



FOSTER WHEELER ENVIRONMENTAL CORPORATION

July 25, 2000
2000-17-0184
Response Required

Mr. Robert Hunt
Project Manager
New England District
U.S. Army Corps of Engineers
696 Virginia Road
Concord, MA 01742-2751

Support: Boston Center
SFC: New Bedford
BRN: 6.4
OON: 289 070

Subject: USACE CONTRACT NO. DACW-33-94-D-0002
TOTAL ENVIRONMENTAL RESTORATION CONTRACT (TERC)
TASK ORDER NO. 0017-NEW BEDFORD SUPERFUND SITE OU #1
DRAFT CDF C EVALUATION OF DISPOSAL OPTIONS FOR EXCAVATED
SEDIMENT WITH PCB CONCENTRATIONS BELOW TARGET CLEANUP LEVELS

Dear Mr. Hunt:

Enclosed is a Draft Technical Memorandum on Evaluation of Disposal Options for Excavated Sediment with PCB Concentrations Below Target Cleanup Levels. This evaluation was done as part the preliminary engineering design for the CDF C half dike alternative. Following the CDF C alternative and value engineering meetings, we met with Paul Craffey of MADEP to review the MADEP requirements for disposal of excavated sediment off-site from New Bedford and within Massachusetts. At that meeting it was decided to provide written information on the options available and to identify questions to be answered on regulatory requirements for each option. For disposal off-site within Massachusetts there are a number of MADEP departments that have or may have requirements.

The Draft Technical Memorandum provides information on disposal options within Massachusetts and in other states. From this evaluation we have identified a number of specific questions to be discussed. These are:

1. Should dewatered sediment be managed in accordance with Massachusetts Policy # COMM-94-007 or Policy # COMM-97-001? One landfill in Massachusetts has said they follow Policy # COMM-97-001, although the Policy states that sediment is not soil.
2. How should sediment be sampled? If it is reused or disposed of in a Massachusetts landfill, should it be sampled in situ in accordance with Policy # COMM -94-007? Will sampling from stockpiles, which is what most landfills prefer, require DEP approval?
3. Can sediment having a total PCB concentration greater than or equal to 2 ppm, but less than 50 ppm, receive a Special Waste Determination? Can it only go to a lined landfill?
4. Are there any landfills in Massachusetts that are known to have sufficient capacity to accept 27,000 tons of dewatered sediment for disposal?

We understand that the issue of on-site disposal and reuse is being evaluated by USACE, and that future discussion meetings will be held on that issue. We have obtained some preliminary information from MADEP on the 401 Water Quality Certification (314 CMR 9.00) requirements for dredged material disposal from the MA Division of Water Pollution Control.



We have sent copies of this letter and the Draft Technical Memorandum to EPA and MADEP for review and comment on our information and its interpretation. Please call me at (617) 457-8234 or Erin Griffin at (617) 457-8294 if there are any questions.

Sincerely,



Allen J. Ikalainen, P.E.
Project Engineer

Enclosure: 2000-17-0183

cc: J. Brown, EPA (2)
P. Craffey, DEP (2)
M. Beaudoin, USACE (1)
E. Matthews, USACE (3)
G. Willant (1)
K. Hartel (1)
E. Griffin (1)

File: PM 1.1
D.O. #17, 15.5.4

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TOTAL ENVIRONMENTAL RESTORATION CONTRACT**

**DRAFT TECHNICAL MEMORANDUM
EVALUATION OF DISPOSAL OPTIONS
FOR EXCAVATED SEDIMENT
WITH PCB CONCENTRATIONS BELOW TARGET CLEANUP LEVELS
CONFINED DISPOSAL FACILITY (CDF) C
NEW BEDFORD HARBOR SUPERFUND SITE**

New Bedford, Massachusetts

July 2000

**Prepared for
U.S. Army Corps of Engineers
New England District
Concord, Massachusetts**

**Prepared by
Foster Wheeler Environmental Corporation
133 Federal Street
Boston, Massachusetts 02110**



Revision
0

Date
7/25/00

Prepared by
Erin Griffin

Approved by
Allen Ikalainen, P.E.

