



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

CONTAINS ENFORCEMENT-SENSITIVE INFORMATION

MEMORANDUM

DATE: July 9, 2004

SUBJ: Request for a \$2 Million Exemption Removal Action at the Baldwinville Residential Properties Site Templeton, Worcester County, Massachusetts - **Action Memorandum**

FROM: Michael Barry, On-Scene Coordinator *D. Mc*
Emergency Response and Removal Section 1

THRU: David McIntyre, Chief *D. McIntyre*
Emergency Response and Removal Section 1

Arthur V. Johnson III, Chief *AVJ*
Emergency Planning & Response Branch

TO: *for* Susan Studlien, Director *S. Studlien*
Office of Site Remediation and Restoration

I. PURPOSE

The purpose of this Action Memo is to request and document approval of a proposed initial \$2 million exemption removal action at the Baldwinville Residential Properties (BRP) Site (hereto referred to as "the Site") in Templeton, Massachusetts. The total project ceiling, if approved, will be \$5,666,488 which includes START and FRRS extramural costs and a 20% contingency.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID# : MAN000103312

SITE ID# : 01BN

CATEGORY : Time Critical

A. Site Description

1. Physical location

The Site consists of approximately 55 residential properties located approximately 1/2 mile north of the Baldwinville village center. Baldwinville is one of five village centers within the town of Templeton (2000 town population 6,438). These residential properties are located along Winchester, Holman, Harris, Elm and Bridge Streets and Winchendon Road;

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in a low density urban residential area (small town within an overall rural setting). Please see Figure 1 in Appendix A for more information; specific location details are as follows:

- North 42° 36' 54' latitude, west 72° 04' 33 longitude; and
- Mailing address: Baldwinville, MA, 01436.

2. Site characteristics, operational status and ownership

- The site is approximately 80 acres total, including some properties within the general site area “footprint” that are not contaminated;
- Most properties are owned by the occupying resident;
- The properties include typical residential features such as lawns, gardens, pools, patios, garages and storage outbuildings/sheds;
- The Site surrounds the Temple-Stuart Superfund Removal Site, which includes a closed landfill;
- A graveyard is to the southwest, across Bridge Street; and
- One senior housing center is located 0.5 miles west of the Site.

3. Site History

The homes on the Site were constructed from pre-1950 through the 1970's. Though investigative and removal work has been underway at the adjacent Temple-Stuart site since 2002, there was no prior indication of environmental contamination on the residential yards prior to the summer of 2003. This was discovered when soil sampling for polychlorinated biphenyls (PCB's) at the Temple-Stuart site advanced to it's property line without PCB concentrations declining below acceptable Massachusetts Department of Environmental Protection (MADEP) regulatory concentrations for residential areas.

Historical documents and the PCB deposition pattern on Temple Stuart site suggest that the PCB contamination source was open pit burning and incineration of wastes that included PCB's.

4. Removal site evaluation

EPA sampled 35 properties in the summer of 2003 using a 30' x 30' grid pattern on a total of 511 grids with one sample taken from the center of each grid from the 0 to 6" depth interval (just below the sod line). These results showed widespread PCB soil contamination in the range of non-detect to 69 parts per million (ppm) for individual samples and property averages from 0.3 to 31.1 ppm.

A summary spreadsheet is shown in Figure 2 of Appendix A. A general breakout of results is as follows:

- Of the 511 grids sampled; 154 were >10.0 ppm and 328 were >2.0 ppm PCB's.
- Of the 35 properties sampled; 11 properties averaged >10.0 ppm and 28 averaged >2.0 ppm PCB's.

MADEP regulatory limits for PCB soil concentrations of residential soils are 2.0 ppm; there is also a 10.0 ppm imminent hazard level.

5. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

Contaminant	Media	Threat
PCB's	Soil	Exposure pathways are ingestion and skin contact during normal residential activities such as gardening, playing, digging, excavations and landscaping. PCB's bind strongly to soil and don't readily break down over time.

