

**DECLARATION FOR THE  
EXPLANATION OF SIGNIFICANT DIFFERENCES**

**BEEDE WASTE OIL SUPERFUND SITE**

**September 2012**

**SITE NAME & LOCATION**

Beede Waste Oil Superfund Site  
Plaistow, NH

**IDENTIFICATION OF LEAD AND SUPPORT AGENCIES**

Lead Agency: United States Environmental Protection Agency (EPA)  
Support Agency: New Hampshire Department of Environmental Services

**STATEMENT OF PURPOSE**

This decision document sets forth the basis for the determination to issue the attached Explanation of Significant Difference (ESD) for the Beede Waste Oil Superfund Site (the "Site") located in Plaistow, NH. This ESD focuses on the January 2004 Record of Decision (the ROD) requirement to provide, maintain and monitor point of entry (POE) treatment systems as necessary, to prevent human exposure to groundwater with contaminant concentrations above drinking water standards.

**STATUTORY BASIS FOR ISSUANCE OF THE ESD**

Section 117(e) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), requires that, if the remedial action being undertaken at a site differs significantly from the Record of Decision (ROD) for that site, EPA shall publish an ESD between the remedial action being undertaken and the remedial action set forth in the ROD and the reasons for the changes to the remedial action. Section 300.435(c)(2)(1) of the National Contingency Plan (NCP), and EPA Guidance (Office of Solid Waste and Emergency Response (OSWER) Directive 9200.1-23P, 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 Beede Waste Oil 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 for the Site, and will be available for



public review at both the EPA Region 1 Record Center in Boston, Massachusetts and the Plaistow Public Library, located at 85 Main Street, Plaistow, NH.

## **BACKGROUND**

The ROD selected a cleanup plan with an objective to mitigate, restore and/or prevent existing and future potential threats to human health and the environment. In summary, the cleanup plan consists of:

- Completion of pre-design activities as part of the remedial design phase of work that will include conducting treatability studies, evaluating site access issues, and performing an assessment of the light non-aqueous phase liquid (LNAPL) recovery system, on-site water supply well, and on-site building for potential use as part of the remedy.
- Excavation of contaminated surface/shallow soils (generally 0 to 2 feet below ground surface), including on-site soil piles, as well as subsurface soils (discreet areas 2 to 10 feet below ground surface) for off-Site disposal.
- Excavation of the on-Site landfill materials for off-Site disposal.
- Restoration of on-Site soil and landfill excavation areas.
- Excavation of contaminated Kelley Brook sediments for off-Site disposal.
- Restoration of Kelley Brook wetlands in the landfill and sediment excavation areas.
- Design, construction and operation of a groundwater extraction, treatment, and discharge system to treat contaminated groundwater in the vicinity of source areas and to support dewatering activities necessary for in-situ soil vapor extraction.
- Design, construction and operation of a soil vapor extraction (SVE) system to remove contaminants from deep soils which are acting as a continuing source of groundwater contamination. The SVE system may be thermally-enhanced through steam injection as will be determined by treatability studies to be conducted by the Performing Settling Defendants.
- Long-term monitoring of sediment and surface water in Kelley Brook.
- Long-term monitoring of groundwater quality on- and off-Site.
- Long-term monitoring of drinking water quality in on- and off-Site water supply wells. This component of the remedy includes a requirement to provide, maintain and monitor point of entry (POE) treatment systems as necessary, to prevent

human exposure to groundwater with contaminant concentrations above drinking water standards.

- Monitoring of air quality in structures including residences in the vicinity of the Site as determined necessary by EPA.
- Implementing institutional controls to prevent future excavations below a depth of 10 feet on Parcel 1, to prevent use of contaminated groundwater for potable water until the groundwater aquifer has been restored, and to caution the public about the consumption of fish from Kelley Brook until such time as contaminant levels in fish tissue reach safe levels.
- Providing data sufficient to allow EPA to perform a review of the Site at least once every five years to assure that the remedial action continues to protect human health and the environment and to perform a review of the Site prior to eventual deletion from the National Priorities List.

