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August 29, 2019

Ziad Andrew Shehady
Business Administrator
Borough of Red Bank
90 Monmouth Street
Red Bank, New Jersey 07701

**Re: Findings and Recommendations
Marion Street Community Garden
Block 15.01, Lot 27.03
37 Marion Street
Borough of Red Bank
Monmouth County, New Jersey**

Dear Mr. Shehady:

As you are aware, CME Associates (CME) has been assisting the Borough of Red Bank in the assessment and investigation of environmental contamination concerns on the above-referenced property (Site). The approximately 0.1-acre property currently contains an approximately 2,400 SF community garden and a former pump house building used for storage.

On behalf of the Borough, CME conducted an investigation to evaluate whether soils within the community garden were impacted by the heavy metal lead, as reported by a local resident. The objective of the investigation was to determine if soil contamination is present above applicable remediation standards and whether the vegetables growing within the garden beds could potentially take up lead and pose a risk to public health.

On August 16, 2019, CME advanced six (6) soil borings (CGS-1 through CGS-6) to depths of approximately three (3) feet below ground surface (bgs). Typical historic fill materials (cinders, ash, glass, and brick fragments) were observed in several borings at depths of approximately two (2) feet bgs, particularly in borings CGS-1 and CGS-3. Three (3) discrete soil samples were collected from depths of 0-0.5 ft, 1-1.5 ft, and 2-2.5 ft at each boring location, except at CGS-3 which encountered refusal at approximately two (2) ft bgs. In addition, CME personnel collected samples of the vegetables (e.g., kale, shard, tomatoes) growing within the garden beds to evaluate the potential for uptake of lead. A total of 17 soil samples, six (6) vegetation samples, and one (1) field blank sample were submitted for laboratory analysis for lead.



Ziad Andrew Shehady, Administrator
Borough of Red Bank
Re: Findings and Recommendations
Marion St Community Park, Red Bank, NJ

August 29, 2019
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Analytical results identified lead in sample CGS-1C at a concentration of 597 mg/kg which exceeds the NJDEP *Residential Direct Contact Soil Remediation Standard* (RDCSRS) and default *Impact to Groundwater Soil Screening Level* (IGWSSL) but is below the *Non-Residential Direct Contact Soil Remediation Standard* (NRDCSRS). The sample was collected within historic fill material observed at a depth of 2-2.5 ft bgs at the boring location closest to the Marion Street right-of-way (ROW). Lead was detected in the remaining soil samples at concentrations ranging from 4.2 mg/kg to 160 mg/kg which do not exceed the RDCSRS and NRDCSRS; reported concentrations in four (4) of the samples exceed the IGWSSL. Lead was not detected in any of the vegetable samples.

Based on the findings of the investigations conducted, it appears that impacted historic fill materials are present at depths below the root zone at the Site. However, it appears the lead identified in soils has not been taken up by the vegetables growing in the garden at the Site. Further investigation should be conducted in accordance with applicable NJDEP regulations and guidance documents to determine the extent of soil contamination associated with historic fill materials. Based on the findings of the additional investigation, CME will provide the Borough with recommendations for appropriate remedial actions.

Should you have any questions or require clarification, please do not hesitate to contact me at (732) 951-2101, extension 103.

Very truly yours,

CME Associates

Behram Turan, P.E., LSRP – Principal
Director of Environmental Services

cc: Laura Neumann, PE, PP / CME Associates



Legend

 Marion St Community Garden

Prepared By



CONSULTING AND MUNICIPAL ENGINEERS

3759 U.S. Hwy 1 South - Suite 100, Monmouth Junction, NJ 08852
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Title

**Soil Boring Location Plan
 Marion Street Commuinity Garden
 Block 15.01, Lot 27.03
 Borough of Red Bank
 Monmouth County, New Jersey**

Scale



Compass



Source

ESRI, NJGIN, Monmouth County Parcels, 2015 Aerial Photography

Project No.

HRB00200.01

Scale

1 inch = 30 feet

Date

8/29/2019

SUMMARY OF ANALYTICAL RESULTS: 460-189352-1
 Job Description: Red Bank
 For:
 Consulting & Municipal Engineers (CME)
 CME Associates
 Monmouth Junction, New Jersey 08852

Client ID	NI_SRS7_26D_TB1A	NI_SRS7_26D_TB1B	NIDEP	CGS-1A	CGS-1B	CGS-1C	CGS-1D	CGS-1E	CGS-1F	CGS-1G	CGS-1H	CGS-1I	CGS-1J					
Lab Sample ID	Residential	Non-Residential	GW Screening	460-189352-6	460-189352-7	460-189352-8	460-189352-9	460-189352-10	460-189352-11	460-189352-12	460-189352-13	460-189352-14	460-189352-15					
Sampling Date	Sept. 2017	Sept. 2017	Nov. 2013	08/16/2019 11:15:00	08/16/2019 11:20:00	08/16/2019 11:25:00	08/16/2019 11:30:00	08/16/2019 11:35:00	08/16/2019 11:40:00	08/16/2019 11:45:00	08/16/2019 11:50:00	08/16/2019 11:55:00	08/16/2019 12:00:00					
Matrix				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Unit				Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q					
SOIL BY 60100(MG/KG)				MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL					
Lead	400	800	90	130	F1 0.44	1.7	29.0	0.47	1.8	597	0.53	2.0	4.2	0.41	1.6	4.3	0.47	1.8