6. NPL status

The site is not currently on the National Priorities List, and has not received a Hazardous Ranking System rating.

B. Other Actions to Date

1. **Previous actions** - None
2. **Current actions** - None

C. State and Local Authorities' Roles

1. State and local actions to date

MADEP has been involved in a consultive role and is expected to continue to do so, especially regarding the PCB cleanup level and removal approach. The State has not yet listed the properties under their waste site cleanup program (310CMR40, the "Massachusetts Contingency Plan") and their future intentions are unknown at this point.

The town government hasn't been involved to date other than in an informational role such as providing tax maps and street listings. Very recently a new Town Board of Health has been elected and has expressed more interest in the Site.

2. Potential for continued State/local response.

Neither MADEP nor the town have the resources to perform this project; but should be able to continue in a consultive role.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants; [§300.415(b)(2)(i)];

Resident adults and children could be exposed by direct contact and ingestion of PCB-contaminated soil and dust whilst gardening, playing, digging and other typical activities in their yards. PCB's are classified by the EPA as a B2 probable human carcinogen.¹

PCBs are also identified as a developmental toxicant, and observed health effects include acne and skin rashes. Higher exposure levels of workers have shown changes in the blood and urine that may indicate liver damage. Though not likely at this Site, studies of women who were exposed to relatively high levels of PCB's in the workplace or who ate large amounts of fish contaminated with PCB's had babies that weighed slightly less than babies born to women who did not have these exposures. Other studies suggest that the immune system was affected in children born to and nursed by mothers exposed to increased levels of PCB's; however, other benefits of breast-feeding outweigh the risks for exposure to PCB's in breast milk. There are no reports of structural birth defects caused by overexposure to PCB's, or of health effects in older children.²

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate; [§300.415(b)(2)(iv)] and Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; [§300.415(b)(2)(v)];

PCB contamination is shallow in nature and easily accessible by adults and children during normal activities in their yards. Normal erosion in un-vegetated areas will spread contaminated soil.

The availability of other appropriate Federal or State response mechanisms to respond to the release; [§300.415(b)(2)(vii)];

There are no other Federal or State programs that are able to respond to a release of this magnitude within an acceptable time-frame. The Superfund remedial program could respond to

¹Source: US EPA Integrated Risk Information System (IRIS), Carcinogenicity Assessment dated 6/1/1997; available at http://cfpub.epa.gov/iris/quickview.cfm?substance_nmbr=0294

²Source: ATSDR ToxFAQ's, February 2001, <http://atsdr1.atsdr.cdc.gov/tfacts17.html>

this release, but action would not take place for several years due to program process requirements. The state and town are unable to respond to a release of this size.

B. Threats to the Environment

The original PCB deposition mechanism could also have resulted in PCB take up by aquatic organisms and fish in local streams and by other land animals that eat these aquatic animals as food. PCB's accumulate in fish and marine mammals, reaching levels that may be many thousands of times higher than in water.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

A. Emergency Exemption:

1. There is immediate risk to public health or welfare or the environment:

As described previously, unrestricted access to elevated levels of PCB's exists in surface soils at 28 of the 35 residential properties tested to date. An additional 24 properties are also potentially impacted. Site residents include families with young children who play in the yards. Some basic data on PCB concentrations contained within the properties are in the table below; ATSDR generally recommends a maximum concentration of 1.0 ppm and EPA Region I has previously used 2.0 ppm as a cleanup level for residential properties.

<i>Property Statistics</i>	<i>No. of Properties</i>
Total number	35
Number with PCB average concentration > 10.0 ppm	11
Number with PCB average concentration < 10.0 and > 2.0 ppm	16
<i>PCB Sample Statistics</i>	<i>PPM</i>
Highest individual sample	69.0
Highest property average	31.1
Average property average	7.7

According to ATSDR, studies of workers indicated that PCBs were associated with some types of cancer in humans, including cancer of the liver and biliary tract. High levels of exposure can cause skin conditions including acne and rashes, and changes in blood and urine indicating possible liver damage. EPA has concluded that PCBs are carcinogenic to humans. Failure to approve the \$2 million exemption request of the removal action will allow continuation of the threat of exposure to these hazardous materials by the public and the environment.

