# DECLARATION
FOR THE
# SECOND
# EXPLANATION OF SIGNIFICANT DIFFERENCES

## SITE NAME AND LOCATION:

The Pownal Tannery Superfund Site is located in the Town of Pownal, Vermont.

## IDENTIFICATION OF LEAD AND SUPPORT AGENCIES:

Lead Agency: **United States Environmental Protection Agency**
Support Agency: **Vermont Department of Environmental Conservation**

## STATEMENT OF PURPOSE:

This decision document sets forth the basis for the determination to issue the attached Second Explanation of Significant Differences (ESD2) for the Pownal Tannery Superfund Site (Site) in Pownal, Vermont.

## STATUTORY BASIS FOR ISSUANCE OF ESD:

Under Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C § 9617(c), if the U.S. Environmental Protection Agency (EPA) determines that the remedial action being undertaken at a site differs significantly from the Record of Decision (ROD) for that site, EPA shall publish an Explanation of Significant Differences (ESD), which explains the change between the remedial action that is being undertaken and the remedial action set forth in the ROD, and the reasons such changes are being made. Section 300.435 (c) of the National Contingency Plan (NCP), 40 C.F.R 300.435(c),and EPA guidance (Office of Solid Waste and Emergency Response (OSWER) Directive 9200.1-23-P, July 1999), indicate that an ESD, rather than a ROD amendment, is appropriate where the adjustments being made to the ROD are significant but do not fundamentally alter the remedy with respect to scope, performance or cost. EPA has determined that the adjustments to the ROD provided in this ESD are significant but do not fundamentally alter the overall remedy for the Site with respect to scope, performance, or cost. Therefore, this ESD is being properly issued.

In accordance with Section 117(d) of CERCLA and Section 300.825(a) of the NCP, this ESD will become part of the Administrative Record, which is available

for public review at the EPA Region 1 Record Center in Boston, Massachusetts and the Solomon Wright Public Library in Pownal, Vermont.

**OVERVIEW OF THE ESD:**

Based on the information and data generated since the issuance of the 2002 ROD, the 2006 Remedial Action Report, and the First Explanation of Significant Differences issued in 2007 (ESD1) – identified in the 2009 First Five-Year Review Report, additional studies will be implemented at the Site. Specifically, the Mill Building Area adjacent to the Hoosic River, which previously required only limited action under the CERCLA remedy (groundwater monitoring as part of the Site-wide monitoring plan), was found to have contamination in groundwater that slightly exceeds federal drinking water standards for arsenic. Under this second ESD groundwater will continue to be monitored to evaluate whether additional remedial measures may be required and Institutional Controls will be established to prevent use of the groundwater during the period of evaluation.

In addition, as part of this ESD Institutional Controls will be established on property adjacent to the Site's Dean Road Landfill within the groundwater compliance zone for the Landfill. The need for Institutional Controls on these properties had not been previously identified in the ROD or ESD1.

Finally, changes to the Applicable and Relevant and Appropriate statutes and regulations (ARARs) identified in the ROD due to the addition of a groundwater remedy for the Mill Building Area and changes to some regulatory standards since the ROD, have been made. The changes do not affect either the implementation or protectiveness of the remedy.

**DECLARATION:**

For the foregoing reasons, by my signature below, I approve the issuance of this Second Explanation of Significant Differences for the Pownal Tannery Superfund Site in Pownal, Vermont, and the changes stated therein.

James T. Owens, III, Director
Office of Site Remediation and Restoration

9-28-2010
Date

# SECOND
# EXPLANATION OF SIGNIFICANT DIFFERENCES

## Pownal Tannery Superfund Site
## Pownal, Vermont

### 1. INTRODUCTION

A. Site Name and Location

Site Name: **Pownal Tannery Superfund Site**

Site Location: **Town of Pownal, Vermont**

B. Lead and Support Agencies

Lead Agency: **United States Environmental Protection Agency**

Support Agency: **Vermont Department of Environmental Conservation**

C. Legal Authority

Under Section 117 (c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)[1], Section 300.435 (c) of the National Contingency Plan (NCP)[2], and U.S. Environmental Protection Agency (EPA) guidance[3], if EPA determines that differences in the remedial action significantly change, but do not fundamentally alter the remedy selected in the Record of Decision (ROD) signed in September 2002, with respect to scope, performance, or cost, EPA shall publish an explanation of

[1] 42 U.S.C. Section 9617(c).
[2] 40 C.F.R. Section 300.435 (c).
[3] Office of Solid Waste and Emergency Response (OSWER) Directive 9200.1-23P

the significant differences (ESD) between the remedial action taken and the remedial action set forth in the 2002 ROD and shall include the reasons such changes are being made.

D. Summary of Circumstances Necessitating this Explanation of Significant Differences

Since the 2002 ROD was issued, the 2005 Remedial Action Cleanup Report was signed, and the first ESD was signed in 2007, additional information has become available – identified in the 2009 First Five-Year Review Report. The Mill Building Area of the Site adjacent to the Hoosic River, which previously required only limited action under the CERCLA remedy (groundwater monitoring as part of the Site-wide monitoring plan), was found to have contamination in groundwater that slightly exceeds federal drinking water standards for arsenic. Under this second ESD, groundwater will continued to be monitored to evaluate whether additional remedial measures may be required and Institutional Controls will be established to prevent use of the groundwater during the period of evaluation. Furthermore, this second ESD specifies that Institutional Controls (groundwater use restrictions) need to be established on property adjacent to the Site's Dean Road Landfill within the groundwater compliance zone for the Landfill.

In addition, changes have been made to the Applicable and Relevant and Appropriate statutes and regulations (ARARs) identified in the ROD due to regulatory changes. These changes do not affect either the implementation or protectiveness of the remedy.

E. Availability of Documents

In accordance with Section 117 (d) of CERCLA, this Explanation of Significant Differences (ESD) will become part of the Administrative Record. The ESD, supporting documentation for the ESD, and the Administrative Record are available to the public at the following locations and may be reviewed at the times listed:

U.S. Environmental Protection Agency
Records Center
5 Post Office Square, First Floor
Boston, MA 02109
Weekdays from 10:00 am to 1:00 pm and from 2:00 pm to 5:00 pm
(617) 918-1440

Internet users may access general Superfund Program on EPA's Superfund Web page at:

http://www.epa.gov/superfund

The web page for the Pownal Tannery Superfund Site is:

*www.epa.gov/region1/superfund/sites/pownal*

or

Solomon Wright Public Library
97 Main Street
Pownal, VT 05261
(Hours vary, call ahead for schedule)
(802) 823-5400

## 2. BACKGROUND

The 2002 ROD set forth the selected remedy for the Lagoon Area portion of the Site which involved the excavation and consolidation of tannery lagoon waste, construction of a low permeability cap over the consolidated wastes on-site, long-term monitoring of river sediments and groundwater, Five-Year Reviews, and Institutional Controls to prevent groundwater consumption and excavation or disturbance of sludge waste in the lagoon area. The remedy also encompassed operation and maintenance (O&M) activities at a nearby tannery sludge landfill (Dean Road Landfill) and demolition and off-site disposal of the former tannery building site (Mill Building Area). Those actions were addressed by EPA under a previous March 1999 Non-Time Critical Removal action (NTCRA). (see Figure 1 for identification of all Site locations).