Client ID	NI_SRS7_26D_TB1A	NI_SRS7_26D_TB1B	NIDEP	CGS-2C	CGS-3A	CGS-3B	CGS-3C	CGS-3D	CGS-3E	CGS-3F	CGS-3G	CGS-3H	CGS-3I					
Lab Sample ID	Residential	Non-Residential	GW Screening	460-189352-6	460-189352-7	460-189352-8	460-189352-9	460-189352-10	460-189352-11	460-189352-12	460-189352-13	460-189352-14	460-189352-15					
Sampling Date	Sept. 2017	Sept. 2017	Nov. 2013	08/16/2019 11:50:00	08/16/2019 12:00:00	08/16/2019 12:05:00	08/16/2019 12:10:00	08/16/2019 12:15:00	08/16/2019 12:20:00	08/16/2019 12:25:00	08/16/2019 12:30:00	08/16/2019 12:35:00	08/16/2019 12:40:00					
Matrix				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Unit				Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q					
SOIL BY 60100(MG/KG)				MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL					
Lead	400	800	90	38.2	0.45	1.7	97.0	0.46	1.7	30.0	0.45	1.7	11.9	0.42	1.6	160	0.46	1.8

Client ID	NI_SRS7_26D_TB1A	NI_SRS7_26D_TB1B	NIDEP	CGS-4C	CGS-5A	CGS-5B	CGS-5C	CGS-5D	CGS-5E	CGS-5F	CGS-5G	CGS-5H	CGS-5I					
Lab Sample ID	Residential	Non-Residential	GW Screening	460-189352-11	460-189352-12	460-189352-13	460-189352-14	460-189352-15	460-189352-16	460-189352-17	460-189352-18	460-189352-19	460-189352-20					
Sampling Date	Sept. 2017	Sept. 2017	Nov. 2013	08/16/2019 12:50:00	08/16/2019 13:00:00	08/16/2019 13:10:00	08/16/2019 13:20:00	08/16/2019 13:30:00	08/16/2019 13:40:00	08/16/2019 13:50:00	08/16/2019 14:00:00	08/16/2019 14:10:00	08/16/2019 14:20:00					
Matrix				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Unit				Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q					
SOIL BY 60100(MG/KG)				MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL					
Lead	400	800	90	119	0.46	1.8	24.7	0.45	1.7	19.9	0.42	1.6	30.5	0.44	1.7	11.3	0.43	1.6

Client ID	NI_SRS7_26D_TB1A	NI_SRS7_26D_TB1B	NIDEP	CGS-6B	CGS-6C	CGS-6D	CGS-6E	CGS-6F	CGS-6G	CGS-6H	CGS-6I	CGS-6J	CGS-6K								
Lab Sample ID	Residential	Non-Residential	GW Screening	460-189352-16	460-189352-17	460-189352-18	460-189352-19	460-189352-20	460-189352-21	460-189352-22	460-189352-23	460-189352-24	460-189352-25								
Sampling Date	Sept. 2017	Sept. 2017	Nov. 2013	08/16/2019 13:45:00	08/16/2019 13:50:00	08/16/2019 14:00:00	08/16/2019 14:10:00	08/16/2019 14:20:00	08/16/2019 14:30:00	08/16/2019 14:40:00	08/16/2019 14:50:00	08/16/2019 15:00:00	08/16/2019 15:10:00								
Matrix				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil								
Unit				Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q								
SOIL BY 60100(MG/KG)				MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL								
Lead	400	800	90	5.2	0.46	1.8	5.8	0.47	1.8	3.7	U	3.7	14.0	6.3	U	6.3	24.1	3.1	U	3.1	12.0

Client ID	NI_SRS7_26D_TB1A	NI_SRS7_26D_TB1B	NIDEP	CGS-7A	CGS-7B	CGS-7C	CGS-7D	CGS-7E	CGS-7F	CGS-7G	CGS-7H	CGS-7I	CGS-7J						
Lab Sample ID	Residential	Non-Residential	GW Screening	460-189352-21	460-189352-22	460-189352-23	460-189352-24	460-189352-25	460-189352-26	460-189352-27	460-189352-28	460-189352-29	460-189352-30						
Sampling Date	Sept. 2017	Sept. 2017	Nov. 2013	08/16/2019 15:30:00	08/16/2019 16:00:00	08/16/2019 16:20:00	08/16/2019 16:40:00	08/16/2019 16:50:00	08/16/2019 17:00:00	08/16/2019 17:10:00	08/16/2019 17:20:00	08/16/2019 17:30:00	08/16/2019 17:40:00						
Matrix				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Unit				Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q	Result Q						
SOIL BY 60100(MG/KG)				MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL						
Lead	400	800	90	7.2	U	7.2	27.7	7.4	U	7.4	28.5	6.3	U	6.3	24.0	2.5	U	2.5	10.0

Highlighted Concentrations shown in bold type face exceed limits
 F1 : MS and/or MSD Recovery is outside acceptance limits.
 U : Indicates the analyte was analyzed for but not detected.