2. Continued response actions are immediately required to prevent, limit or mitigate an emergency:

Conditions are especially significant due to the fact that PCB contamination was unexpectedly found to have migrated onto this residential property site from the adjacent Temple Stuart Site, an abandoned industrial site. Continued response actions, including fully characterizing the extent of PCB contamination and soil cleanup, will mitigate and/or remove the threat posed to the public. In order to complete these actions, an exemption from the \$2 million ceiling is required.

3. Assistance will not otherwise be provided on a timely basis:

Neither the State nor Town governments have resources to abate the threat at this Site due to the large area of contamination; MA DEP has requested that EPA take the lead on any response efforts. Additionally, referral of this Site to the remedial program is not practicable, despite the projected expense of the removal, due to the time required for the remedial process.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

The goal of this action is to remove PCB contaminated soil from residential properties at the Site. To meet this goal the following action is proposed:

- Establish a command post and staging area, and connect necessary utilities;
- Conduct public information sessions and outreach activities;
- Prior to removing soil, obtain samples at 1', 2' and 3' depth below ground surface at grids which are proposed to be removed to confirm that the contamination is surficial; this is approximately 200 of the 511 total grids;
- Document existing property conditions for later restoration;
- Reach consensus on and document with each homeowner the removal and restoration activities to be accomplished;
- Remove interference for excavation such as shrubbery, trees, outbuildings, playground equipment; etc. as required;
- Conduct air monitoring and sampling;

- Remove contaminated grid squares as defined by MADEP standards (individual grid squares of >10.0 ppm and property average of all grid squares to < 2.0 ppm respectively). Removal will be performed in one foot increments with confirmation samples taken;
- Sample other residents within the Site area that were not sampled in 2003 with similar methodology to fully define the axial extent of PCB contamination above the clean-up criteria. This could add an additional 20-25 properties;
- Remove grid squares on the additional sampled properties with the same methodology as the ones sampled in 2003. The only change is that grids will be reduced to 20' x 20' for ease of excavation;
- Restore excavated grids and impacted yards as closely to prior existing condition as possible, depending on negotiations with the homeowners. Property condition will be documented prior to and after the action to measure compliance.
- Temporarily relocate residents if required in the course of the removal;
- Procure security and traffic management as required; and
- Dispose of soil at a facility in accordance with the off-site rule.

2. Community relations

Because this proposed action involves residential properties, community relations will be considerable. The OSC will:

- Conduct pre-coordination meetings with Town and MADEP officials to continue professional and proactive working relationship established to date;
- Prepare fact sheets to local residents and the town at large followed up with public information session(s) personal visits to the residents involved in the removal;
- Conduct local press releases and press interviews; and;
- Update the EPA OSC web site.

3. Contribution to remedial performance

The cleanup proposed in this Action Memorandum is designed to remove the threats to human health and the environment posed by the Site. The actions taken would be consistent with and will not impede any future responses and redevelopment of the Site should information of any additional contamination come to light in the future.

4. Description of alternative technologies

None. On site or in-situ treatment would take an unacceptable long period of time and disruption to the community. Additionally, treatment will not be cost-effective as the soil will be able to be disposed of off site.

5. Applicable or relevant and appropriate requirements (ARARs)

Federal ARARs:

40 CFR 262 Subpart C, Pre-transport Requirements regarding packaging, labeling and marking.

40 CFR 265 Subpart I, Use and Management of Containers regarding conditions of containers, compatibility of waste with containers, etc.

State ARARs:

The OSC will coordinate with MADEP officials to identify additional State ARARs, if any. In accordance with the National Contingency Plan and EPA Guidance Documents, the OSC will determine the applicability and practicability of complying with each ARAR which is identified in a timely manner.