The ROD did not include a requirement for Institutional Controls for the other parcels at the Site (that were addressed through the 1999 NTCRA) or for the entire Lagoon Area (only Institutional Control for the capped lagoons were required). Through ESD1, EPA determined that institutional controls were necessary at all parcels at the Site where waste has been left in place. This specifically included the Dean Road Landfill and the entire Lagoon Area (which encompassed the Lagoon Area berm where waste was found still to be present after the completion of the remediation). The Institutional Controls under ESD1 were established to

protect the integrity of the caps and other components of the remedy, restrict groundwater use, and prevent future disturbance and/or excavation. No Institutional Controls were identified for the Mill Building Area because at the time of the ROD and ESD1 no known CERCLA contamination was known to still be present in this area after completion of the 1999 NTCRA. The remedy did still include groundwater monitoring of wells in the Mill Buildling Area as part of the Site-wide monitoring plan.

The extent of the compliance zone around the Dean Road Landfill that required Institutional Controls also was not delineated in ESD1.

## 3. SUMMARY OF SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY

All site history, nature and extent of contamination, as well as the selected actions for the Site are documented in the November 2001 Removal Action Report, the September 2005 Remedial Action Report, the 2007 ESD1 and its administrative record, and the 2009 First Five-Year Review. The Vermont Department of Environmental Conservation (VT DEC) and EPA determined that the remedy as described in the 2002 remedial action for the Lagoon Area was Operational and Functional on September 28, 2005. The VT DEC has been working on establishing the Institutional Controls called for in the ROD and ESD1.

## 4. BASIS FOR DOCUMENT

Since 2005 the VT DEC has been performing O&M and monitoring activities which include: groundwater sampling at select wells at all three locations of the site; sediment sampling in the Hoosic River; mowing of the grassed areas at all three locations at the site; well, gas vent, and chain gate maintenance; wetland maintenance in the Lagoon Area, as well as general repairs to components of the remedy constructed at each location of the Site. EPA and the VT DEC have evaluated the groundwater monitoring data finalized to date and have identified sporadic exceedences of Federal Maximum Contaminant Levels (MCLs) and Vermont drinking water standards at select wells located at the Dean Road Landfill and Lagoon Area. Under the ROD and ESD1 no groundwater remediation standards were identified for these areas because contaminated groundwater was only identified under areas where waste was being managed in place under the remedial action. Groundwater monitoring was conducted to document that contaminated groundwater was not migrating beyond the compliance boundaries for the Lagoon Area and Dean Road Landfill.

Since the ROD and ESD1, the groundwater monitoring has also identified slight exceedances of MCLs for arsenic in the Mill Building Area, where previously no remaining Site contamination had been identified. The exceedance of arsenic MCLs within the Mill Building Area requires further monitoring and evaluation to determine if additional remedial measures may be required.

## 5. DESCRIPTION OF SIGNIFICANT DIFFERENCES

At the former Mill Building area of the Site adjacent to the Hoosic River (Figure 3), groundwater sampling results from the most recent June 2009 monitoring event conducted by the VT DEC[4], indicate that there are concentrations of arsenic that slightly exceed federal Maximum Contaminant Levels (MCLs). Table 3 in Attachment A lists the detected concentrations. Under this second ESD, groundwater will continued to be monitored to evaluate whether additional remedial measures may be required and Institutional Controls will be established to prevent use of the groundwater during the period of evaluation.

In addition, as part of this ESD Institutional Controls will be established on property adjacent to the Site's Dean Road Landfill within the groundwater compliance zone for the Landfill. Groundwater sampling results from the most recent June 2009 sampling round, performed by the VT DEC, indicate that in three monitoring wells east and downgradient of the Dean Road Landfill (Figure 2), there are concentrations of arsenic that exceed federal MCLs. Table 4 in Attachment A lists the detected concentrations. Attachment B lists the federal drinking water standards. The need for Institutional Controls on these properties had not been specifically identified in ESD1 (which established the requirement for Institutional Controls at the Dean Road Landfill).

Finally, changes to the Applicable and Relevant and Appropriate statutes and regulations (ARARs) identified in the ROD due to changes to some regulatory standards since the ROD have been made (Attachment C). The changes do not affect either the implementation or protectiveness of the remedy.

The remedy differences identified in ESD2 are not expected to change the remedial outcome of the original remedy presented in the 2002 ROD and the 2007 ESD1; which is to be comprehensively protective of human

[4] 2010 groundwater monitoring data has been collected, but the analysis by VT DEC has not yet been completed.

health and the environment at the Site.

## 6. SUPPORT AGENCY COMMENTS

The VT DEC has participated with EPA in developing the modifications to the selected remedy described herein and concurs with the modifications adopted by EPA. They are currently performing all O&M and monitoring activities at the Site pursuant to a July 2003 Superfund State Contract between EPA and the State of Vermont. This includes the Dean Road Landfill, the Mill Building Area, and the Lagoon Area. The VT DEC will also be establishing the Institutional Controls required under the remedy for the three areas.

## 7. STATUTORY DETERMINATIONS

EPA believes that this remedy, as adjusted herein, will remain protective of human health and the environment. Obtaining the appropriate Institutional Controls on all applicable site properties; continuing with the long-term O&M and monitoring plan; and evaluating whether additional future remedial measures may be needed to address exceedances of drinking water standards within the Mill Building Area satisfies the remedial action requirements under Section 121 of CERCLA, 42 U.S.C. § 9621. The modifications to the remedy described herein will allow the remedy to continue to perform in the most protective way.