## **OVERVIEW OF THIS ESD**

As presented above, a component of the selected remedy includes a requirement to provide, maintain and monitor point of entry (POE) treatment systems for impacted potable water wells as necessary, to prevent human exposure to groundwater with contaminant concentrations above drinking water standards. The POE treatment systems use granular activated carbon (GAC) filters to remove groundwater contaminants. Although operation of the POE treatment systems have been successful in preventing human exposure to Site contaminants in groundwater, maintenance of these systems has required more frequent monitoring and GAC filter replacements than originally anticipated. As a result, the parties responsible for implementing the selected remedy, the Beede Site Group ("BSG"), have explored the possibility of extending a waterline to the area as a permanent solution to address drinking water quality.

The BSG recently identified a private utility with the capacity to provide potable water to those residents whose wells have been impacted by contaminants from the Site. The BSG has proposed to contract with a private utility to extend an existing waterline to those residents whose wells have been impacted by the Site, thereby replacing the need for the POE treatment systems and reliance on bottled water for drinking. Extension of an existing waterline to impacted residents was not a readily available option at the time of the ROD. Once the new waterline is extended to the impacted neighborhood, the BSG will offer to connect residents that are currently provided with POE treatment systems and/or bottled water to the extended waterline and thereafter disconnect them from their groundwater wells and remove the POE treatment systems from their property.

This ESD modifies the remedy by acknowledging that use of an extended waterline to address contaminated groundwater associated with the Beede Site is an acceptable option for preventing human exposure to groundwater concentrations above drinking water standards. Potable wells impacted by the Site that are replaced with connections to a

new, extended waterline will be properly abandoned unless they are utilized as long-term groundwater monitoring wells per EPA's direction, and the POE treatment systems will be removed, thereby eliminating the requirement to provide, maintain and monitor such systems.

In the future, if additional potable wells are found to contain Site-related contamination above drinking water standards, the option to provide connections to the extended waterline, as described in this ESD, will also be a remedial option for additional impacted residents.

#### **DECLARATION**

For the foregoing reasons, by my signature below, I approve the issuance of an Explanation of Significant Difference for the Beede Waste Oil Superfund Site in Plaistow, NH, and the changes stated therein.

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

9/25/12  
Date



Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9617(c), and the rule at 40 C.F.R. § 300.435(c)(2)(i).

Under Section 117(c) of CERCLA, 42 U.S.C. § 9617(c), the rule at 40 C.F.R. 300.435(c)(2)(i), and U.S. Environmental Protection Agency (EPA) guidance (Office of Solid Waste and Emergency Response [OSWER] Directive 9200.1-23P), if the EPA determines that differences in the remedial action significantly change but do not fundamentally alter the remedy selected in the ROD, with respect to scope, performance, or cost, the EPA shall publish an ESD between the remedial action being undertaken and the remedial action set forth in the ROD, and the reasons such changes are being made. 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 Beede Waste Oil Superfund with respect to scope, performance, or cost. Therefore, this ESD is being properly issued.

#### **D. SUMMARY OF CIRCUMSTANCES NECESSITATING THIS ESD**

The selected remedy for the Beede Waste Oil Superfund Site (the "Site") is described in Section II.B. of this document. A component of the selected remedy includes the requirement to provide, maintain and monitor point of entry (POE) treatment systems for impacted potable water wells as necessary, to prevent human exposure to groundwater with contaminant concentrations above drinking water standards. Five POE treatment systems are currently being maintained and monitored. These POE treatment systems use granular activated carbon (GAC) filters to remove groundwater contaminants.

Although operation of the POE treatment systems have been successful in preventing human exposure to Site contaminants in groundwater, maintenance of these systems has required more frequent monitoring and GAC filter replacements than originally anticipated. In addition, the Beede Site Group ("BSG") is providing impacted residents with bottled water for drinking to ensure protection of human health. The time needed to restore impacted residential wells to drinking water standards has been estimated to be nine years (December 2021), or possibly longer given the uncertainties inherent with groundwater restoration work. During this period of time the continued use of potable water wells in the area may enhance the drawdown of Site contaminants into the neighborhood groundwater, potentially impacting additional residential drinking water wells. As a result of these considerations, the parties responsible for implementing the selected remedy, the BSG have been exploring the possibility of extending a waterline to the area as a permanent solution to address drinking water quality.