Note: Additional ARARs may be identified as the removal action progresses and the cleanup methods are selected. In accordance with the National Contingency Plan and the EPA Guidance documents, the OSC will determine the practicability of complying with all identified ARARs.

6. Project schedule

Pending funding availability, removal activities will start in the summer of 2004 and will be completed within one year.

B. Estimated Costs

Costs for this removal action are summarized below. Property sampling costs are not included within the estimate. The project will be funded from FY2004 and FY2005 funds.

Regional Removal Allowance Costs:	
ERRS ³ Contractor	\$3,989,833 ⁴
Other Extramural Costs Not Funded from the Regional Allowance:	
START ⁵	<u>\$732,240</u>
Subtotal, Extramural Costs	\$4,722,073
Extramural Costs Contingency (20%)	<u>\$944,415</u>
Total, Removal Action Project Ceiling	\$5,666,488

³ Emergency Rapid Response Services

⁴ This cost will be driven by the selected option(s). Should longer term options need to be implemented, additional funding may be required.

⁵ Superfund Technical Assistance and Response Team

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action will increase resident children and adult's public health risks from exposure to PCB contaminated soil due to dermal contact and ingestion. Additionally, if no action is taken MADEP would be required per 310 CMR 40.000, (the Massachusetts Contingency Plan) to list the residential properties as hazardous waste sites and issue PRP letters to the owners.

VIII. OUTSTANDING POLICY ISSUES

There are no precedent setting policy issues associated with this Site.

IX. ENFORCEMENT ... For Internal Distribution Only

See attached Enforcement Strategy.

The total EPA costs for this removal action based on full-time accounting practices that will be eligible for cost recovery are estimated to be \$5,666,488 (extramural cost) + \$116,080 (EPA's direct intramural costs) = \$5,782,568 x 1.2790 (regional indirect rate) = **\$7,395,904** ⁶.

X. RECOMMENDATION

Conditions at the Baldwinville Residential Properties Site in Templeton, MA meet the NCP section 300.415(b)(2) criteria for the removal and the CERCLA section 104(c) emergency exemption from the \$2 million limitation and I recommend your approval of the proposed removal action and the \$2 million exemption. The total project ceiling, if approved, will be \$6,634,296 of which an estimated \$5,823,000 will be funded from FY2004 and FY2005 Regional removal allowances. The basis for this decision will be documented in the administrative record to be established for the Site.

Conditions as the Site meet the NCP Section 300.415 (b) (2) criteria for a removal action due to the following:

⁶ Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed of 27.90% of site specific costs, consistent with the full accounting methodology effective October 2, 2000. These estimates do not include pre-judgement interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

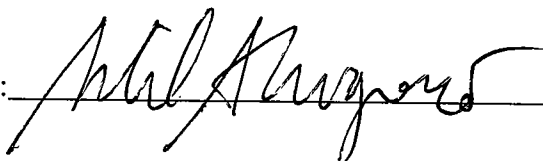
Action Memorandum for Baldwinville Residential Properties Superfund Removal Site, Templeton, MA

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants [§300.415(b)(2)(i)];

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate; [§300.415(b)(2)(iv)];

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; [§300.415(b)(2)(v)]; and;

