SECOND FIVE-YEAR REVIEW REPORT FOR
HATHEWAY AND PATTERSON SUPERFUND SITE
BRISTOL COUNTY, MASSACHUSETTS

Prepared by

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Region 1
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9/5/19
Date

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LIST OF ABBREVIATIONS & ACRONYMS

ACRONYM	DEFINITION
ARAR	Applicable or Relevant and Appropriate Requirement
AUL	Activity and Use Limitation
AWQC	Ambient Water Quality Criteria
BERA	Baseline Ecological Risk Assessment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC § 9601 et seq.
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
COC	Contaminant of Concern
COPC	Contaminant of Potential Concern
CWA	Clean Water Act
DA	Domestic Auxiliary
DEQE	Massachusetts Department of Environmental Quality Engineering
EPA	Environmental Protection Agency (U.S. EPA - Region 1)
EPC	Exposure Point Concentration
ESD	Explanation of Significant Differences
FS	Feasibility Study
FYR	Five-Year Review
HHRA	Human Health Risk Assessment
HI	Hazard Index
HQ	Hazard Quotient
ICs	Institutional Controls
LI	Limited Industrial
LNAPL	Light Non-Aqueous Phase Liquid
LSP	Licensed Site Professional
MassDEP	Massachusetts Department of Environmental Protection
MCLs	Maximum Contaminant Levels
NAWQC	National Ambient Water Quality Criteria
NCP	National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300
NE	Northeast
NPL	National Priority List
NW	Northwest
O&M	Operation and Maintenance
PAHs	Polycyclic Aromatic Hydrocarbons
PCP	Pentachlorophenol

ACRONYM	DEFINITION
PRP	potentially responsible party
RA	Remedial Action
RAC	Response Action Contract
RAFU	Reasonable Anticipated Future Land Use
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.*
RD	Remedial Design
RME	Reasonable Maximum Exposure
RfD	Reference Dose
RI	Remedial Investigation
ROD	Record of Decision
SDWA	Safe Drinking Water Act
SE	Southeast
SEL	Severe Effect Level
SF	Slope Factor
SVOCs	Semivolatile Organic Compounds
SW	Southwest
TBC	To Be Considered
TEL	Threshold Exposure Limit
TEQ	Toxicity Equivalent
TLV	Threshold Limit Value
TRV	Toxicity Reference Value
UCL	Upper Confidence Limit
USACE	United States Army Corps of Engineers
UU/UE	unlimited use and unrestricted exposure
VOCs	Volatile Organic Compounds

I. INTRODUCTION

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in five-year review reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this five-year review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP)(40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the second FYR for the Hatheway and Patterson Superfund Site. The triggering action for this statutory review is the completion date of the previous FYR on September 3, 2014. The FYR has been prepared due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Hatheway and Patterson Superfund Site Five-Year Review was led by Kimberly White, EPA Remedial Project Manager with support from Garry Waldeck, of the Massachusetts Department of Environmental Protection (MassDEP), as the representative for the support agency. Participants included Emily Bender, Community Involvement Coordinator; Bart Hoskins, Ecological Risk Assessor; Chau Vu, Human Health Risk Assessor; and Sarah Meeks, Attorney. The review began on 11/6/2018.

Site Background

The Hatheway and Patterson Superfund Site is located in the towns of Mansfield and Foxborough, Massachusetts. Approximately 36 acres of the Site are located in the Town of Mansfield and the remaining 1.77 acres are located in the Town of Foxborough. The Site is bisected by the Rumford River, which runs north to south, and by a railroad right-of-way, which runs east to west.

Prior to the 1950's, the property was reportedly used for various activities, including railroad operations, coal storage, bulk chemical transfer, and storage of electric/utility poles and railroad ties. Beginning in 1952, wood treatment operations by Hatheway & Patterson Co., Inc. began. Contamination was initially discovered in 1972, when a tar seep (approximately 62 feet long and 6 inches thick) was discovered on the banks of the Rumford River on the southern portion of the property. Hatheway & Patterson took some actions to address the tar seeps until it filed for bankruptcy in 1993, ceased operations and left the Site. To address the imminent hazard posed by abandoned chemicals and waste at the Site, EPA conducted a removal action from 1993 to 1995. Removal actions included: the off-site disposal of approximately 100,000 gallons of liquid and solid waste from various above-ground and underground storage tanks on the Site; a comprehensive surface soil investigation, which detected elevated concentrations of arsenic resulting in several areas of the property (including areas near County Street) being temporarily covered with geotextile/gravel and/or asphalt; and securing the Site perimeter fencing, tank manways and buildings. The Site was placed on the National Priorities List (NPL) in 2002. EPA performed a second removal action in 2003 to address arsenic contaminated soil along County Street.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Hatheway & Patterson Superfund Site		
EPA ID: MAD001060805		
Region: 1	**State:** MA	**City/County:** Bristol County
SITE STATUS		
NPL Status: Deleted		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name (Federal or State Project Manager): Kimberly White		
Author affiliation: U.S. EPA, Region 1 – New England		
Review period: 11/6/2018 - 7/31/2019		
Date of site inspection: 11/19/2018		
Type of review: Statutory		
Review number: 2		
Triggering action date: 9/3/2014		
Due date *(five years after triggering action date)*: 9/3/2019		