The BSG recently identified a private utility with the capacity to provide potable water to those residents whose wells have been impacted by contaminants from the Site. The BSG has proposed to contract with this private utility to extend an existing waterline to those residents whose wells have been impacted by the Site, thereby replacing the need for the POE treatment systems and bottled water for drinking. A private utility with the capacity to provide potable water to residential wells impacted by the Site was not an available option at the time of the ROD (see also Section 3.2.2.2 of the January 2002 Feasibility Study Report). Once the new waterline is extended to the impacted neighborhood, the BSG will offer to connect residents that are currently provided with POE treatment systems and/or bottled water to the extended waterline and thereafter disconnect those residents from their groundwater wells and remove the POE treatment systems from their property.

## **E. AVAILABILITY OF DOCUMENTS**

This ESD and supporting documentation shall become part of the Administrative Record for the Site. 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 Suite 100  
Boston, MA 02109  
(617) 918-1440  
Monday-Friday: 9:00 am - 5:00 pm

Plaistow Public Library  
85 Main Street  
Plaistow, NH 03865  
(603) 382-6011  
Monday-Thursday: 9:00 am – 7:30 pm  
Friday: 9:00 am – 5:00 pm  
Saturday: 9:00 am – 1:00 pm

## **II. SUMMARY OF SITE HISTORY, CONTAMINATION AND SELECTED REMEDY**

### **A. SITE HISTORY, CONTAMINATION AND SITE RISKS**

The nearly 41-acre Beede Site is located in a residential Plaistow, NH, neighborhood that is served entirely by private potable water supply wells (see Figure 1). The facility operated from the 1920s through August 1994 as a waste oil storage and recycling facility. The Site is contaminated primarily with waste oil that seeped into the ground from a variety of sources, including a former unlined lagoon, underground storage tanks, above ground storage tanks, and numerous drums located throughout the property. The Site was added to the NPL in December 1996. The principal threats to human health and the environment are direct contact and ingestion of polychlorinated biphenyls (PCBs) and lead in shallow soil, ingestion of VOCs in the deep soil through leaching into the groundwater, and ingestion of VOCs in the groundwater. Low-level threats to human health are posed by exposure to PCBs and PAHs in a very limited area of Kelley Brook. Low-level threats to ecological receptors are posed by exposure to VOCs and PAHs in the surface waters of Kelley Brook.

### **B. SUMMARY OF SELECTED REMEDY**

The ROD for the Site was signed on January 9, 2004. The ROD selected a cleanup plan with an objective to mitigate, restore and/or prevent existing and future potential threats to human health and the environment. In summary, the cleanup plan consists of:

- Completion of pre-design activities as part of the remedial design phase of work that will include conducting treatability studies, evaluating site access issues, and performing an assessment of the light non-aqueous phase liquid (LNAPL) recovery system, on-site water supply well, and on-site building for potential use as part of the remedy.