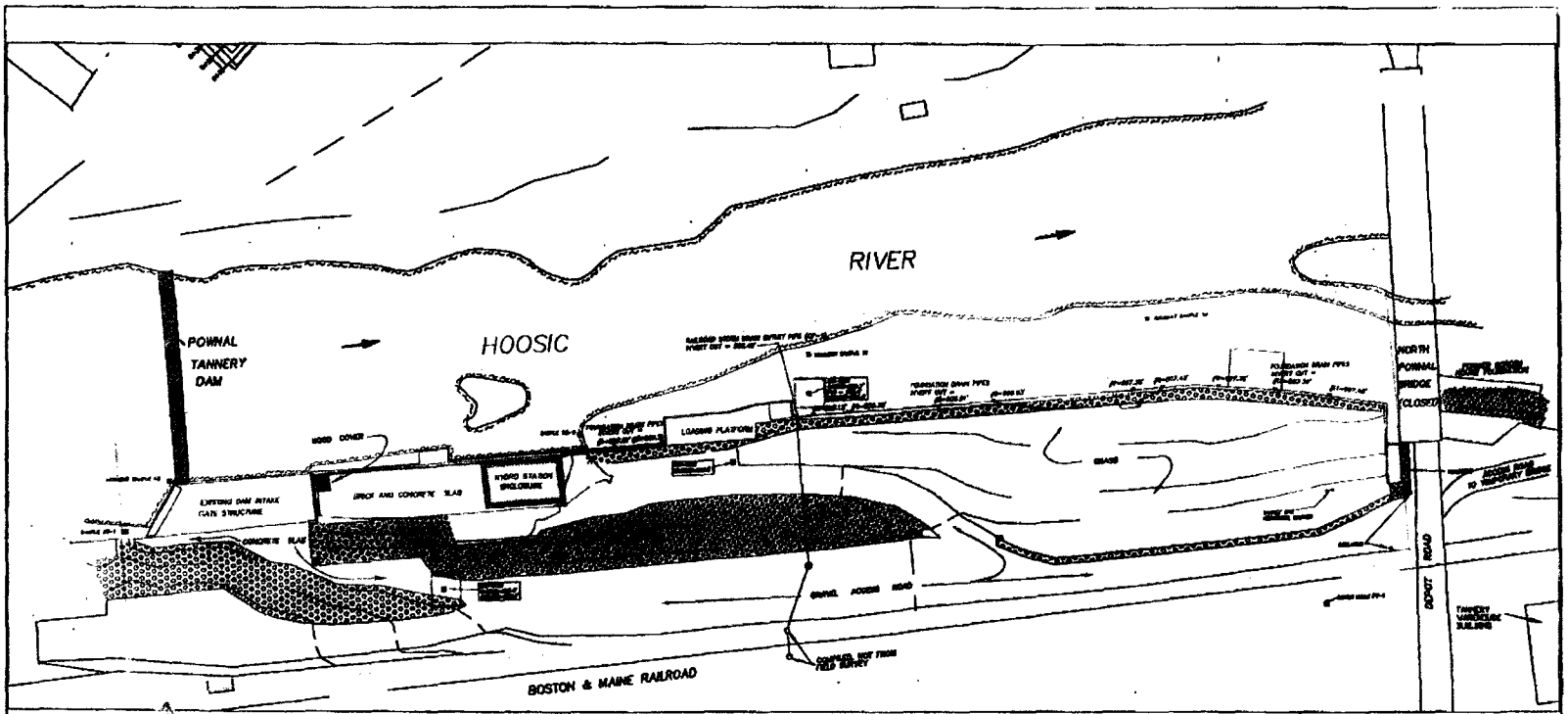
## 8. PUBLIC PARTICIPATION COMPLIANCE

*In accordance with Section 117(d) with CERCLA and Section 300.825(a) of the NCP, this second ESD will become part of the Site's Administrative Record which is available for public review at both the EPA Region 1 Record Center at Five Post Office Square, Boston, Massachusetts 02109 (617-918-1440), and the Solomon Public Library,* 97 Main Street, Pownal, VT 05261 (802-823-*5400). Additionally, a notice that briefly summarizes the changes and the reasons for making such changes described in the second ESD will be published in a major local newspaper of general circulation following the signing of this ESD.*

**FIGURE 1**


Pownal Tannery Superfund Site
Five Sludge Lagoons
18 acres
85 Kcy
Warehouse
Woods Road Area
Excavated in NTCRA
Former Tannery
Demolished in NTCRA
Sludge Landfill
Capped in NTCRA

FIGURE 2

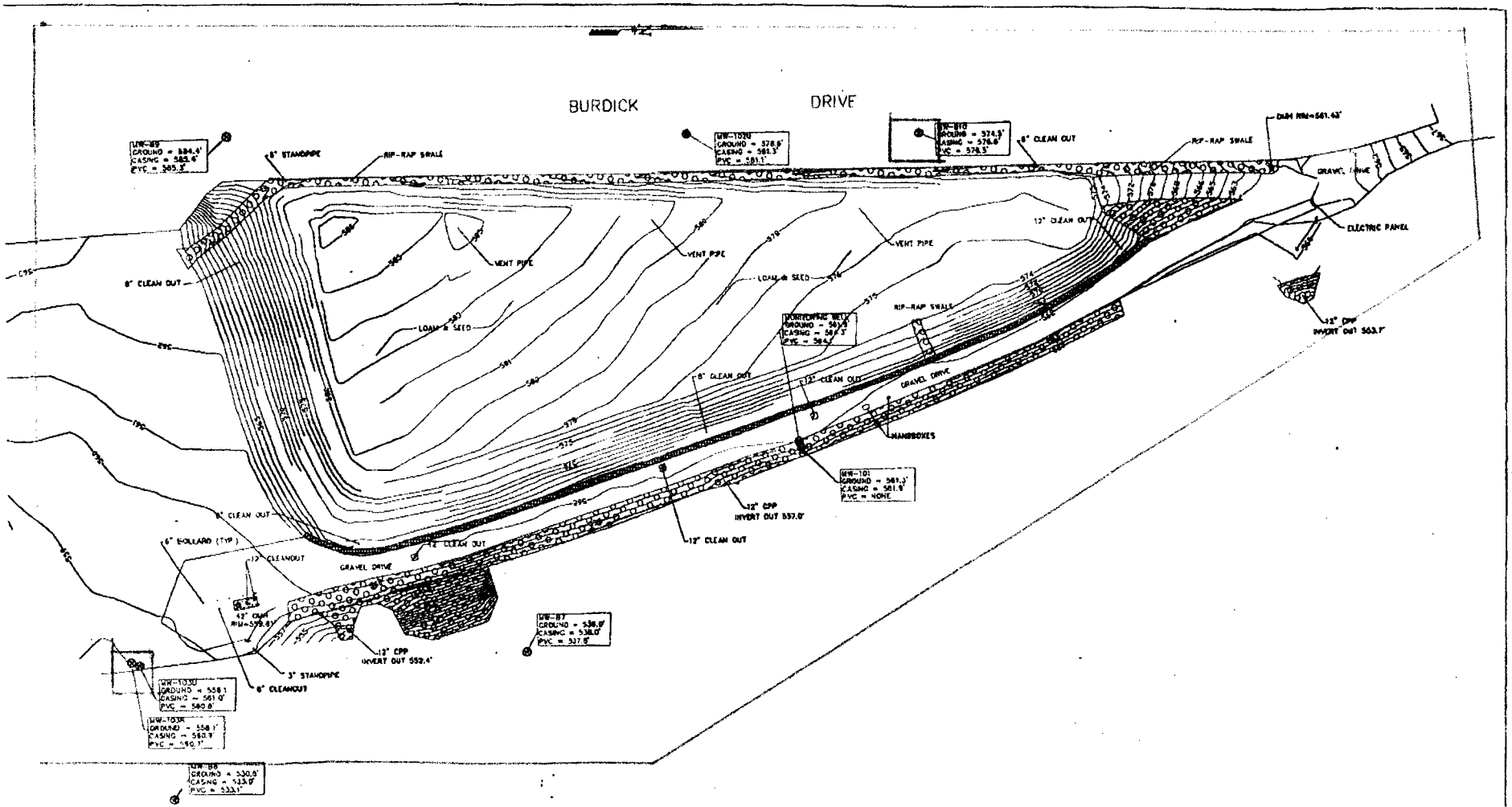



INSTITUTIONAL CONTROL ZONE

STONE & WEBSTER

POWNAL TANNERY BUILDING COMPLEX
SITE RESTORATION PLAN
SRV-376-4

FIGURE 3




NOTES

OGRAPHIC SURVEY PERFORMED BY HILL-ENGINEERS, ARCHITECTS, PLANNERS, MAR 14, 2000. ELEVATIONS AND TOPOGRAPHY BASED ON TOP OF CASING