Paged Affected
All

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1.0 INTRODUCTION

Based on an evaluation of alternatives and a value engineering review, Foster Wheeler Environmental Corporation (Foster Wheeler) is doing preliminary engineering analyses for design of a sheet pile wall and vertical liner with an exterior “half dike” for CDF C. Design of this “half dike” option involves excavating and off-site reuse or disposal of the sediment underlying: (1) the footprint of the dike, and (2) the sediment to be dredged to meet the Acushnet River target cleanup level. This deeper sediment has been characterized as very soft organic clay, but has not been analyzed for PCBs, metals, or other contaminants. The information contained in this Technical Memorandum summarizes the off-site reuse and disposal options of this deeper sediment.

2.0 TOXIC SUBSTANCES CONTROL ACT

The New Bedford Harbor Superfund Site is subject to the requirements, policies, and procedures set forth under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLA guidance provides that Toxic Substances Control Act (TSCA) regulations apply to CERCLA sites only if the PCB concentrations in the waste are greater than or equal to 50 parts per million (ppm). Therefore, sediment at New Bedford Harbor having PCB concentrations less than 50 ppm as found, without regard to source concentration, is not regulated under TSCA.

3.0 REUSE AND DISPOSAL OPTIONS

The sediment to be excavated as part of the construction of the CDF C “half dike” option will have PCB concentrations less than the target cleanup level of 10 ppm. This material is being considered for reuse or disposal at another site in Massachusetts in accordance with the requirements set forth under the Massachusetts Contingency Plan (MCP), reuse at a Massachusetts lined landfill, disposal at a Massachusetts landfill, or disposal at an out-of-state landfill. These four options are discussed in further detail below.

3.1 Reuse or Disposal in Accordance with the MCP

Pursuant to Section 40.0032(3) of the MCP (310 CMR 40.000), soil that contains one or more hazardous materials at concentrations less than a release notification threshold may be transported from a disposal site without notice to, or approval from, DEP under the MCP provided that such soil is not disposed or reused at locations where: (1) the concentrations of hazardous materials in the soil to be disposed or reused would be in excess of a release notification threshold applicable at the receiving site (greater than or equal to 2 ppm PCBs at all sites in Massachusetts); and (2) the existing concentrations of hazardous materials at the receiving site are significantly lower than the levels of those hazardous materials present in the soil being disposed or reused. Sediment, once dewatered, may be managed as soil and, as such, could theoretically be disposed of or reused pursuant to 310 CMR 40.0032(3). DEP has stated, however, that the reuse or disposal of excavated sediment which is not contaminated does not fall under the requirements of the MCP.

3.2 Reuse at Massachusetts Landfills

The policy on the reuse of dredged sediment at Massachusetts permitted landfills limits the level of total PCBs that can be accepted to less than 2 ppm. Dredged sediment which does not exceed this and other contaminant levels listed in Massachusetts Department of Environmental Protection (DEP) Policy # COMM-94-007 (Interim Policy for Sampling, Analysis, Handling and Tracking Requirements for

Dredged Sediment Reused or Disposed at Massachusetts Permitted Landfills) or Policy # COMM-97-001 (Reuse and Disposal of Contaminated Soil at Massachusetts Landfills) may be reused as daily cover, intermediate cover, and pre-capping contour material at Massachusetts lined landfills provided that it is managed consistent with all the provisions of these policies, the facility's permit, and 310 CMR 19.000. DEP approval is required to reuse dredged sediment at unlined landfills. Note that Section 4.0 of DEP Policy # COMM-94-007 requires that core samples of in situ sediment be collected for characterization prior to dredging activities. Sediment that has not been sampled in accordance with this requirement may be subject to DEP approval before its reuse as cover or grading material at a lined landfill in Massachusetts. Also note that dredged sediment, due to its consistency, is not an ideal material for reuse and, as such, facilities may charge more for its acceptance.

3.3 Disposal at Massachusetts Landfills

A Bureau of Waste Prevention Major or Minor Special Waste Determination (BWP SW 14 or BWP SW 31) or other approval by the Massachusetts DEP shall be obtained prior to the disposal of dredged sediment, regardless of contaminant levels, at a lined or unlined landfill. If a Special Waste Determination can be obtained, then sediment containing PCBs at concentrations greater than or equal to 2 ppm, but less than 50 ppm, could theoretically be disposed of in a Massachusetts lined landfill. Based on a facility's permit or Consent Order, there usually is a maximum tonnage of solid waste a landfill can accept each year. The 20,000 cubic yards of sediment to be disposed of, which equates to roughly 27,000 tons in situ, is not likely to be accepted by any one lined landfill in Massachusetts.