- Excavation of contaminated surface/shallow soils (generally 0 to 2 feet below ground surface), including on-site soil piles, as well as subsurface soils (discrete areas 2 to 10 feet below ground surface) for off-Site disposal.
- Excavation of the on-Site landfill materials for off-Site disposal.
- Restoration of on-Site soil and landfill excavation areas.
- Excavation of contaminated Kelley Brook sediments for off-Site disposal.
- Restoration of Kelley Brook wetlands in the landfill and sediment excavation areas.
- Design, construction and operation of a groundwater extraction, treatment, and discharge system to treat contaminated groundwater in the vicinity of source areas and to support dewatering activities necessary for in-situ soil vapor extraction.
- Design, construction and operation of a soil vapor extraction (SVE) system to remove contaminants from deep soils which are acting as a continuing source of groundwater contamination. The SVE system may be thermally-enhanced through steam injection as will be determined by treatability studies to be conducted by the Performing Settling Defendants.
- Long-term monitoring of sediment and surface water in Kelley Brook.
- Long-term monitoring of groundwater quality on- and off-Site.
- Long-term monitoring of drinking water quality in on- and off-Site water supply wells. This component of the remedy includes a requirement to provide, maintain and monitor point of entry (POE) treatment systems as necessary, to prevent human exposure to groundwater with contaminant concentrations above drinking water standards.
- Monitoring of air quality in structures including residences in the vicinity of the Site as determined necessary by EPA.
- Implementing institutional controls to prevent future excavations below a depth of 10 feet on Parcel 1, to prevent use of contaminated groundwater for potable water until the groundwater aquifer has been restored, and to caution the public about the consumption of fish from Kelley Brook until such time as contaminant levels in fish tissue reach safe levels.
- Providing data sufficient to allow EPA to perform a review of the Site at least once every five years to assure that the remedial action continues to protect human health and the environment and to perform a review of the Site prior to eventual deletion from the National Priorities List.

Design activities for the cleanup plan started in late 2008. The design for the groundwater extraction and treatment system is expected to be completed in September 2012, and construction is planned to start in Fall 2012. The groundwater extraction and treatment system is expected to be operational by mid to late 2013. The design and construction of the other

cleanup plan will be phased in over the next four years, and it is anticipated that planned construction work will be completed for these other components of the remedy by December 2016.

### III. BASIS FOR THE DOCUMENT

This ESD is being issued to explain a modification to the selected remedy as set forth in the January 9, 2004 ROD for the Site. The modification described in this ESD is approval of another option for preventing human exposure to Site-related groundwater with contaminant concentrations above drinking water standards. This option for addressing contaminated groundwater is to extend an existing waterline to provide potable drinking water to impacted residential properties off-Site, and replacing the need for POE treatment systems, as discussed in Section I.D above, for those residents who are connected to the new waterline. As part of this option for addressing contaminated drinking water, the BSG will do the following:

- obtain necessary approvals for extension of the approximately 6,700 feet long water line;
- install the water line extension infrastructure to the impacted properties;
- offer to connect all impacted properties to the new water line extension; and
- properly abandon any existing potable water well that is not utilized as a long-term groundwater monitoring well per EPA's direction.

EPA, in consultation with NHDES, believes that extending the waterline and connecting those residents whose wells have been impacted by the Site to the waterline is an acceptable option for preventing human exposure to Site-related groundwater with contaminant concentrations above drinking water standards. EPA and NHDES considered the following in support of this ESD.

- Connection to the waterline is a better long-term solution for treatment of potable water at this Site considering the uncertainties inherent in the timing of groundwater restoration efforts. A primary goal of the selected remedy is to restore the water quality of impacted residential wells to drinking water standards within approximately 5 years of completing construction of the selected remedy. Construction of the remedy is currently scheduled for completion in December 2016. Therefore, the estimated date to restore the water quality in the impacted residential wells to drinking water standards is approximately December 2021, over nine years from now, and could end up taking longer than the current estimate due to the uncertainties inherent in groundwater restoration work.
- Residents connected to the new waterline will be provided with an immediate and permanent solution to prevent exposure to contaminated drinking water. Once the new waterline is completed and connections achieved, potable water wells for the impacted properties will no longer need to rely on POE treatment systems for an indefinite period of time. Residents will be able to eliminate the inconvenience of frequent monitoring of their potable water and filter changes for the individual POE treatment systems, as well as regular maintenance of these systems. They will no longer need to rely on bottled water for drinking.
- Decommissioning of the existing potable wells may also eliminate the potential for pulling the groundwater contamination downward into the bedrock and further into the neighborhood. While the groundwater cleanup goals can be achieved with either the continued operation of the POE treatment systems or with a water line, it appears that continued pumping of groundwater from impacted residential wells may enhance the downward draw of contaminated groundwater into the bedrock. This could result in

further migration of contaminated groundwater into the neighborhood, leading to contamination of additional potable water wells. Connection to the new waterline will reduce the risk that operation of these potable wells will contribute to expansion of Site related contaminants.