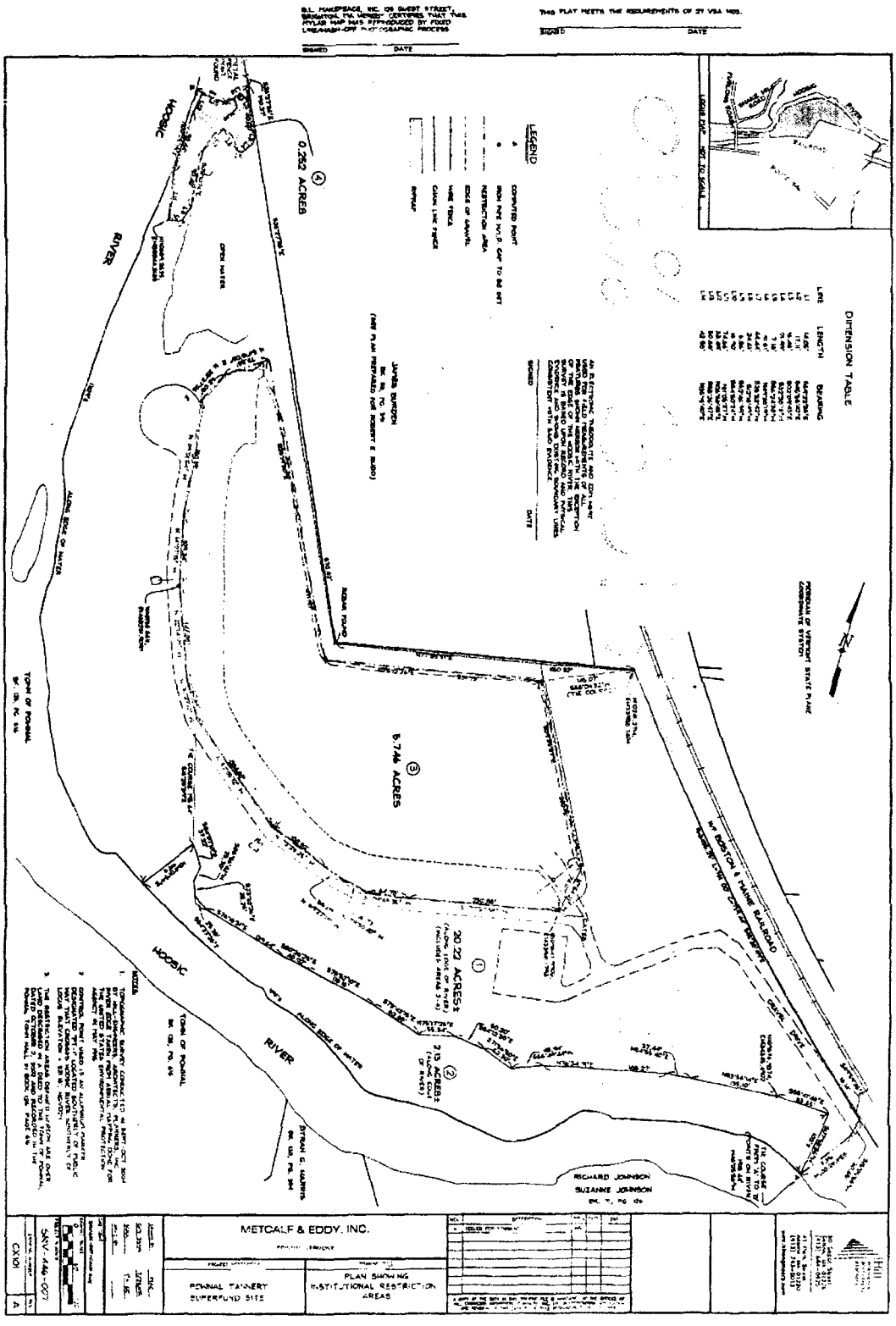
STONE & WEBSTER

NORTH TONAWANDA

SCALE 1"=80'

DATE 11-13-00

# FIGURE 4


METCALF & EDDY, INC.
POMINAL TANNERY SUPERFUND SITE
PLAN SHOWING INSTITUTIONAL RESTRICTION AREAS
DIMENSION TABLE
0.252 ACRES
5.744 ACRES
20.22 ACRES±
2.13 ACRES±
RIVER
HOOSIC
TOWN OF POMINAL
RICHARD JOHNSON
SUZANNE JOHNSON
SYRAN E. MARTIN
NOTES

**ATTACHMENT A**

**TABLE 1. SUMMARY OF GROUND WATER ANALYTICAL RESULTS**
**Lagoon Area**

Pownal Tannery
Pownal, Vermont

| Sample ID: | | | | | | MW-201 | MW-202 | MW-203 | MW-104U | MW-L-4 | MW-107U | MW-107R | MW-L-10 | MW-L-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date: | | | | | | 6/16/2009 (Unfiltered) | 6/16/2009 (Unfiltered) | 6/16/2009 (Unfiltered) | 6/17/2009 (Unfiltered) | 6/17/2009 (Unfiltered) | 6/17/2009 (Unfiltered) | 6/17/2009 (Unfiltered) | 6/17/2009 (Unfiltered) | 6/17/2009 (Unfiltered) |
| Parameter | Analytical Method | Ground Water Quality Standards | | | | | | | | | | | | |
| | | Primary | | Secondary | | | | | | | | | | |
| | | VGES | PAL | VGES | PAL | | | | | | | | | |
| **Initial Depth-to-Water Reading (FT BTOC)** | Field | -- | -- | -- | -- | 9.40 | 8.15 | 6.67 | 4.96 | 17.95 | 15.65 | 4.20 | 8.70 | 6.62 |
| **Final Field Parameters** | | | | | | | | | | | | | | |
| pH (su) | Field | -- | -- | -- | -- | 7.17 | 7.05 | 6.92 | 6.82 | 6.42 | 6.40 | 7.33 | 6.71 | 6.70 |
| Specific Conductance (uS/cm) | Field | -- | -- | -- | -- | 506 | 434 | 399 | 349 | 345 | 416 | 958 | 694 | 345 |
| Turbidity (NTU) | Field | -- | -- | -- | -- | 6.5 | 0.7 | 7.4 | 1.9 | 0.1 | 0.0 | 1.2 | 9.0 | 10.0 |
| Dissolved Oxygen (mg/L) | Field | -- | -- | -- | -- | 0.0 | 0.1 | 3.8 | 2.0 | 4.1 | 1.6 | 1.8 | 2.4 | 5.0 |
| Temperature (°F) | Field | -- | -- | -- | -- | 57.1 | 52.0 | 55.4 | 50.4 | 52.4 | 54.0 | 59.7 | 55.1 | 57.0 |
| Oxidation-Reduction Potential (mv) | Field | -- | -- | -- | -- | -69 | -95 | 125 | 3 | 156 | 177 | -60 | 71 | 144 |
| **VOCs** | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | SW8260B | 600.0 | 300.0 | -- | -- | 3.6 | ND< 2.0 | ND< 2.0 | NA | NA | NA | NA | NA | NA |
| **Metals (Target List)** | | | | | | | | | | | | | | |
| Antimony | SW6010B | 6.0 | 3.0 | -- | -- | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 |
| Barium | SW6010B | 2,000.0 | 1,000.0 | -- | -- | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 |
| Chromium | SW6010B | 100.0 | 50.0 | -- | -- | ND< 10.0 | ND< 10.0 | 82.3 | ND< 10.0 | ND< 10.0 | 14.3 | ND< 10.0 | ND< 10.0 | ND< 10.0 |
| Manganese | SW6010B | 300 | 150 | 50 | 25 | 1,420 | 3,420 | 34.6 | 296 | ND< 15.0 | 43.5 | 1,090 | 271 | 20.1 |
| Zinc | SW6010B | -- | -- | 5,000 | 2,500 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | 62.5 | ND< 20.0 | ND< 20.0 |
| Arsenic | SW7060A | 10.0 | 1.0 | -- | -- | 8.8 | 15 | ND< 4.0 | 7.4 | ND< 4.0 | ND< 4.0 | 47 | ND< 4.0 | ND< 4.0 |
| Lead | SW7421 | 15.0 | 1.5 | -- | -- | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 |

Notes:
All results reported in micrograms per liter, unless otherwise noted.
For VOCs, only detected analytes reported.
Field parameters analyzed using an Insitu Troll 9000 multi-parameter meter with a flow-through cell. Ground water samples collected using USEPA Region I low flow purging and sampling protocol.
VOCs = Volatile Organic Compounds
VGES = Vermont Ground Water Enforcement Standard
PAL = Preventive Action Level
NA = Not Analyzed
ND = None Detected above detection limits
EB = Equipment Blank
FT BTOC = Feet below top of casing
Underlined values exceed one or more Ground Water Quality Standard