3.4 Disposal at Out-of-state Landfills

Without a Special Waste Determination or other approval by DEP, and given the limited capacity of Massachusetts landfills, sediment which is not suitable for reuse (i.e., the level of total PCBs is greater than or equal to 2 ppm) may be transported out of state for disposal at either a Resource Conservation and Recovery Act (RCRA) Subtitle C facility or a RCRA Subtitle D facility permitted to accept waste having less than 50 ppm PCBs. Transportation of the dredged sediment by rail car directly from the site to a Subtitle D facility is the most inexpensive option. The material must be non-hazardous and must meet a higher standard of moisture control to prevent the release of liquids due to vibration in transit. If the material cannot be transported by rail car directly from the site, it can either be trucked to a location where it can be transferred to rail car or trucked directly to the disposal facility.

4.0 FACILITIES FOR REUSE AND DISPOSAL

Table 4-1 provides a summary of facilities which will accept the 20,000 cubic yards (27,000 tons) of sediment generated during the construction of the CDF C "half dike" option for reuse or disposal. All costs are based on acceptance of roughly that limited amount of sediment. If a larger volume of sediment requires reuse or disposal, the cost may increase and/or the facility may be unable to accept the increased amount of material.

5.0 TESTING REQUIREMENTS

Testing requirements for the disposal facilities may include those listed in Table 5-1. Note that these testing requirements are very stringent and are based on preliminary conversations with the disposal facilities, without having the benefit of filling out a generator waste profile sheet. The parameters

**Table 4-1
Summary of Reuse and Disposal Facilities**

Facility	Type	Cost	Sampling	PCB Level
Browning-Ferris Industries, Inc. Fall River Landfill 1080 Airport Road Fall River, MA 02720 (508) 678-8860	Subtitle D	reuse: \$20/ton (excluding transportation costs)	sample from stockpiles	<2 ppm
CWM Chemical Services, LLC 1550 Balmer Road P.O. Box 200 Model City, NY 14107 (716) 754-8231	Subtitle C	transportation and disposal: \$132/ton	sample from stockpiles	<50 ppm
Waste Management, Inc. High Acres Landfill 425 Perinton Parkway Fairport, NY 14450 (716) 223-6132	Subtitle D	transportation: \$45-50/ton disposal: \$40/ton	sample from stockpiles	<50 ppm
Waste Management, Inc. – TREE 97 Rochester Neck Road P.O. Box 7065 Rochester, NH 03839 (603) 330-2170	Subtitle D	transportation and disposal: \$80/ton	sample from stockpiles every 500 tons	<50 ppm
Waste Management, Inc. Crossroads Landfill Route 2 P.O. Box 629 Norridgewock, ME 04957 (207) 634-2714	Subtitle D	transportation and disposal: \$80/ton	sample from stockpiles every 500 tons	<50 ppm
Niagara Recycling, Inc. 56 th St. and Niagara Falls Blvd P.O. Box 344 Niagara Falls, NY 14304 (716) 285-3344	Subtitle D	transportation and disposal: \$60/ton by rail from site transportation and disposal: \$68/ton by truck to rail	sample in-place every 1,000 CY	<50 ppm
Allied Waste Industries, Inc. Lee County Landfill 1301 Sumter Highway P.O. Drawer 546 Bishopville, SC 29010 (803) 428-2400	Subtitle D	transportation and disposal: \$60/ton by rail from site transportation and disposal: \$68/ton by truck to rail	sample from stockpiles	<50 ppm

required for initial testing, if not required by the facility's permit, may be modified based on the generator knowledge (i.e., documented knowledge of the materials or processes used to generate the waste, source of contamination, site history, etc.). Should the facility rely on generator knowledge, which is generally the case, the cost for initial analytical testing would be greatly reduced, and would likely include only those contaminants historically found in the sediment.

Periodic testing of the material will be necessary and will occur at a frequency of once every 200 to 500 cubic yards, depending on the facility. The frequency or parameters required for periodic testing may be modified (increased or decreased) based on the volume of waste generated, historical analytical data, as well as generator knowledge. Thus, the analytical requirements for periodic testing may be less stringent than the analytical requirements for initial testing.