II. RESPONSE ACTION SUMMARY

The primary contaminants identified at the Site were arsenic, dioxin, polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol (PCP) and other semi-volatile organic compounds (SVOCs). Light Non-Aqueous Phase Liquid (LNAPL) hot spot areas/isolated pockets of free product and LNAPL-saturated subsurface soils were also detected throughout the Site. In September 2005, EPA issued a Record of Decision (ROD) to address current and future risks due to direct contact and incidental ingestion of soil and risks to future users of groundwater. Modifications to the remedy were documented in the 2011 Explanation of Significant Differences (ESD). Remedial construction activities commenced in September 2009 and were substantially completed in September 2010. A total of 34,000 tons of soil was removed from the Northern Mansfield Property and the Foxborough Property and 9,500 tons of soil was removed from the eastern portion of the Southern Mansfield Property for off-site disposal to a RCRA subtitle C hazardous waste landfill. Approximately 5,000 tons of soil exceeding arsenic cleanup levels were consolidated in the "Capped Consolidation Area" on the Foxborough Property under a multi-layer low-permeability barrier (i.e., the asphalt cover). A small portion of land along the western boundary of the

Foxborough Property, approximately 30 feet wide, was left unpaved. The unpaved area of the Foxborough Property was cleaned-up to the same level that was being used in the rest of the Site in Mansfield that was zoned open space/commercial. See **Figure B-1** in **Appendix B**.

The Site properties, which are owned by the towns of Mansfield and Foxborough, have institutional controls in the form of Notice of Activity and Uses Limitations (NAULs), to prevent uncontrolled access to the remaining contamination. The NAUL on each property specifies the current allowable and prohibited uses of the property and establishes limits and conditions on the future uses of contaminated portions of the property. Institutional controls were also placed on the railroad right-of-way, owned by the Massachusetts Department of Transportation, in the form of signage to prevent the potential exposure to any future utility workers. The restrictions are presented in **Table 1**.

Table 1: Summary of Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Document	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
groundwater and subsurface soils	Yes	Yes	Northern Mansfield Property, 35 County St., Mansfield, MA [Map 19 Lot 210]	Restricts uses of Site and restricts access to groundwater; prevents uncontrolled access to the remaining subsurface soil contamination	Notice of Activity and Use Limitation (NAUL); 09/28/2015 (confirmatory NAUL planned for 2019)
groundwater and subsurface soils	Yes	Yes	Southern Mansfield Property, Morrow St., Mansfield, MA [Map 18 Lot 230-235]	Restricts uses of Site and restricts access to groundwater; prevents uncontrolled access to the remaining subsurface soil contamination	NAUL; 09/28/2015 (confirmatory NAUL planned for 2019)
groundwater and subsurface soils	Yes	Yes	Foxborough Property, 41 County St., Foxborough, MA [Map 158 Lot 4060]	Restricts uses of Site and restricts access to groundwater; prevents uncontrolled access to the remaining subsurface soil contamination	NAUL; 09/28/2015
soils	Yes	Yes	Railroad Right-Of-Way (ROW) intersecting Site	Provides notification of contamination and actions to take before soils are disturbed	Warning Signs along Railroad ROW; February 2017

UU/UE – Unlimited Use and Unrestricted Exposure

The NAUL requires that the property owner submit annual reports to EPA and MassDEP regarding the status of the ICs. EPA will also assess site conditions and interview town officials as part of the Five-Year Review process to confirm that only the permitted uses have taken place on the restricted properties. Should there be violations of the restrictions contained in the NAUL, the state has the authority to take an enforcement action against any property owner. The warning signs placed along the fencing in the right-of way are inspected periodically, at a minimum every five years as part of EPA's Five-Year Review process, and/or during regular operation and maintenance activities conducted by the MassDEP.

MassDEP has conducted long-term monitoring of groundwater, surface water, fish tissue and sediment and inspection of the low-permeability cover, wells, storm filters and catch basins. Since the first five-year review in 2014, groundwater has been monitored semi-annually and sediment and surface water were sampled at least bi-annually. The fish tissue sampling requirement was eliminated, as explained and documented in the 2017 O&M Manual, primarily due to the lack of fish in the Rumford River (reasons for this are unrelated to the Site). Additional details regarding the Site and the performance of the remedy are discussed in **Appendix B**.