## TABLE 2. SUMMARY OF GROUND WATER ANALYTICAL RESULTS
### Lagoon Area - Upgradient

Pownal Tannery
Pownal, Vermont

| Sample ID: | | | | | | MW-L-9 | MW-L-7 | MW-L-8 |
|---|---|---|---|---|---|---|---|---|
| Sample Collection Date: | | | | | | 6/17/2009 (Unfiltered) | 6/17/2009 (Unfiltered) | 6/28/2009 (Unfiltered) |
| Parameter | Analytical Method | Ground Water Quality Standards | | | | | | |
| | | Primary | | Secondary | | | | |
| | | VGES | PAL | VGES | PAL | | | |
| **Initial Depth-to-Water Reading (FT BTOC)** | Field | -- | -- | -- | -- | 13.48 | 15.95 | 14.07 |
| **Final Field Parameters** | | | | | | | | |
| pH (su) | Field | -- | -- | -- | -- | 6.79 | 6.76 | 7.25 |
| Specific Conductance (uS/cm) | Field | -- | -- | -- | -- | 296.0 | 533.0 | 324.0 |
| Turbidity (NTU) | Field | -- | -- | -- | -- | 2.4 | 9.9 | 0.0 |
| Dissolved Oxygen (mg/L) | Field | -- | -- | -- | -- | 7.5 | 7.80 | 2.50 |
| Temperature (°C) | Field | -- | -- | -- | -- | 49.7 | 51.90 | 52.00 |
| Oxidation-Reduction Potential (mv) | Field | -- | -- | -- | -- | 195 | 196 | 161 |
| **VOCs** | | | | | | | | |
| (None Detected) | SW8260B | Not Applicable | | | | ND | ND | ND |
| **SVOCs** | | | | | | | | |
| (None Detected) | SW8270C | Not Applicable | | | | NA | NA | NA |
| **Metals (Target List)** | | | | | | | | |
| Antimony | SW6010B | 6.0 | 3.0 | -- | -- | ND< 20.0 | ND< 20.0 | ND< 20.0 |
| Barium | SW6010B | 2,000.0 | 1,000.0 | -- | -- | ND< 200 | ND< 200 | ND< 200 |
| Chromium | SW6010B | 100.0 | 50.0 | -- | -- | ND< 10.0 | ND< 10.0 | ND< 10.0 |
| Manganese | SW6010B | 300.0 | 150.0 | 50 | 25 | **40.0** | **25.3** | **30.3** |
| Zinc | SW6010B | -- | -- | 5,000 | 2,500 | ND< 20.0 | ND< 20.0 | ND< 20.0 |
| Arsenic | SW7060A | 10.0 | 1.0 | -- | -- | ND< 4.0 | ND< 4.0 | ND< 4.0 |
| Lead | SW7421 | 15.0 | 1.5 | -- | -- | ND< 5.0 | ND< 5.0 | ND< 5.0 |

Notes:
All results reported in micrograms per liter, unless otherwise noted.
Only detected analytes reported.
Field parameters analyzed using an Insitu Troll 9000 multi-parameter meter with a flow-through cell. Ground water samples collected using USEPA Region I low flow purging and sampling
VOCs = Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Compounds
VGES = Vermont Ground Water Enforcement Standard
PAL = Preventive Action Level

NA = Not Analyzed
ND = None Detected above detection limits
FT BTOC = Feet below top of casing
Underlined values exceed one or more Ground Water Quality Standard

**TABLE 3. SUMMARY OF GROUND WATER ANALYTICAL RESULTS**
**Mill Building and Woods Road Area**

Pownal Tannery
Pownal, Vermont

| Sample ID: | | | | | | OF-1 | MW-110U | MW-113R | MW-113R | MW-110R | MW-110R | MW-106U | MW-112U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date: | | | | | | 6/26/2009 (Unfiltered) | 6/26/2009 (Unfiltered) | 6/26/2009 (Unfiltered) | 6/26/2009 (Filtered) | 6/26/2009 (Unfiltered) | 6/26/2009 (Filtered) | 6/27/2009 (Unfiltered) | 6/27/2009 (Unfiltered) |
| Parameter | Analytical Method | Ground Water Quality Standards | | | | | | | | | | | |
| | | Primary | | Secondary | | | | | | | | | |
| | | VGES | PAL | VGES | PAL | | | | | | | | |
| **Initial Depth-to-Water Reading (FT BTOC)** | Field | -- | -- | -- | -- | -- | 8.03 | 6.81 | -- | 7.36 | -- | 13.57 | 8.62 |
| **Final Field Parameters** | | | | | | | | | | | | | |
| pH (su) | Field | -- | -- | -- | -- | NA | 6.40 | 7.22 | -- | 7.41 | -- | 6.56 | 6.63 |
| Specific Conductance (uS/cm) | Field | -- | -- | -- | -- | NA | 181 | 601 | -- | 838 | -- | 549 | 208 |
| Turbidity (NTU) | Field | -- | -- | -- | -- | NA | 6.3 | 58.0 | -- | 19.0 | -- | 8.0 | 9.4 |
| Dissolved Oxygen (mg/L) | Field | -- | -- | -- | -- | NA | 3.20 | 1.30 | -- | 1.10 | -- | 2.70 | 1.60 |
| Temperature (°F) | Field | -- | -- | -- | -- | NA | 65.0 | 55.40 | -- | 58.0 | -- | 54.6 | 58.70 |
| Oxidation-Reduction Potential (mv) | Field | -- | -- | -- | -- | NA | 156 | 101 | -- | -115 | -- | 149 | 147 |
| **VOCs** | | | | | | | | | | | | | |
| Isopropylbenzene | SW8260B | -- | -- | -- | -- | ND< 2.0 | ND< 2.0 | NA | NA | **3.9** | NA | NA | NA |
| n-Propylbenzene | SW8260B | -- | -- | -- | -- | ND< 2.0 | ND< 2.0 | NA | NA | **3.0** | NA | NA | NA |
| tert-Butylbenzene | SW8260B | -- | -- | -- | -- | ND< 2.0 | ND< 2.0 | NA | NA | **3.7** | NA | NA | NA |
| sec-Butylbenzene | SW8260B | -- | -- | -- | -- | ND< 2.0 | ND< 2.0 | NA | NA | **2.7** | NA | NA | NA |
| **SVOCs** | | | | | | | | | | | | | |
| (None Detected) | SW8270C | (Not Applicable) | | | | ND | NA | NA | NA | NA | NA | NA | NA |
| **Metals (Target List)** | | | | | | | | | | | | | |
| Antimony | SW6010B | 6.0 | 3.0 | -- | -- | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 |
| Barium | SW6010B | 2,000.0 | 1,000.0 | -- | -- | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 |
| Chromium | SW6010B | 100.0 | 50.0 | -- | -- | ND< 10.0 | ND< 10.0 | ND< 10.0 | ND< 10.0 | ND< 10.0 | ND< 10.0 | ND< 10.0 | ND< 10.0 |
| Manganese | SW6010B | 300.0 | 150.0 | 50 | 25 | **22.9** | **35.4** | **1,080** | **892** | **1,700** | **1,760** | **24.5** | **404** |
| Zinc | SW6010B | -- | -- | 5,000 | 2,500 | **23.5** | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | **21.6** | ND< 20.0 | **29.9** |
| Arsenic | SW7060A | 10.0 | 1.0 | -- | -- | ND< 4.0 | ND< 4.0 | **33** | **6.1** | **10** | **8.9** | ND< 4.0 | ND< 4.0 |
| Lead | SW7421 | 15.0 | 1.5 | -- | -- | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | **7.1** |