This ESD hereby modifies the 2004 ROD by approving the use of a waterline as an acceptable option for preventing human exposure to Site-related contaminated groundwater. A waterline is an acceptable alternative to the use of POE treatment systems on individual wells impacted by Site related contaminants. As a result of this ESD, either the waterline or the use of POE treatment systems are acceptable options for preventing human exposure to groundwater with contaminant concentrations above drinking water standards.

#### **IV. DESCRIPTION OF SIGNIFICANT DIFFERENCES**

The proposed modifications to the remedy are summarized below.

##### **Original Remedy**

The original remedy is described in Section II.B. of this document. A component of the selected remedy includes a requirement to provide, maintain and monitor point of entry (POE) treatment systems as necessary, to prevent human exposure to groundwater with contaminant concentrations above drinking water standards. The Beede Site Group is currently monitoring and maintaining five POE treatment systems. The POE treatment systems use granular activated carbon to absorb the groundwater contaminants.

##### **Modified Remedy**

This ESD modifies the remedy by acknowledging that use of an extended waterline to address contaminated groundwater associated with the Beede Site is an acceptable option for preventing human exposure to groundwater concentrations above drinking water standards. Potable wells impacted by the Site that are replaced with connections to a new, extended waterline will be properly abandoned or decommissioned unless they need to be utilized as long-term groundwater monitoring wells per EPA's direction, and the POE treatment systems will be removed, thereby eliminating the requirement to provide, maintain and monitor such systems. Potable wells that remain in use as groundwater monitoring wells shall be secured so as to prevent other use.

In the future, if additional potable wells are found to contain Site-related contamination above drinking water standards, the option to provide connections to the extended waterline, as described in this ESD, will also be a remedial option for additional impacted residents.

##### **Summary of Costs**

The BSG has estimated that the waterline construction will cost approximately \$600,000.

#### **V. SUPPORTING AGENCY COMMENTS**

The State of New Hampshire has participated with the EPA in reviewing the modifications to the remedy described herein and concurs with this ESD. The New Hampshire Department of Environmental Services letter of concurrence is attached to this ESD.