In 2018, the Site was deleted from the NPL because EPA determined that the all response actions for the Site were complete and that all cleanup goals had been achieved. EPA provided notice and an opportunity to comment on its determinations and the proposed deletion. The Final Rule to Delete the Site can be found in docket EPA-HQ-SFUND-2002-0001, accessed through the http://www.regulations.gov website, and in the Site repositories.

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the previous five-year review as well as the recommendations from the previous five-year review and the current status of those recommendations.

Table 2: Protectiveness Determinations/Statements from the 2014 FYR

OU #	Protectiveness Determination	Protectiveness Statement
Sitewide	Short-term Protective	The remedy at the Hatheway & Patterson Superfund Site currently protects human health and the environment because remediation of the soil (soil removal and on-site consolidation) has been completed to cleanup levels that are considered protective for the anticipated future use of the property, and there is no current use of on-site groundwater which is classified as non-potable. However, in order for the remedy to be protective in the long-term, institutional controls need to be created and recorded to restrict inappropriate land uses (including use of groundwater) and protect the consolidation area cover. Operation and maintenance activities have been initiated and will ensure that the consolidation area and associated components of the remedy (e.g., groundwater monitoring wells) remain in good condition. In addition, monitoring of groundwater will continue to assess the protectiveness of the remedy.

Table 3: Status of Recommendations from the 2014 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
	Institutional controls restricting land uses that may impact the protectiveness of the remedy (including preventing the use of groundwater, protecting the consolidation area cover and other components of the remedy) need to be established. Also, an updated risk evaluation shows that the railroad right-of-way will also require institutional controls to protect workers who may contact soil in that area.	EPA, MassDEP, and the property owners should begin discussions as soon as possible and establish institutional controls by the next five-year review.	Completed	Institutional Controls for the Site have been implemented and the NAULs were recorded with the required Registry of Deeds as of September 2015. Warning signs were placed along the railroad right-of-way.	2/2/2017
	The 2012 sediment sampling event included locations which did not correspond with the historic sampling locations and the results showed lower contaminant concentrations than seen previously. As a result, it is uncertain whether the higher concentrations historically seen remain at the Site. If the historic concentrations are still present, recent changes to toxicity values and exposure parameters included in risk evaluation for sediment may result in a future change to the protectiveness determination with respect to sediment exposure.	If accessible, collect sediment samples from locations which correspond to historical sampling locations and assess the new data.	Ongoing	Sediment samples were collected in 2015 and 2017 at historic locations. The results indicated that arsenic was the only contaminant detected above historical concentrations, however a risk evaluation conducted in 2017 concluded that exposures to arsenic in sediment at the Site do not result in unacceptable risks and hazards. Sediments will continue to be monitored and assessed as part of the five-year review.	

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
	The fish tissue collection required by the ROD was not performed due to a lack of fish in the Rumford River. Also, surface water sampling required by the ROD was not performed due to EPA and MassDEP's agreement to continue discussions about the future operation and maintenance plan for the Site.	Review current Site information, determine the need for and, if necessary, collect any additional data. Update/ document changes in the monitoring requirements accordingly.	Completed	Site information was reviewed and based on discussion between EPA and MassDEP updates were made to the O&M plan, which eliminated fish tissue monitoring and included monitoring of surface water and sediments at a minimum every five years.	8/31/2017
	Determine whether a PCP detection above its MCL in a non-potable private groundwater supply well is Site-related.	Perform evaluation which potentially includes the following: determine if detection is real (potential resampling); review well construction and potential hydrogeologic connection to the Site; and review nearby potential sources.	Completed	Additional samples were collected from the non-potable private groundwater well with the PCP detection and a few additional wells in 2015. The results indicated that PCP detections were below the MCL and likely not site related.	8/30/2017
	Active irrigation wells have been identified ~300 ft beyond the compliance boundary. Irrigation wells are not expected to create enough drawdown to induce groundwater to flow to them from the compliance boundary. An on-site monitoring well just east (upgradient) of the compliance boundary does indicate the presence of contamination at concentrations above performance standards.	Additional investigations should be conducted to confirm whether groundwater flow directions have been impacted by the irrigation wells.	Completed	It has been determined that the drawdown of the irrigation wells has not affected groundwater flow directions. This is documented in a 2017 technical memo.	8/30/2017

IV. FIVE-YEAR REVIEW PROCESS

This section describes the activities performed during the five-year review process and provides a summary of findings. The review, which began in November 2018, consisted of the following components:

- Community Involvement;
- Document Review;
- Data Review;
- Site Inspection; and Five-Year Review Report Development and Review.