Notes:
All results reported in micrograms per liter, unless otherwise noted.
For VOCs, only detected analytes reported.
Field parameters analyzed using an Insitu Troll 9000 multi-parameter meter with a flow-through cell. Ground water samples collected using USEPA Region I low flow purging and sampling protocol.
VOCs = Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Compounds
VGES = Vermont Ground Water Enforcement Standard
PAL = Preventive Action Level
NA = Not Analyzed
ND = None Detected above detection limits
FT BTOC = Feet below top of casing
Underlined values exceed one or more Ground Water Quality Standard

**TABLE 4. SUMMARY OF GROUND WATER ANALYTICAL RESULTS**
**Dean Road Landfill**

Pownal Tannery
Pownal, Vermont

| Sample ID: | | | | | | MW-101U | MW-101U | MW-103U | MW-103R | MW-B-8 | MW-B-7 | MW-102U | MW-102U | MW-B-10 | MW-B-10 | Leachate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Collection Date: | | | | | | 6/27/2009 | 6/27/2009 | 6/27/2009 | 6/27/2009 | 6/27/2009 | 6/27/2009 | 6/28/2009 | 6/28/2009 | 6/28/2009 | 6/28/2009 | 6/27/2009 |
| Parameter | Analytical Method | Ground Water Quality Standards | | | | (Unfiltered) | (Filtered) | (Unfiltered) | (Unfiltered) | (Unfiltered) | (Unfiltered) | (Unfiltered) | (Filtered) | (Unfiltered) | (Filtered) | (Unfiltered) |
| | | Primary | | Secondary | | | | | | | | | | | | |
| | | VGES | PAL | VGES | PAL | | | | | | | | | | | |
| **Initial Depth-to-Water Reading (FT BTOC)** | Field | – | – | – | – | 14.80 | -- | 20.30 | 42.65 | 10.57 | 5.74 | 25.75 | -- | 24.45 | -- | -- |
| **Final Field Parameters** | | | | | | | | | | | | | | | | |
| pH (su) | Field | – | – | – | – | 6.69 | -- | 7.60 | 8.00 | 7.21 | 7.02 | NA | -- | NA | -- | NA |
| Specific Conductance (uS/cm) | Field | – | – | – | – | 552 | -- | 246 | 196 | 292 | 306 | NA | -- | NA | -- | NA |
| Turbidity (NTU) | Field | – | – | – | – | 64.0 | -- | 0.0 | 9.8 | 6.0 | 0.5 | NA | -- | NA | -- | NA |
| Dissolved Oxygen (mg/L) | Field | – | – | – | – | 2.3 | -- | 6.2 | 1.9 | 3.8 | 3.2 | NA | -- | NA | -- | NA |
| Temperature (°F) | Field | – | – | – | – | 58.40 | -- | 58.0 | 56.60 | 51.80 | 56.20 | NA | -- | NA | -- | NA |
| Oxidation-Reduction Potential (mv) | Field | – | – | – | – | 143 | -- | 129 | -135 | 136 | 151 | NA | -- | NA | -- | NA |
| **VOCs** | | | | | | | | | | | | | | | | |
| Acetone | SW8260B | 700.0 | 350.0 | – | – | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 15 |
| **SVOCs** | | | | | | | | | | | | | | | | |
| (None Detected) | SW8270C | Not Applicable | | | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | ND |
| **Metals (Target List)** | | | | | | | | | | | | | | | | |
| Antimony | SW6010B | 6.0 | 3.0 | -- | -- | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 20.0 | ND< 400 | ND< 20.0 | ND< 20.0 |
| Barium | SW6010B | 2,000.0 | 1,000.0 | – | – | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | ND< 200 | 263 | ND< 200 | ND< 200 |
| Chromium | SW6010B | 100.0 | 50.0 | -- | -- | ND< 10.0 | ND< 10.0 | ND< 10.0 | ND< 10.0 | ND< 10.0 | ND< 10.0 | 13.3 | ND< 10.0 | 45.7 | ND< 10.0 | 11.4 |
| Lead | SW7421 | 15.0 | 1.5 | -- | -- | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 5.0 | ND< 20 | ND< 5.0 | 55 | ND< 5.0 | 65 |
| Manganese | SW6010B | 300.0 | 150.0 | 50 | 25 | 4,850 | 238 | ND< 15.0 | 227 | 77.7 | 1,550 | 618 | ND< 15.0 | 5,010 | ND< 15.0 | 202 |
| Zinc | SW6010B | -- | -- | 5,000 | 2,500 | 21.1 | ND< 20 | ND< 20.0 | 20.5 | 23.1 | ND< 20.0 | 88.2 | ND< 20.0 | 320 | ND< 20.0 | 14,200 |
| Arsenic | SW7060A | 10.0 | 1.0 | -- | -- | ND< 4.0 | ND< 5.0 | ND< 4.0 | 11 | ND< 4.0 | ND< 4.0 | 6.1 | ND< 5.0 | 18 | ND< 5.0 | ND< 4.0 |

Notes:
All results reported in micrograms per liter, unless otherwise noted.
Only detected analytes reported.
Field parameters analyzed using an Insitu Troll 9000 multi-parameter meter with a flow-through cell. Ground water samples collected using USEPA Region I low flow purging and sampling protocol.
VOCs = Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Compounds
VGES = Vermont Ground Water Enforcement Standard
PAL = Preventive Action Level
NS = Not Sampled
NA = Not Analyzed
ND = None Detected above detection limits
FT BTOC = Feet below top of casing
Underlined values exceed one or more Ground Water Quality Standard

# ATTACHMENT B

## National Primary Drinking Water Regulations

Contaminant MCL or Potential health effects from Common sources of contaminant Public Health TT1 (mg/L)2 long-term3 exposure above the MCL in drinking water Goal (mg/L)

| | |
|---|---|
| **Arsenic** | 0.010 |
| **Lead** | 0.015 |
| **Chromium** | 0.100 |

# ATTACHMENT C

# ARARs

Table for Modifications to the ROD/ESD1 ARARs Table for Alternative 4 – Consolidation and Capping Remedy

| Table - ESD2 Modification of ARARs and TBCs Cited in the ROD/ESD1 for Alternative-4, Consolidation and Capping | | | | | | |
|---|---|---|---|---|---|---|
| **Site Feature/ Authority** | **Media** | **Requirements** | **Status** | **Requirement Synopsis** | **Action to be taken to attain ARAR (from ROD)** | **Modification by ESD2** |
| **LOCATION – SPECIFIC** | | | | | | |
| Federal Regulatory Requirements | Wetlands, Floodplains, Streams, or Water Body | Federal Executive Order 11988 , Floodplain Management (promulgated through 40 C.F.R. Part 6, Appendix A) | None | Requires EPA to consider Alternatives to minimize impacts to floodplain for any federal actions, including engineering measures to minimize impacts. EPA must choose the best practicable Alternative for either avoiding or minimizing impacts to the floodplain. | ROD remedy for the Lagoon Area implemented in compliance with these standards at the time. | The regulation has been removed from the C.F.R. Compliance with the Executive Order Addressed under the Protectiveness Criterion rather than being addressed as an ARAR requirement. |
| State Regulatory Requirements | Wetlands, Floodplains, Streams, or Water Body | Vermont Wetland Rules (adopted under 10 VSA sec. 905) | Applicable | These regulations establish criteria for delineating Class One, Class Two and Class Three wetlands. Class One and Class Two wetlands, which are considered significant wetlands that merit protection, and set forth allowed and conditional uses for these wetlands. The uses must not have undue adverse impacts on the significant functions of the wetland. Class Three wetlands are not protected under these rules; however, they may be protected by other federal, state, or local regulations. | Alternative-4 involves destruction of State-regulated Class Three wetlands in Lagoons 1 and 5 but the state indicated that replacement of these wetlands is not necessary due to low function and the man-made nature, so this Alternative would comply with this requirement. | No change |
| | All Site Property | Land Use and Development – Act 250 (10 VSA 6086) | Applicable | This stature requires that developments protect a number of land use criteria including: Streams, floodways, shorelines, wetlands, erosion control, and historic sites. | Substantive standards regarding criteria under the Act will be addressed by the remedial action including: air and water pollution, floodways, streams, shorelines, wetlands, and erosion control. | No change. |

