposal Site Risk Characterization – In Support of the Massachusetts Contingency Plan.

2.1.2 Response Actions to Date

On September 30, 2015, a community meeting was held at the MHA to inform residents of the impending removal action. To augment this meeting, a fact sheet in both English and Haitian was distributed to all of the apartments.

On October 1, 2015, EPA's cleanup contractor began mobilizing equipment to the site and site prep activities continued into the following week. Preparation activities included the removal of chain link fence, setting up the support and work zones, and working with a geophysical subcontractor to survey and document sub-surface

utilities.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The property is currently owned and operated by the MHA. Prior to the construction of the housing complex, the MHA took the property by eminent domain on December 18, 1951. EPA issued a Notice of Liability to the City of Medford in August 2015.

2.2 Planning Section

2.2.1 Anticipated Activities

The removal action is underway. Following site prep, a tree service has been contracted to remove a number of trees from within grids being excavated or brought up in grade. An independent arborist was subcontracted to provide input with regard to tree health and steps that need to be taken to protect the trees not being removed in the vicinity of the work zones. All tree removal activities have been coordinated with the directors of the MHA.

A company that will be supplying the fill material (sandy base soil and topsoil) has been subcontracted and samples will be collected prior to it being brought to the site to ensure its cleanliness.

Once the trees have been removed, excavation and/or fill operations will begin. The ground will be wetted prior to any intrusive activities, but air monitoring will be conducted to make sure that potentially contaminated dust is not being released from the work zone.

It is unsure if any of the playground equipment can be salvaged due to its age and condition, so it is likely that a minimum of 3 sets of play equipment will have to be replaced.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

The OSC is serving as the site safety officer, however, it has been stressed to the crew that every individual working on-site has the authority to halt site activities if an unsafe situation is detected.

3. Participating Entities

No information available at this time.

4. Personnel On Site

9 total: 1 EPA OSC; 1 Weston Solutions Superfund Technical Assistance and Response Team (START) member; 4 EPA Cleanup Contractor (Guardian Environmental Services [GES]) employees: 1 response manager, 1 foreman, 2 equipment operators; and 3 Team Subcontractors to GES (ENPRO): 3 technicians.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.