Community Notification, Involvement & Site Interviews

A public notice was made available by EPA press release titled "EPA begins 14 reviews of Massachusetts Superfund site cleanups this year", issued on 2/21/2019, stating that there was a five-year review and inviting the public to submit any comments to the U.S. EPA. The results of the review and the report will be made available at the Site information repository located at EPA's website: www.epa.gov/region1/superfund/sites/hatheway and at OSRR Records and Information Center, 1st Floor, 5 Post Office Square, Suite 100 (HSC), Boston, MA 02109-3912, (617) 918-1440.

Site Interviews

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy that has been implemented to date. Several stakeholders were interviewed, including the MassDEP Project Manager, the Town Managers of Mansfield and Foxborough, the Department of Public Works for the Town of Mansfield, and the Massachusetts Department of Transportation (MassDOT) as the owner of the railroad property that runs through the Site. **Appendix C** includes the interview questions and responses.

In general, the interviews indicate that there has been some use at the Site and additional development is planned. MassDOT and Town of Mansfield contractors have utilized portions of the Northern Mansfield property as a laydown yard for equipment associated with railroad repairs for the tracks that run through the Site and for repairs on the N. Main Street Underpass. This portion of the Site is covered with gravel and some rutting on the surface of the area was noted, but the contractor is expected to regrade the area. The Town of Mansfield is currently working with a consultant to evaluate a transit-oriented development also at and around the Site. Currently, possible plans on the Site (southeast, SE, quadrant) include construction of a walkway. The Town of Mansfield DPW manager also noted that the Northern Mansfield property continues to be mowed, but that fencing outside of the southeast quadrant boundary of the Site along the railroad track is in disrepair. Some vandalism was reported at the Foxborough property, but none impacted conditions at the Site or established institutional controls. MassDOT indicated that there has not been any excavation below the railroad ties in the area near the Site, however if excavation is required below the railroad ties, a Licensed Site Professional (LSP) would provide oversight and notification to MassDEP and EPA. Some soil/material was stockpiled near the tracks, which MassDOT indicated was from work on parts of the track outside of the Site.

Data Review

During the FYR period, groundwater samples were collected semi-annually, and sediment and surface water samples were collected based on the groundwater results, at least bi-annually. Fish sampling, initially required in the ROD, was eliminated due to the lack of fish in the Rumford River (this discussed further

below). All samples were collected by MassDEP, the lead agency for performing the long-term monitoring, in accordance with the Operation and Maintenance (O&M) Manual for the Site, which was recently updated in August 2017 (EPA 2017a). A summary of monitoring efforts and findings since the last five-year review was completed is provided below. Data results are provided in the *Update to the October 2018 Field Work Reporting Memo* prepared by Environmental Strategies & Management (ESM) (ESM 2019), which provides comprehensive tables and figures of the sampling data collected. A list of references is provided as **Appendix A**. A figure with the sampling locations is provided in **Appendix B** as **Figure B-2**.

Groundwater Sampling

Long-term monitoring at the Site is based on ensuring that the non-potable (Class III) groundwater is not migrating beyond the compliance boundary established for the Site. The compliance boundary defined in the 2005 ROD is the property boundary on the south side of the Site, the Rumford River backwash channel on the west side of the site, and the Rumford River on the north side of the Site. Groundwater analyses included the three analytes which have performance standards established in the ROD: pentachlorophenol (PCP), arsenic, and chromium.

The performance standards for on-site groundwater listed below, are based on protection of instream water quality in the Rumford River to protect aquatic life:

PCP	1,792 ppb
Arsenic	17,924 ppb
Chromium	1,314 ppb

At the Site compliance boundary groundwater performance standards in the ROD are Maximum Contaminant Levels (MCLs) and state (Massachusetts Contingency Plan [MCP] groundwater standards established for the for the protection of surface, GW-3 standards), as listed below:

PCP	1 ppb
Arsenic	10 ppb
Chromium	100 ppb

Dioxins were also analyzed, since they are a known site contaminant, and compared to the dioxin MCLs (established for the protection of surface water (GW-3) as toxicity equivalency (TEQ) of 40,000 ppb.

Groundwater sampling was conducted multiple times since last five-year review: April 2014, October 2014, April 2015, September 2015, May 2016, October 2016, April 2017, October 2017, April 2018, and October 2018. Current and historic analytical results are presented in the ESM 2019 report as Table 1A - Dioxins in Groundwater; Table 1B - Metals and PCP in Groundwater, along with performance standards for comparison purposes. In general, there have been no detections of dioxin (TEQs) above the GW-3 standards; chromium was also not detected above the on-site or compliance boundary performance standards; but there have been exceedances of arsenic and PCP in the last five years. Further discussion of the arsenic and PCP concentrations are provided below.