| Table - ESD2 Modification of ARARs and TBCs Cited in the ROD/ESD1 for Alternative-4, Consolidation and Capping | | | | | | |
|---|---|---|---|---|---|---|
| **Site Feature/ Authority** | **Media** | **Requirements** | **Status** | **Requirement Synopsis** | **Action to be taken to attain ARAR (from ROD)** | **Modification by ESD2** |
| **CHEMICAL – SPECIFIC** | | | | | | |
| Federal Criteria, Advisories, and Guidance | Soil/Sediment | NOAA Effects Range-Low and Median (ER-L and ER-M) values for marine and estuarine sediments | To be considered | The ER-L value is equivalent to the lower $10^{th}$ percentile of the available toxicity data, which is estimated to be the approximate concentration at which adverse effects are likely to occur in sensitive life stages and/or species of sediment-dwelling organisms. | The ER-L value was used for selecting Chemicals of Potential Concern and for characterizing ecological effects. | No change |
| | Soil | OSWER Directive 9200.4-26, Approaches' for Addressing Dioxins in Soil at CERCLA and RCRA Sites (Apr. 13, 1998) | To be considered | This Directive provides guidance in establishing cleanup levels for dioxins. A 1 ug/kg (ppb) concentration of dioxins (as 2,3,7,8-TCDD TE) has been established for surficial soils involving residential exposure scenarios. A cleanup range of 5 to 20 ug/kg of dioxin (as 2,3,7,8-TCDD TE) was established for commercial and industrial exposure scenarios. | This OSWER policy was used to establish dioxin PRGs for Site remediation. | No change. |
| | Soil/Sediment | EPA Carcinogenicity Slope Factor | To be considered | Slope factors are developed by EPA from health effects assessments. Carcinogenic effects present the most up-to-date information on cancer risk potency. Potency factors are developed by EPA from Health Effects Assessments of evaluation by the Carcinogenic Assessment Group. | Site related risks due to carcinogens were noted in the Human Health Risk Assessment. Alternative-4 includes actions (capping) to prevent exposure to contaminants that were identified to cause risks, so this Alternative will comply with this requirement. | No change. |
| | Soil/Sediment | EPA Risk Reference Dose (RfDs) | To be considered | RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime. | No site related risks due to non-carcinogens were noted in the Human Health Risk Assessment. Alternative-4 includes actions (capping) to | No change. |

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|---|---|---|---|---|---|---|
| **Site Feature/ Authority** | **Media** | **Requirements** | **Status** | **Requirement Synopsis** | **Action to be taken to attain ARAR (from ROD)** | **Modification by ESD2** |
| | | | | | prevent exposure to contaminants that were identified to cause risks, so this Alternative will comply with this requirement. | |
| | Soil/Sediment | Guidelines for Carcinogen Risk Assessment EPA/630/P-03/001F (March 2005) | To Be Considered | Guidance for assessing cancer risk. | Not cited in ROD/ESD 1. | This alternative will meet this standard by preventing exposure to carcinogenic hazards caused by exposure to contaminants. |
| | Soil/Sediment | Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens EPA/630/R-03/003F (March 2005) | To Be Considered | Guidance of assessing cancer risks to children. | Not cited in ROD/ESD 1. | This alternative will meet this standard by preventing exposure to carcinogenic hazards to children caused by exposure to contaminants. |
| | Sediment | Ontario Ministry of Environment and Energy (OMEE) Lowest and Severe Effect Levels (LELs and SELs) for Freshwater Sediments (Persaud et al. 1993) | To be considered | The LEL value is the concentration at which the majority of the sediment-dwelling organisms are not affected. Vermont has adopted these values as sediment quality guidelines for the State. | The LEL value was used for selecting Chemicals of Potential Concern and for characterizing ecological effects. | No change |
| **ACTION – SPECIFIC** | | | | | | |
| Federal Regulatory Requirements | Surface Water | CWA Ambient Water Quality Criteria (AWQC) (40 CFR 120)<br><br>RENAMED | Relevant and Appropriate | Remedial actions involving contaminated surface water or groundwater must consider the uses of the water and the circumstances of the release or threatened release. Federal AWQC are health-based and ecologically based criteria developed for carcinogenic and non-carcinogenic compounds. | Long-term monitoring will demonstrate future compliance with this requirement. | No change, other than that the standards have been renamed as National Recommended Water Quality Criteria (NRWQC). |

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|---|---|---|---|---|---|---|
| **Site Feature/ Authority** | **Media** | **Requirements** | **Status** | **Requirement Synopsis** | **Action to be taken to attain ARAR (from ROD)** | **Modification by ESD2** |
| | Surface Water | Clean Water Act National Pollutant Discharge Elimination System (NPDES) (40 CFR Parts 122 and 125) | Applicable | Establishes the specifications for discharging pollutants from any point source into the waters of the U.S. Includes stormwater standards for construction projects over one acre in size. | Point source discharges anticipated during construction will be managed in accordance with these requirements. | These requirements will continue to be met (including stormwater standards not referenced in the ROD/ESD1) in regards to long-term operation and maintenance. |
| Federal Regulatory Requirements | Groundwater Monitoring | SDWA - Maximum Contaminant Levels (MCLs) (40 CFR Part 141, Subpart B and G) | Relevant and Appropriate | Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate cleanup standards for aquifers and surface water bodies that are potential drinking water sources. | Not cited in the ROD/ESD 1. | Groundwater monitoring will evaluate whether groundwater contamination exceeding these standards is migrating outside of the compliance boundaries for the Dean Road Landfill and Lagoon Area waste management areas. |
| | Groundwater Monitoring | SDWA - Maximum Contaminant Level Goals (MCLGs) (40 CFR Part 141, Subpart F) | Relevant and Appropriate for non-zero MCLGs, | Establishes MCLGs for public water supplies. Non-zero MCLGs are health-based criteria are considered when evaluating drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds. | Not cited in the ROD/ESD 1. | Groundwater monitoring will evaluate whether groundwater contamination exceeding these standards is migrating outside of the compliance boundaries for the Dean Road Landfill and Lagoon Area waste management areas. |
| | Groundwater Monitoring | Health Advisories (EPA Office of Drinking Water) | To be Considered | Groundwater monitoring will evaluate whether groundwater contamination exceeding these standards is migrating outside of the compliance boundaries for the Dean Road Landfill and Lagoon Area waste management areas. Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water | Not cited in the ROD/ESD 1. | Groundwater monitoring will evaluate whether groundwater contamination exceeding these standards (when they are more stringent than either Federal or State promulgated standards) is migrating outside of the compliance boundaries for the Dean Road Landfill and Lagoon Area waste management areas. In particular, the health advisory standard for |