#### **VI. STATUTORY DETERMINATIONS**

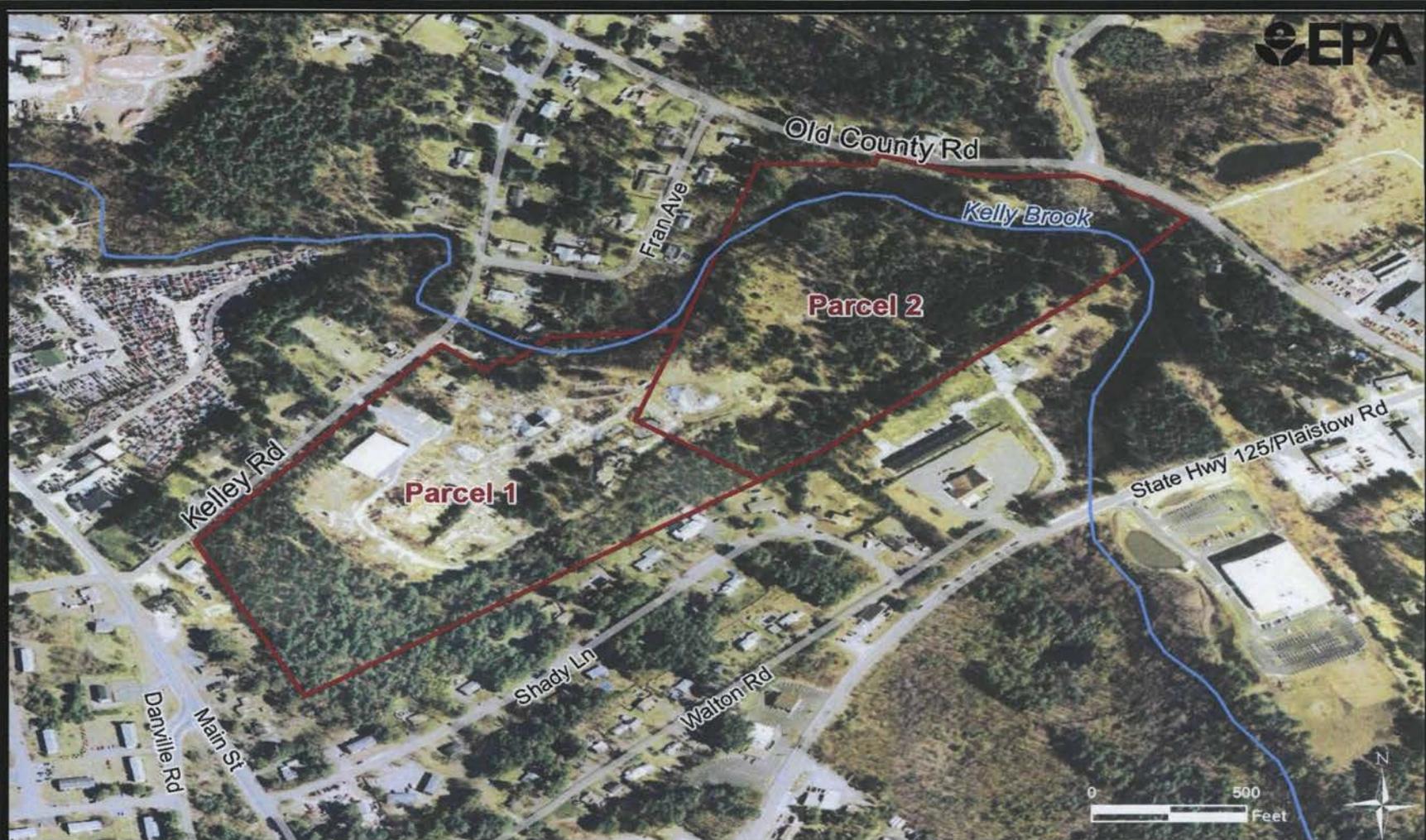
EPA believes that the modified remedy remains protective of human health and the environment, complies with all Federal and State requirements that are applicable or relevant and appropriate to this remedial action, meets the remedial action objectives specified in the ROD, and is cost-effective.

## VII. PUBLIC PARTICIPATION COMPLIANCE

In accordance with Section 117(d) of CERCLA and Section 300.825(a) of the NCP, the ESD and supporting documentation shall become part of the Administrative Record for the Site. This ESD and the Administrative Record are available for public review at the locations and times listed in Section I(E) above. A public notice, which summarizes the modification to the remedy as set forth in the ESD shall be published in a local newspaper of general circulation following the signing of this ESD.

The waterline extension option has been discussed with local officials and the property owners who are currently provided with POE treatment systems. In a letter to the New Hampshire Public Utility Commission dated June 26, 2012, local officials provided their support for the waterline extension. In addition, the New Hampshire Public Utility Commission issued an Order on July 18, 2012, granting a public utility's petition for authority to provide water service to customers in the vicinity of the Site, and including a 30 day public comment period through August 17, 2012. (State of New Hampshire Public Utilities Commission, DW 12-109, Pennichuck Water Works, Inc., Request for Franchise and Rates, Beede Waste Oil Site, Plaistow, Order *Nisi* Granting Request, No. 25,393, July 18, 2012.)

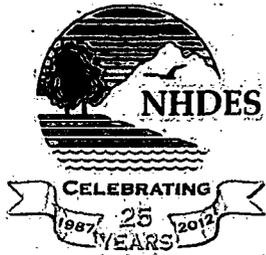
As a result of the significant outreach referenced above, EPA has decided not to include a separate comment period associated with notice of this ESD.