In October 2018 arsenic was detected at 12ppb in well MW-107, which exceeded the compliance boundary performance standard of 10ppb. However, arsenic concentrations at that this same well were well below the performance standards since 2012. Arsenic was also not detected in any other well on the Site since 2014.

PCP was detected during the 2014 through 2018 monitoring events and the detections exceeded the performance standard at the compliance boundary of 1ppb, at wells MW-113, MW-113R, MW-111 and MW-111R. Concentrations fluctuated at these wells, but generally remained below on-site groundwater performance standard of 1,792 ppb, except at well MW-111R. In the last five years, concentrations at well MW-111R ranged from 1100 ppb (in 2014) to 3,400 ppb (in October 2018). However, PCP concentrations

were not detected at wells located beyond the compliance boundary, at wells MW-109R, MW-107 and MW-107R, with exception to one spike in November 2015 at well MW-109R.

Sediment and Surface Water Sampling

Since groundwater monitoring data collected at the compliance boundary (from wells MW-113, MW-113R, MW-111 and MW-111R) exceeded the on-site groundwater performance standards for the Site, sediment and surface water samples were collected to evaluate the actual impact to the Rumford River.

Sediment Sampling

Sediment samples were collected in 2012 at four sampling locations (SED-1, SED-2, SED-3, and SED-4) and then in 2015 and 2017 additional and/or alternative locations were identified in order to evaluate whether historical contamination levels remained in the river and to determine if there are any associated risk. In 2015, historic sediment sample locations along the Rumford River, RRHP-02 and RRHP-03W, were added; and in 2017 historical sample location SD-007 was used as an alternate location for SED-1 and SED-2 and historic locations along the backwash channel, SD-020 and SD-022, were also added to the sampling program. Figure B-2 shows the sediment sampling locations.

Similar to the groundwater monitoring, sediment samples were analyzed for dioxins, PCP, arsenic, and chromium. The ESM 2019 Report presents results from the monitoring events in Table 2A (Dioxin) and Table 2B (Arsenic, Chromium and PCP). As there were no sediment performance standards in the ROD or ESD, the results are compared to historical statistical data (e.g., maximum detections, exposure point concentrations) from the 2005 risk assessments. The results indicated that all sediment sample locations had detections of site COCs. Dioxin TEQ concentrations fluctuated since 2012 but decreased in 2017 when compared to the 2015 samples. The maximum Dioxin TEQ in 2017 (280 ng/kg at RRHP-03W) was also below the sediment exposure point concentration (EPC) used for dioxin TEQ in 2005 (1,641 ng/kg). Maximum arsenic concentrations in sediment in 2017 (130 mg/kg) exceeded historic maximum concentrations (65 mg/kg), however a risk evaluation completed in July of 2017 (EPA 2017c) of the sediment arsenic concentrations in the river concluded that the estimated cancer risks are within the EPA acceptable risk range of 10E-04 to 10E-06 and the estimated hazard quotients are less than the EPA acceptable hazard quotient level of 1. Therefore, exposures to arsenic in sediment at the Site do not result in unacceptable risks and hazards. Although PCP and chromium were detected in sediments, concentrations did not exceed the respective historic exposure point concentrations of 81 mg/kg and 240 mg/kg. Sediment in the river will continue to be monitored and assessed as part of the Five-Year review process and following exceedances of on-site groundwater performance standards at the compliance boundary.

Surface Water Sampling

Since the last five-year review, surface water samples were collected in 2015, 2017 and 2018 and analyzed for dioxins, PCP, arsenic and chromium. Surface water sample locations in all three years included RRHP-02, RRHP-03W, SED-3, SED-4; however, only SD-007, SD-020 and SD-022 were sampled in 2017 and 2018, consistent with the changes in the sample locations presented above. Table 3A and Table 3B of the ESM 2019 report presents the surface water results. The ROD, as amended by the ESD, established groundwater performance standards that would be protective and equivalent to the Ambient Water Quality Criteria (AWQC) (now known as the National Recommended Water Quality Criteria (NRWQC)), therefore surface water concentrations for PCP, arsenic and chromium were compared to the NRWQC standard for fresh water (chronic) to evaluate whether there has been an impact. Arsenic and chromium were detected but were largely below the laboratory detection limits. The highest concentrations of arsenic since the last FYR was 24ppb (RRHP-03W) in 2015. At that same location, concentrations of arsenic were <5ppb in both 2017 and 2018. Chromium concentrations have been detected consistently below laboratory limits at <10 and <50 ppb during all sampling events. Arsenic and chromium concentrations in surface water did not exceed the NRWQC standard for fresh water (chronic) of 150ppb for arsenic and 11ppb for chromium.