| Table - ESD2 Modification of ARARs and TBCs Cited in the ROD/ESD1 for Alternative-4, Consolidation and Capping | | | | | | |
|---|---|---|---|---|---|---|
| **Site Feature/ Authority** | **Media** | **Requirements** | **Status** | **Requirement Synopsis** | **Action to be taken to attain ARAR (from ROD)** | **Modification by ESD2** |
| | | | | where the standard is more conservative than either federal or state statutory or regulatory standards (in particular for manganese). | | manganese will be used to evaluate groundwater monitoring data |
| | Groundwater Monitoring | Guide to Management of Investigation-Derived Wastes (April 1992) OSWER 9345.3-03FS, NTIS: PB92-963353INX | To be Considered | Presents an overview of possible investigation-derived waste management options, discusses the protectiveness requirements associated with these options, and outlines general objectives established for IDW management under Superfund. | Not cited in the ROD/ESD 1. | Wastes generated from monitoring activities will be handled and managed in accordance with these standards. |
| Vermont Regulatory Requirements | Waste left in Place | Vermont Solid Waste Management Rules, EPR Chapter 6 (adopted under 10 VSA Chapter 159), Closure and Post-Closure, Subchapter 10. | Applicable | Requires the control, minimization or elimination of emissions or discharges of waste, waste constituents, leachate, contaminated runoff, and/or waste decomposition products to the groundwater or surface waters or atmosphere. | Alternative-4 includes a cover system for the waste in place at the site. The cover system design will be developed to comply with this requirement. | These regulations include standards for establishing compliance boundaries around waste management areas. In the case of the Dean Road Landfill the compliance boundary extends on to properties abutting the Landfill and require Institutional Controls to extend on to these properties. |
| | Surface Water | Vermont Water Quality Standards adopted under 10 VSA Chapter 47 (EPR Chapter 1) | Applicable | These standards establish water quality criteria for the maintenance of water quality and rules for determining acceptable point- and non-point-source discharges to the state's surface waters. Minimum water quality criteria are | Long-term monitoring will demonstrate future compliance with this requirement. | No change. |

| Table - ESD2 Modification of ARARs and TBCs Cited in the ROD/ESD1 for Alternative-4, Consolidation and Capping | | | | | | |
|---|---|---|---|---|---|---|
| **Site Feature/ Authority** | **Media** | **Requirements** | **Status** | **Requirement Synopsis** | **Action to be taken to attain ARAR (from ROD)** | **Modification by ESD2** |
| | | | | established. Specifies Federal AWQC to be used for effluent discharge limits or, where Federal limits are not available or are invalid, development of site-specific limits. | | |

| Table - ESD2 Modification of ARARs and TBCs Cited in the ROD/ESD1 for Alternative-4, Consolidation and Capping | | | | | | |
|---|---|---|---|---|---|---|
| **Site Feature/ Authority** | **Media** | **Requirements** | **Status** | **Requirement Synopsis** | **Action to be taken to attain ARAR (from ROD)** | **Modification by ESD2** |
| | Waste left in Place | Vermont Solid Waste Management Rules, EPR Chapter 6 (adopted under 10 VSA Chapter 159), Design Standards, Subchapter 6, Operation Standards, Subchapter 7 (EPR 6-502, 503) | Applicable | These regulations outline siting criteria for solid waste management facilities or facilities improvement. Under the Rules solid waste facilities should not be sited in: Class III wetlands, in a 100-year floodplain, within 6 feet of the seasonal high groundwater level, within 300 feet of waters of the State, within 1,000 feet of a drinking water source, and within 50 feet of a property line. Also, a facility is required to have a liner and a leachate collection system. However, a waiver may be granted from these standards upon a finding that: 1) the proposed Alternative measures to the requirements will not endanger or tend to endanger human health or safety; 2) compliance with VT the specific standards would produce serious hardship by delaying the remedy and increasing costs significantly without equal or greater benefit to the public; 3) the material at the Site is not considered to be a hazardous waste subject to regulation under the Resource Conservation and Recovery Act (RCRA) Subtitle C; and 4) there is no practicable means known or available to meet both on-site disposal of the waste and certain requirements of the VT SWMR, however, the substitute or Alternative measures proposed in this cleanup plan would achieve an equivalent level of protection of public health and the environment. | Alternative-4 will result in the existing sludge lagoon system being consolidated and closed as a solid waste facility within the 100-year floodplain, without meeting the specifics standards under the Rules noted in the Requirement Synopsis. However, EPA has invoked the waiver provision because Alternative-4 will remove contamination from the higher energy floodway and consolidate the waste into one capped disposal facility that will be designed, constructed, and maintained to prevent erosion of the cap during flood events. Performance objectives for the landfill cap will be to prevent infiltration of surface water into the consolidated wastes, prevent releases of material through erosion and other causes, and prevent movement of wastes into the groundwater and adjacent Hoosic River. Alternative-4 will be protective of public health, safety, and the environment and will meet all of the Rule's standards for waiving | No change. |

| Table - ESD2 Modification of ARARs and TBCs Cited in the ROD/ESD1 for Alternative-4, Consolidation and Capping | | | | | | |
|---|---|---|---|---|---|---|
| **Site Feature/ Authority** | **Media** | **Requirements** | **Status** | **Requirement Synopsis** | **Action to be taken to attain ARAR (from ROD)** | **Modification by ESD2** |
| | | | | | specific provisions. There are no practicable Alternatives to meet both on-site disposal of the waste and the specific requirements under the Rules. | |
| Vermont Regulatory Requirements | Groundwater Monitoring | Vermont Groundwater Protection Rule and Strategy, EPR Ch. 12 (10 VSA Sec. 1390-1394) | Relevant and Appropriate | These standards consist of ground water classifications, water quality criteria necessary to sustain the designated uses, and regulations to achieve the designated uses or maintain existing ground water quality. Establishes standards for ground water monitoring. | Not cited in the ROD/ESD 1. | The current rule was made effective in February 2005. Interim Groundwater Quality Standards for a short-list of compounds were subsequently issued in March 2009 as guidance. Long term monitoring will demonstrate contaminated groundwater is not migrating outside of the compliance zones for the capped landfills. |
| | Groundwater Monitoring | Vermont Water Supply Rule – EPR Ch. 21, Subchapter 6 (10 VSA Ch. 48, 56, 61 and 18 V.S.A. Sec. 1218) | Relevant and Appropriate | Establishes maximum contaminant levels and goals that apply to public drinking water supplies. Vermont Maximum Contaminant Levels and Maximum Contaminant Level Goals are specified for inorganic and organic chemicals. For the most part, the numerical criteria are identical to Federal SDWA MCLs and MCLGs. | Not cited in the ROD/ESD 1. | Long term monitoring will demonstrate contaminated groundwater is not migrating outside of the compliance zones for the capped landfills. |

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|---|---|---|---|---|---|---|
| **Site Feature/ Authority** | **Media** | **Requirements** | **Status** | **Requirement Synopsis** | **Action to be taken to attain ARAR (from ROD)** | **Modification by ESD2** |
| Vermont Criteria, Advisories, and Guidance | Groundwater Monitoring | Vermont Department of Health Drinking Water Guidance (October 2000) | To be considered | Lists the Vermont Health Advisories (VHAs) for chemicals of concern in drinking water. Vermont Health Advisories are researched and calculated concentrations of chemicals in drinking water in instances where the chemicals do not have a MCL. The Vermont Health Advisories are a tool for risk assessment and should provide a margin of safety to people consuming water below these levels. If an advisory is exceeded, it does not necessarily follow that adverse health effects will occur, but that further evaluation of the water supply is warranted. | There are no persistent, site related exceedances of VHAs at the site. Long-term monitoring will demonstrate future compliance with this requirement. | This guidance was most recently updated in December 2002 and should be considered in evaluating groundwater monitoring data for which VTDEC Groundwater Enforcement Standards, MCLs, or other federal standards are not available. |