Beede Waste Oil Superfund Site  
Plaistow, New Hampshire

Figure 1

**NEW HAMPSHIRE DEPARTMENT OF  
ENVIRONMENTAL SERVICES  
LETTER OF SUPPORT**



The State of New Hampshire  
**Department of Environmental Services**

**Thomas S. Burack, Commissioner**



*Celebrating 25 Years of Protecting  
New Hampshire's Environment*

September 25, 2012

James T. Owens III, Director  
Office of Site Remediation and Restoration  
US EPA New England, Region I  
5 Post Office Sq, Suite 100  
Boston MA 02109-3912

**RE: Explanation Significance Difference  
Beede Waste Oil Superfund Site  
Plaistow, New Hampshire – DES #198404068, Project RSN #7464**

**SUBJECT: Declaration of Concurrence**

Dear Mr. Owens:

The New Hampshire Department of Environmental Services (Department) has reviewed the August 2012 Explanation of Significant Differences (ESD) for the Beede Waste Oil Superfund Site (Site) in Plaistow, New Hampshire. The United States Environmental Protection Agency (EPA) prepared this ESD in accordance with the provisions of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986. The ESD addresses a modification to the actions necessary under CERCLA, as amended, to manage the potential threats to human health and the environment at the Site:

**Rationale for the ESD**

In its 2004 Record of Decision (ROD), EPA documented its selected comprehensive remedy for the Site. The remedy outlined in the ROD addressed contaminated groundwater, soils and sediments and other materials at the Site. A component of this remedy includes the requirement to provide, maintain and monitor point of entry (POE) treatment systems for impacted potable water wells as necessary, to prevent human exposure to groundwater with contaminant concentrations above drinking water standards. While the POE treatment systems have been successful in preventing human exposure to Site contaminants in groundwater, the operation of these systems requires frequent monitoring and more maintenance than originally anticipated. Furthermore, the continued pumping of water supply wells in the area may enhance the off-site migration of Site contaminants in groundwater, potentially impacting additional residential drinking water wells.

Recently, the Beede Site Group (BSG) identified a private utility with the capacity to provide potable water to those residents whose wells have been impacted by contaminants from the Site and has proposed to contract with the private utility to extend an existing waterline to those residents. At the time of the ROD, the possibility of extending a waterline to impacted residents was not a readily available option. However, now that such a waterline is possible, once residents that are currently provided with POE treatment systems are connected to a waterline, their wells can be abandoned and the POE treatment systems removed from those properties.

DES Web Site: [www.des.nh.gov](http://www.des.nh.gov)

PO Box 95 • 29 Hazen Drive • Concord, NH 03302-0095

Telephone: (603) 271-2908 • Fax: (603) 271-2181 • TDD Access: Relay NH 1-800-735-2964

In providing the option to connect to a waterline, the ESD provides another mechanism to prevent human exposure to Site-related groundwater with concentrations of contaminants above drinking water standards. By connecting to a waterline, residents will be provided with an immediate, more reliable, long-term solution to the potential threat of exposure to contaminated groundwater and will also help reduce the potential threat to other wells in the vicinity of the Site.

### State Concurrence

In reviewing the ESD, the Department has determined that the modification to the remedy will be protective of human health and the environment, and complies with State requirements. Additionally, the Department has determined that the remedy change is consistent with the Department's requirements for a remedial action plan and meets all of the criteria for remedial action plan approval. Therefore, the Department, acting on behalf of the State of New Hampshire, concurs with the modification to the selected remedy, as described in the ESD.

In striving to maximize the effectiveness of limited public and private resources, the Department seeks reasonable and practical solutions to the complex challenges associated with contaminated site cleanups. EPA's dedication and continued partnership with the Department will ensure the achievement of our mutual environmental goals at this Site. To this end, the Department stands ready to provide whatever assistance EPA may require.

Sincerely,



*for* Michael J. Wimsatt, P.G., Director  
Waste Management Division

Waste  
Management  
Division

Digitally signed by Waste  
Management Division  
DN: cn=Waste Management Division,  
o=NHDES, ou=WMD, email=kimberly.  
durgin@des.nh.gov, c=US  
Date: 2012.09.25 10:30:44 -0400

cc: Sean Fitzgerald, Plaistow Town Manager  
Board of Selectmen, Town of Plaistow  
Dennise Horrocks, Town Health Officer  
James Brown, USEPA  
Mary Maloney, NHDOJ  
Keith DuBois, NHDES  
Carl Baxter, NHDES  
Richard Pease, NHDES