Surface water samples collected for PCP in 2015 at two locations RRHP-03W and SED-3 both had concentrations of 18ppb which exceeded the NRWQC standard for fresh water (chronic) of 15 ppb, however this standard was not exceeded in 2017 or 2018. Surface water samples collected in April 2018 indicated that surface water PCP concentrations are below the NRWQC and generally below 2 ppb. Dioxin was detected in surface water, with the dioxin TEQ concentrations ranging from 0.089 pg/L (RRHP-02) to 36 pg/L (SED-3) in 2015, 0.078 (SED-4) to 32 pg/L (SED-022) in 2017, and 0.076 (RRHP-03W) to 17 pg/L (SED-007) in 2018. In general, the dioxin TEQ concentrations decreased from 2015 to 2018.

Sampling beyond the Compliance Boundary

Groundwater monitoring data collected at the compliance boundary exceeded Site compliance boundary performance standards for groundwater, specifically for PCP, and as required by the ROD an evaluation of the risk to off-site receptors was conducted.

As part of a hydrogeological investigation conducted in 2012 (AECOM 2013), off-site receptor wells were identified downstream of Site, to the west-southwest. After receiving permission to access the wells, the following well locations were sampled for metals, PCP and dioxins in 2014: five industrial/commercial auxiliary (ICA) and domestic auxiliary (DA) supply wells, approximately 1000 feet to the south of the Site; and two non-potable DA/ irrigation wells, approximately 300 feet to the to the west of the Site, beyond the backwash channel. Subsequent samples were also collected in 2015, based on the findings of the 2014 sampling data. The monitoring well locations, summary memorandum and analytical data are presented in *Evaluation of Contamination Beyond Site Boundary, Technical Memo, EPA 2017b*.

The results from the 2014 sampling event indicated that all five wells to the south of the Site had no exceedances of MCLs for PCP, metals or dioxin. The two wells sampled to the west of the Site showed no exceedances of MCLs for metals or dioxin; however, PCP was detected in one well at 2.7 ppb and this detection was above the MCL (1 ppb). Subsequent sampling conducted at this same private well in January 2015 detected PCP at 2.0 ppb, however, in September 2015 detections of PCP were below the MCL. Based on a review of the depth of the well and its location relative to the Site, EPA determined that a plume is not migrating past the backwash channel and the detections are likely not Site-related (EPA 2017b). Groundwater is likely to discharge to the backwash channel and would not likely flow beneath this channel. Surface water samples in the backwash channel (SD-020 and SD-022) also below applicable NRWQC standards.

Fish Sampling

The 2005 ROD recommended a round of fish tissue sampling to be performed in conjunction with the five-year review. However, a fish survey conducted in June 2013 at locations along the Rumford River indicated that: (i) no fish were present in the upgradient reference location, (ii) only crayfish were present in the river across from the Site, and (iii) some fish were present in the downstream section but were not collected for tissue residue analysis (ESM, 2013). The ecological risk assessor for the Site reviewed the finding of the report, along with past ecological and human health risk assessments and site data and determined that additional fish sampling was not warranted (EPA 2015a).

Site Inspection

The inspection of the Site for this five-year review was conducted on 11/19/2018. In attendance were Kimberly White, EPA RPM, Garry Waldeck of the MassDEP, and Sarah Meeks, EPA attorney. The purpose of the inspection was to assess the protectiveness of the remedy. The inspection included cursory examinations of the site fences and gates; the asphalt cover on the Foxborough portion of the Site that is

used as a commuter parking lot; a subset of the site monitoring wells; and the Rumford River. The site inspection checklist and photographs from the site inspection are included in **Appendix E.**

The Site was observed to be secure, and no evidence of trespassing or vandalism was noted. The portion of the Site in Foxborough (the northwest corner) continues to be used as a commuter parking lot. As described in the site inspection checklist, the parking lot is well maintained, and the fencing and gates that surround the entire northwest, NW, and northeast, NE, quadrants of the Site are in good condition (except for very minor damage to the stockade fence on the northwest side of the commuter lot). Areas along the gravel path at entrance of the of the NE Quadrant, within the Town of Mansfield, were rutted due to ponding in the area, creating damage to the cover. The NW quadrant of the Site that is within the Town of Mansfield, is mostly covered with crushed rock except for a vegetated buffer along the Rumford River. A portion of this area is being used as an equipment laydown area by a MassDOT contractor, LMH, and a Town of Mansfield contractor, Aetna Bridge; spills or other releases were not observed. The railroad right-of-way had a stockpile of crushed rock and fill, which MassDOT indicated was from an area outside the Site boundary. In June 2019, EPA received an annual compliance letter, as required in the NAUL, from the Town Manager for Mansfield, which indicated among other things, that the Town of Mansfield's contractor has vacated the Site and that they are working with the remaining contractor, LMH, to remove the pile of ballast along with the trailer and dumpsters, and make repairs to the fencing.