**Table 5-1
Facility Testing Requirements**

Facility	Analyses	Testing Cost	Required Testing
Fall River Landfill Fall River, MA	Total arsenic Total cadmium Total chromium Total lead Total mercury TPH Total PCBs Total SVOCs Total VOCs Conductivity Free liquids/paint filter	\$730	Analytical requirements may be modified. Total PCBs and free liquids/paint filter both required. Metals likely required for initial testing.
CWM Chemical Services, LLC Model City, NY	Total VOCs Total SVOCs TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$760	Analytical requirements may be modified. Total PCBs and free liquids/paint filter both required. Metals likely required for initial testing.
High Acres Landfill Fairport, NY	Total VOCs Total SVOCs TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$760	Analytical requirements may be modified. Total PCBs and free liquids/paint filter both required. Metals likely required for initial testing.
Waste Management, Inc. – TREE Rochester, NH	Total VOCs Total SVOCs TCLP pesticides TCLP herbicides TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$1160	Analytical requirements may be modified. Total PCBs and free liquids/paint filter both required. Metals likely required for initial testing.
Crossroads Landfill Norridgewock, ME	TCLP VOCs TCLP SVOCs TCLP pesticides TCLP herbicides TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$1240	Analytical requirements may be modified. TCLP VOCs, SVOCs, and metals and total PCBs are all required.

Table 5-1 (cont'd)

Facility	Analyses	Testing Cost	Required Testing
Niagara Recycling, Inc. Niagara Falls, NY	TCLP VOCs TCLP SVOCs TCLP pesticides TCLP herbicides TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$1240	All analyses are required for initial testing.
Lee County Landfill Bishopville, SC	TCLP VOCs TCLP SVOCs EOX TCLP pesticides TCLP herbicides TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$1300	All analyses are required for initial testing.

6.0 REFERENCES

The following Massachusetts policies, regulations, and permits may be applicable to the off-site reuse or disposal of sediment to be excavated in support of the construction of the CDF C “half dike” option.

- COMM-94-007 Interim Policy for Sampling, Analysis, Handling and Tracking Requirements for Dredged Sediment Reused or Disposed at Massachusetts Permitted Landfills
- COMM-97-001 Reuse and Disposal of Contaminated Soil at Massachusetts Landfills
- 310 CMR 19.000 Massachusetts Solid Waste Management Regulations
- 310 CMR 40.000 Massachusetts Contingency Plan
- BWP SW 14 Bureau of Waste Prevention Special Waste Determination – Major
- BWP SW 31 Bureau of Waste Prevention Special Waste Determination – Minor



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New Bedford, Massachusetts

July 2000

**Prepared for
U.S. Army Corps of Engineers
New England District
Concord, Massachusetts**

**Prepared by
Foster Wheeler Environmental Corporation
133 Federal Street
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High Acres Landfill Fairport, NY	Total VOCs Total SVOCs TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$760	Analytical requirements may be modified. Total PCBs and free liquids/paint filter both required. Metals likely required for initial testing.
Waste Management, Inc. – TREE Rochester, NH	Total VOCs Total SVOCs TCLP pesticides TCLP herbicides TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$1160	Analytical requirements may be modified. Total PCBs and free liquids/paint filter both required. Metals likely required for initial testing.
Crossroads Landfill Norridgewock, ME	TCLP VOCs TCLP SVOCs TCLP pesticides TCLP herbicides TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$1240	Analytical requirements may be modified. TCLP VOCs, SVOCs, and metals and total PCBs are all required.

Table 5-1 (cont'd)

Facility	Analyses	Testing Cost	Required Testing
Niagara Recycling, Inc. Niagara Falls, NY	TCLP VOCs TCLP SVOCs TCLP pesticides TCLP herbicides TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$1240	All analyses are required for initial testing.
Lee County Landfill Bishopville, SC	TCLP VOCs TCLP SVOCs EOX TCLP pesticides TCLP herbicides TCLP metals Total PCBs Ignitability/flashpoint Corrosivity/pH Reactive sulfide and cyanide Free liquids/paint filter	\$1300	All analyses are required for initial testing.

6.0 REFERENCES

The following Massachusetts policies, regulations, and permits may be applicable to the off-site reuse or disposal of sediment to be excavated in support of the construction of the CDF C “half dike” option.

- COMM-94-007 Interim Policy for Sampling, Analysis, Handling and Tracking Requirements for Dredged Sediment Reused or Disposed at Massachusetts Permitted Landfills
- COMM-97-001 Reuse and Disposal of Contaminated Soil at Massachusetts Landfills
- 310 CMR 19.000 Massachusetts Solid Waste Management Regulations
- 310 CMR 40.000 Massachusetts Contingency Plan
- BWP SW 14 Bureau of Waste Prevention Special Waste Determination – Major
- BWP SW 31 Bureau of Waste Prevention Special Waste Determination – Minor