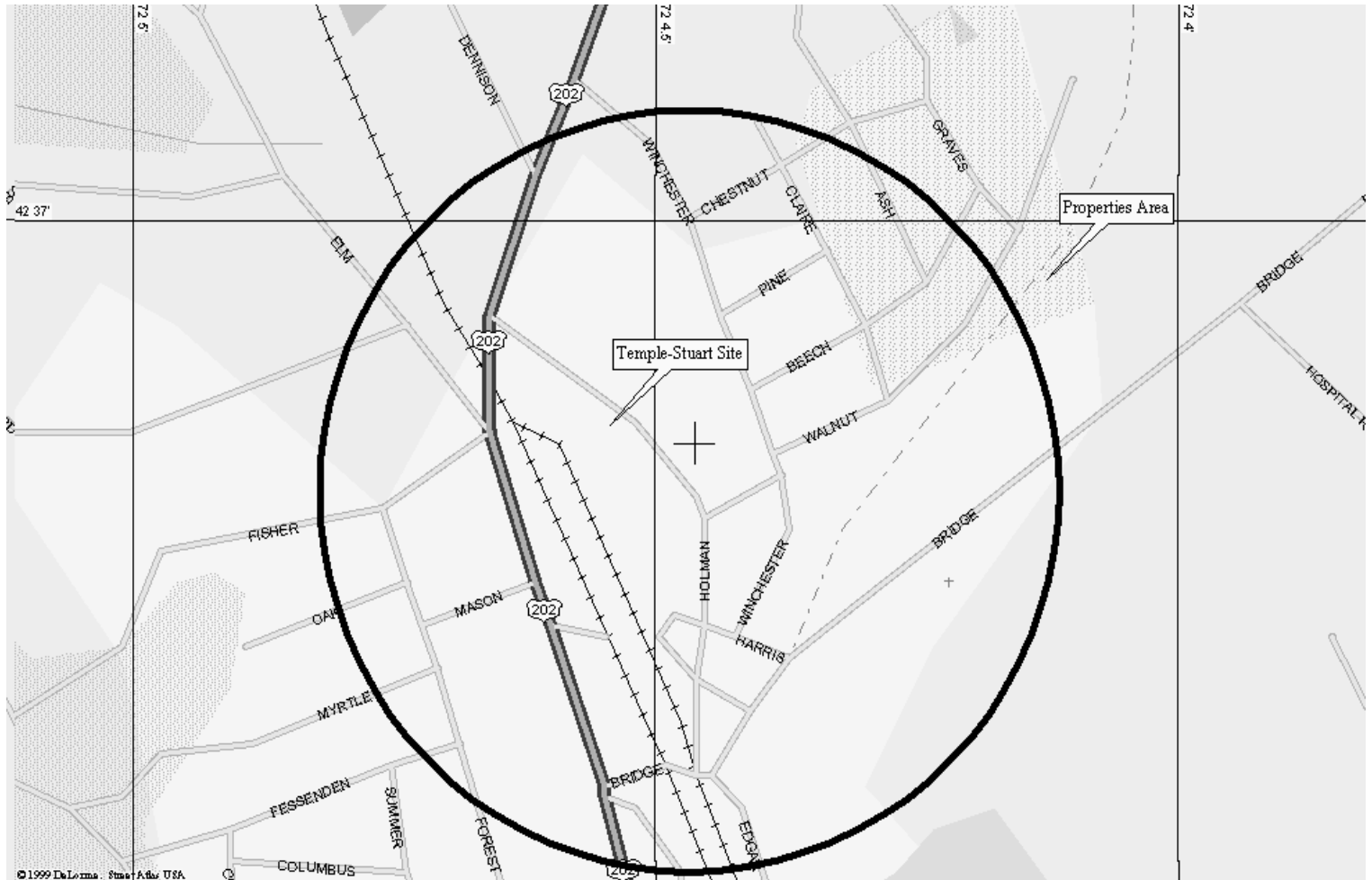
The availability of other appropriate Federal or State response mechanisms to respond to the release; [§300.415(b)(2)(vii)].