The monitoring wells that were observed were locked and appeared to be in good condition. The compliance boundary on the southwest side of the Site is the backwash channel, which is a vegetated marshy area and is difficult to traverse. The Rumford River, near the confluence with the backwash channel had an observable flow. The wells along the compliance boundary had been sampled several weeks before the site inspection and were found to be in good condition, and therefore were not inspected.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:

Yes. The remedy resulted in the removal of soil to the ROD cleanup levels and/or on-site consolidation under a protective cover. Although groundwater concentrations exceeded performance standards at the compliance boundary, the remedial action objective to reduce surface water impacts from Site COC and prevent exposure to groundwater has been met, since the applicable NRWQC standards have not been exceeded in recent years and institutional controls to restrict groundwater use at the Site have been recorded and are effective. Due to the exceedances of groundwater performance standards at the compliance boundary, in 2017 EPA conducted further evaluations on whether off-site private wells were impacted by site contaminants. EPA evaluated the well construction details of five wells located to the south and two wells located to the west of the Site. In addition, all wells were sampled for site related contaminants. The results of this evaluation indicated that these wells are not being impacted by site related contamination. Long Term Monitoring of on-site wells will continue be performed by the State to demonstrate whether conditions at the Site change. Five-year reviews will continue to be performed to determine if additional evaluations are needed for these private wells or any new future private wells.

Remedial Action Performance

The 2005 ROD required institutional controls and long-term monitoring in order to address contaminants that migrated in groundwater from the original source of contamination towards the Rumford River. The long-term monitoring required by the ROD was changed based on: modifications to remedy documented in the 2011 ESD, existing sampling information and an evaluation conducted by the site ecological risk assessor. Per the ESD, groundwater samples are collected to ensure that site groundwater is not posing a risk to receptors off-site. Groundwater samples are collected on the Site near the compliance boundary (the southern property boundary/Rumford River backwash channel and the Rumford River on the southwestern portion of the property). If monitoring indicates exceedances of the on-site groundwater performance standards, further evaluation of the impacts to surface water and sediments is conducted. Based on the recent sampling effort, groundwater concentrations have exceeded on-site compliance boundary samples, however surface water and sediment samples collected in the Rumford river are within acceptable limits of applicable standards (see "Data Review" in Section IV of the report). Sediment and surface water have been monitored bi-annually, however samples should be collected whenever there is an exceedance of the compliance boundary standard.

System Operations/O&M

In addition to sampling of groundwater, sediment and surface water, O&M activities conducted by MassDEP include the inspection of the low-permeability cover (asphalt parking lot in Foxborough), wells, storm filters, catch basins and monitoring wells. These inspections were conducted in conjunction with the groundwater monitoring events. The October 2018 inspection report noted the presence of normal cracks/seams in the pavement of the Foxborough parking area; and no pot holes or exposed soil were observed. The drainage outfall was also observed to be in good condition. MassDEP will notify the Town manager, EPA and other relevant personnel of any conditions requiring repair. Inspections of these areas will continue during the groundwater monitoring events.

Implementation of Institutional Controls and Other Measures

Institutional controls in the form of enforceable Notices of Activity and Use Limitations (NAULs) were recorded with the deed on properties associated with the Site in 2015 at the Registry of Deeds. Upon review of the NAULs, an administrative error was observed for the NAULs for two parcels that comprise the portion of the Site in Mansfield, referred to as the "Northern Mansfield Property" and the "Southern Mansfield Property". During the signing or recording of the NAULs, the first pages of the documents were swapped so that the first page of the Northern Mansfield Property NAUL was recorded as the first page of the Southern Mansfield Property NAUL and vice versa. This resulted in NAULs that do not read properly in the land records. In order to ensure the NAULs are providing proper notice regarding restrictions on the properties, confirmatory NAULs will be recorded on each parcel. The confirmatory NAULs have the same restrictions and language as 2015 NAULs, however an explanation was added to the end of the document explaining the previous error and why the confirmatory NAUL was needed and a verification of the Towns manager's authority to sign the NAULs was added as an appendix. The confirmatory NAUL for each parcel was signed by the town, EPA and MassDEP and will be recorded with the N. Bristol County Registry of Deeds before December 2019.

Institutional controls remain effective and the Towns continue to provide notifications of any work or planned actions on the Site. A copy of the notifications from each town are included in **Appendix D** and no violations have been reported. Future development on the Site is being evaluated by the Town of Mansfield, however design plans have not been provided to EPA or MassDEP. EPA will continue to communicate with the Towns to determine whether the planned development would warrant additional evaluations.

