

HRP Associates, Inc.

Creating the Right Solutions Together

April 20, 2005

Ms. Robyn Bugbee, Grants Administrator
Bristol Development Authority
City of Bristol
111 North Main Street
Bristol, Connecticut 06010



**RE: REMEDIATION ESTIMATE, FORMER MILLS PROPERTY, 149-151
CHURCH STREET, BRISTOL, CONNECTICUT (HRP# BRI8001.P2)**

Dear Ms. Bugbee:

As you are aware, HRP Associates, Inc (HRP) has completed the subsurface environmental investigations that were specified in our QAPP and related addendums for the above referenced site. The results of the investigation and conceptual plan for remediation are presented in the Draft report entitled *Subsurface Environmental Investigation Report*, dated April 20, 2005. As described in the referenced report, the investigation revealed soil and ground water impact at levels warranting further action. More specifically, soil constituents, detected at concentrations above applicable soil remediation standards and warranting further action, included ETPH, PAHs, and lead. Compounds, detected above applicable standards in ground water, included cadmium, lead, zinc, and a limited number of PAHs. The concentrations of metals were attributed to the naturally occurring, high turbidity levels that were present in the ground water samples. Given the isolated, low levels of PAHs and the potential interferences in metal results, the conceptual plan for remediation focused on control of the soil contaminant sources combined with monitoring the effect of the remediation on ground water quality.

The April 2005 conceptual plan for remediation described a strategy to restore the site quality to commercial/industrial standards through control of soil contaminant impact in the four release areas listed below.

- Release Area 1 (RA-1): Former On-site Fuel Oil Underground Storage Tank (Removed 1999)
- Release Area 2 (RA-2): Former Off-site Underground Storage Tanks
- Release Area 3 (RA-3): Visible Petroleum Impacted Soil
- Release Area 4 (RA-4): Historical Site Fill

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The primary goals of the plan included remediation of the site to a quality appropriate for the proposed future commercial/industrial land use while minimizing the physical removal or remediation volume of contaminated soil. Three key components essential to the success of this strategy included:

1. Implementation of a site wide Environmental Land Use Restriction (ELUR) enabling the use of the less stringent industrial/commercial Direct Exposure Criteria (I/C DEC).
2. Excavation and disposal of soil contaminated with compounds at levels that exceed GB Pollutant Mobility Criteria (GB PMC).
3. Utilization of area specific "Do Not Disturb" ELURs to render residual soil impact that exceeds I/C DEC inaccessible in accordance with the RSR.

Given the known extent of impact and existing information, site remediation costs could range from \$275,000 to \$ 350,000. This budgetary estimate is intended to address those areas where presently identified impact exceeds applicable standards, and includes a modest range to account for variation in actual soil removal volumes. As typical with any remediation, unknowns could be encountered. In order to account for potential unknowns, a contingency of 10-20% should be considered. A breakdown of the primary remediation tasks is listed below.

Remediation Task	Estimated Cost
Remedial Action Plan & Specifications	\$ 6,500
ELUR Testing, Soil Removal & Disposal (875-1300 tons)	\$ 142,000 - \$ 208,000
Monitor Well Installation	\$ 12,500
Environmental Land Use Restrictions*	\$ 12,000
Project Management	\$ 31,000 – \$ 40,000
Remedial Action Reporting	\$ 8,500
Post Remediation Ground Water Monitoring (2 years)	\$ 62,500
Estimated Total	\$ 275,000 - \$ 350,000
Contingency For Unknowns	\$ 25,000 - \$ 70,000

* Exclusive of legal fees for ELUR filing, Subordination Agreement, etc.

The remediation estimate is based upon the following assumptions.

- The site will be redeveloped as an asphalt paved parking lot at existing grade (+/-) and remedial excavation below a depth of 2 feet below grade will not be necessary unless required in order to comply with the pollutant mobility criteria (GB PMC),
- Parking lot drainage will occur via overland flow,
- Compliance with soil criteria can be accomplished without removal of contaminated soil from areas RA-1, RA-2, and RA-4_(south) using ELURs combined with SPLP testing to show compliance with GB PMC where necessary,

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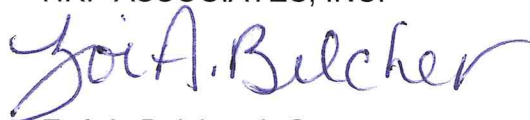
- Compliance with soil criteria can be achieved in RA-3 using a combination of soil removal to a depth of 2 feet below grade and execution of an environmental land use restriction to render any residual contamination inaccessible,
- Compliance with soil criteria can be achieved using a combination of soil removal to a depth of 4-7 feet below grade and execution of an environmental land use restriction to render any residual contamination inaccessible in RA-4_(north), and
- Compliance with ground water criteria can be accomplished through ground water monitoring with no active groundwater remediation in a period of 2 years following soil removal.

The redevelopment of the site consists of two interrelated facets: site remediation and site construction. The remedial estimate, presented above, excludes costs related to the redevelopment of the site (including paving). Successful and efficient completion of the project will require a coordinated effort between the environmental and construction engineers that should begin during the preliminary design phases of the project and continue through construction. HRP recommends initial interface between the remediation engineer and construction engineer during the construction and remediation **design phases** of the project to identify project goals and minimize redundant activities and costs.

If at any time you require site redevelopment cost estimates or preparation of construction plans and specifications for the proposed improvements, please advise us and we can discuss your specific requirements for these services. Please do not hesitate to contact either of the undersigned at HRP at 860-793-6899 to discuss your questions and comments. Thank you.

Sincerely,

HRP ASSOCIATES, INC.



Zoé A. Belcher, L.G.
Project Geologist



Brian P. Washburn, P.E., LEP
Senior Project Manager