APPROVAL:  DATE: 7-16-04

DISAPPROVAL: _____ DATE: _____

**Action Memorandum for Baldwinville Residential Properties Superfund Removal Site
Templeton, Massachusetts
Appendix A - Figures**

Figure 1 - Site Location Map



**Action Memorandum for Baldwinville Residential Properties Superfund Removal Site
Templeton, Massachusetts
Appendix A - Figures**

Figure 2 - PCB Sampling Results Summary


Baldwinville Residential Properties Summary Data Sorted by Max, then Mean Concentration								
Property ID	Total Aroclor Mean	Total Aroclor Max	# Grids total	# Grids >2.0 ppm	# Grids >10.0 ppm	# Grids to Remove for Ave <1.8	Grids to Remove for all Criteria	Code
R-012	31.1	69.0	10	9	9	7	9	1
R-011	18.8	31.0	18	18	16	14	16	1
R-033	16.4	68.0	15	14	11	10	12	1
R-014	16.3	49.0	12	11	12	9	10	1
R-007	12.4	19.0	16	16	10	12	13	1
R-013	12.4	30.0	11	11	5	7	8	1
R-029	12.3	17.0	15	14	12	11	12	1
R-005	11.8	34.0	14	13	8	9	9	1
R-028	11.7	23.0	13	13	9	8	9	1
R-036	11.2	27.0	14	13	7	9	10	1
R-035	10.8	20.0	17	17	9	12	13	1
R-039	9.5	21.0	9	8	5	5	6	2
R-032	9.0	42.0	10	9	3	4	5	2
R-020	8.6	19.0	16	14	8	8	9	2
R-016	8.5	33.0	21	17	3	10	10	2
R-009	7.5	19.0	12	10	3	5	6	2
R-037	7.5	16.0	17	12	6	7	8	2
R-034	7.2	27.0	13	9	2	4	5	2
R-003	6.8	17.0	11	8	3	5	6	2
R-006	6.4	11.0	17	15	4	8	9	2
R-041	5.6	20.0	9	5	2	3	2	2
R-010	4.5	18.0	19	11	3	4	5	2
R-008	4.4	14.0	15	10	2	3	4	2
R-030	3.8	11.0	12	9	1	3	4	2
R-022	2.9	2.8	18	14	0	5	5	3
R-043	2.4	4.9	14	6	0	1	2	3
R-047	2.2	14.0	23	6	1	1	1	2
R-019	2.0	9.9	19	4	0	1	1	2
R-026	1.7	3.9	18	6	0	0	0	4
R-024	1.4	7.0	12	1	0	0	0	4
R-027	1.4	6.8	18	2	0	0	0	4
R-023	0.9	2.1	12	1	0	0	0	4
R-018	0.8	2.6	14	2	0	0	0	4
R-025	0.3	0.6	13	0	0	0	0	4
R-040	0.3	0.3	14	0	0	0	0	4

Ave/total 7.7 20.3 511 328 154 185 209

Codes

1. Mean >10.0
2. 1.8<Mean<10.0 & Max >10.0
3. Mean >1.8 & Max <10.0
4. Mean<1.8 & Max <10.0

OCN: ERP038

US Environmental Protection Agency Washington, DC 20460		1. Name of Originator MICHAEL BARRY		2. Date of Requisition 06/22/2004	
 Procurement Request/Order		3. Mail Code HBR		4. Telephone Number 617-918-1344	
5. Date Item Required 07/01/2004 <i>7/15/2004</i>		6. Signature of Originator <i>[Signature]</i>			
PR ID # PROMBAY-627ST9		7. Recommended Procurement Method <input checked="" type="checkbox"/> Competitive <input type="checkbox"/> Other than full and open competition <input type="checkbox"/> Sole source small purchase			
PO ID #					
8. Deliver To (Project Manager) ART WING Custodial Area:		9. Address EPA NEW ENGLAND 1 CONGRESS ST. BOSTON, MA 2114		10. Mail Code HBS	
				11. Telephone Number 617-918-1347	
12. Suggested Source (Name, Address, Zip Code, Phone/Contact) SHAW E&I 200 HORIZON CENTER BLVD TRENTON, NJ 08691-1904		13. Amount of money committed is: <input type="checkbox"/> Increase <input type="checkbox"/> Decrease <input checked="" type="checkbox"/> Original <input type="checkbox"/> Cancellation		14. For Small Purchases Only: Contracting Office is authorized to exceed the amount shown in Block 26 by 10% or \$100, Whichever is less. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
15. Approvals					
a. Branch/Office ARTHUR JOHNSON SUPV. ENVIRONMENTAL PROTECTION SPECIALIST <i>[Signature]</i>		Date 7/12/04		d. Property Management Office Designee Date	
b. Division Office SUSAN STUBLIEN SUPERVISORY PROGRAM MANAGER <i>[Signature]</i>		Date 7-16-04		e. Other (Specify) CHERYL O'HALLORAN ENVIRONMENTAL PROTECTION SPECIALIST <i>[Signature]</i>	
c. Funds listed in Block 26 and Block 24 (If any) are available and reserved. (Signature of Certifying Official) DAVE FORNSTROM <i>[Signature]</i>		Date 7/16/04		f. Other (Specify) Date	
16. Date of Order		17. Order Number		18. Contract Number (if any) 68-W-03-037	
19. Discount Terms					
20. FOB Point		21. Delivery to FOB Point by On or before (Date)		22. Person Taking Order/Quote and Phone No.	
23. Contractor (Name, Address, ZIP Code)		24. Type of Order a. Purchase Reference your quote Please furnish the above on the terms specified on both sides of this order and on the attached sheets, if any, including delivery as indicated. Delivery provisions on the reverse are deleted. The delivery order is subject to the terms and conditions of the contract. <input type="checkbox"/> Oral <input type="checkbox"/> Written <input type="checkbox"/> Confirming			

2004 JUL 16 P 2:59
MCO SF BUDGET FINANCE
US EPA NEW ENGLAND

25. Schedule

Item Number (a)	Supplies or Services (b)	Quantity Ordered (c)	Unit (d)	Estimated Unit Price (e)	Unit Price (f)	Amount (g)	Quantity Accepted (h)
1	Funding needed to conduct a removal action at the Baldwinville Residential Properties Site. Contract #68-W-03-037. The work being requested does not necessarily duplicate any work previously performed or currently being performed under my authority.	1	fixed rate	500,000		\$500,000.00	
					Total \$	\$500,000.00	

26. Financial Data

Line	Document Control Number (Max 6)	Budget/FYs (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Results Code (Max 9)	Object Class (Max 4)	Amount (Dollars & Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)	SFO (Max 2)
1	ERP038	04	T	1A00E	302DCH	2005	\$500,000.00	01BN	01BNAY001	0001
2										
3										
4										

27. United States of America By (Signature)

28. Typed Name and Title of Contracting Officer

Phone

ACTION: R SCREEN: REQL USERID: DXZ2

07/16/04

03:19:46 PM

*** REQUISITION ACCOUNTING LINE INQUIRY TABLE ***

KEY IS TRANS CODE, REQ NO, LINE NO

TRANS CODE: RQ

REQ NO: 041AERP038

01- LINE NO: 001 BFY: 2004

APPR: T

RPIO: 01

BUDGET ORG: 1A00E

PE: 302DC6C

LINE AMT:

500,000.00

COST ORG: C001

SITE/PROJ: 01BNRV00 CLOSED AMT:

0.00

BOC: 2505

RPTG CATG:

OBLG AMT:

0.00

LAST CHG STATUS:

DESCRIPTION: BALDWINVILLE RESIDENTIAL PROP

02- LINE NO: BFY:

APPR:

RPIO:

BUDGET ORG:

PE:

LINE AMT:

COST ORG:

SITE/PROJ:

CLOSED AMT:

BOC:

RPTG CATG:

OBLG AMT:

LAST CHG STATUS:

DESCRIPTION:

03- LINE NO: BFY:

APPR:

RPIO:

BUDGET ORG:

PE:

LINE AMT:

COST ORG:

SITE/PROJ:

CLOSED AMT:

BOC:

RPTG CATG:

OBLG AMT:

LAST CHG STATUS:

DESCRIPTION:

02-*L009 HEADER CHANGE


7/16/04