Warning signs placed on the fencing along the MassDOT railroad Right-of-Way remain visible and in good condition.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Question B Summary:

No. There have been changes in exposure assumptions, risk assessment methodologies, and toxicity values since the ROD was issued in 2005, however the RAOs selected for the Site are still valid and have been met. The changes as described below do not affect the protectiveness of the remedy because current and future exposures are being prevented by excavation of contaminated soils, on-site low permeability cover, and institutional controls prohibiting use of Site groundwater and restricting land uses.

Changes in Standards and TBCs

A review was conducted to consider changes in standards that were identified as Applicable or Relevant and Appropriate Requirements (ARARs) in the ROD, newly promulgated standards for chemicals of potential concern, and other policies, criteria and guidance "to be considered" (TBCs) to the extent these bear on the protectiveness of the remedy. There have been changes in standards that were identified as ARARs in the ROD, however below are other policies/ guidance noted for further consideration to any future Site activities.

Review of Human Health Risk Assessments.

The toxicity values that served as the basis for the soil cleanup levels, as contained in the 2005 ROD, have been re-evaluated to determine whether any changes in toxicity impact the protectiveness of the remedy. Changes in toxicity values since the 2005 risk evaluation are also discussed to determine whether reuse decisions remain valid. Any changes in current or potential future exposure pathways or exposure assumptions that may impact remedy protectiveness are also noted. In addition, Site monitoring data, available since the 2005 ROD and implementation of the remedy, have been qualitatively evaluated to determine whether exposure levels existing at the Site present a risk to current human receptors.

Changes in Toxicity and Other Contaminant Characteristics

There have been some toxicity value changes since the 2005 baseline human health risk assessment was performed for the Site, mainly for PFAS and polycyclic aromatic hydrocarbons (PAHs). While some of these changes would potentially increase the cancer risk and non-cancer hazard associated with the exposures to soil and groundwater evaluated, these toxicity changes do not affect the current protectiveness of the remedy because soil remediation has been completed and there is no current use of Site groundwater.

- **2016 PFOA/PFOS** non-cancer toxicity values

In May 2016, EPA issued final lifetime drinking water health advisories for PFOA and PFOS, which identified a chronic oral reference dose (RfD) of $2x10^{-5}$ mg/kg-day for PFOA and PFOS (EPA 2016a and EPA 2016b). These RfD values should be used when evaluating potential risks from ingestion of contaminated groundwater at Superfund sites where PFOA and PFOS might be present based on the Site history. Potential estimated health risks from PFOA and PFOS, if identified, would likely increase total site risks due to groundwater exposure. Further evaluation of potential risks from exposure to PFOA and PFOS in other media at the Site might be needed based on site conditions and may also affect total Site risks.

Current and historical Site uses are not known to be potential/actual source of PFAS (e.g., landfill, airport, electroplater, fire training pit, air deposition), therefore sampling for PFOA/ PFOS or other compounds of PFAS is not required, at this time. There is no current use of on-site groundwater, since on-site groundwater is classified as non-potable, and institutional controls will prevent future exposures to on-site groundwater. Therefore, the protectiveness of the remedy is not affected by this change to the toxicity values.

- **2014 PFBS** non-cancer toxicity value

Perfluorobutanesulfonic acid (PFBS) has a chronic oral RfD of $2x10^{-2}$ mg/kg-day based on an EPA Provisional Peer Reviewed Toxicity Value (PPRTV) (EPA 2014b). This RfD value should be used when evaluating potential risks from ingestion of contaminated groundwater at Superfund sites where PFBS might be present based on the Site history. Potential estimated health risks from PFBS, if identified, would likely increase total site risks due to groundwater exposure. Further evaluation of potential risks from exposure to PFBS in other media at the Site might be needed based on site conditions and may also affect total Site risks.

Current and historical Site uses are not known to be potential/actual source of PFAS (e.g., landfill, airport, electroplater, fire training pit, air deposition), therefore sampling for PFBS or other compounds of PFAS is not required, at this time. There is no current use of on-site groundwater, since on-site groundwater is classified as non-potable, and institutional controls will prevent future exposures to on-site groundwater. Therefore, the protectiveness of the remedy is not affected by this change to the toxicity values.

- ***2017 Polycyclic Aromatic Hydrocarbons (PAHs)*** cancer and non-cancer toxicity values

On January 19, 2017, EPA issued revised (less carcinogenic) cancer toxicity values and new non-cancer toxicity values for benzo(a)pyrene. Benzo(a)pyrene did not have non-cancer toxicity values prior to January 19, 2017. Benzo(a)pyrene is now considered to be carcinogenic by a mutagenic mode of action; therefore, cancer risks must be evaluated for different human developmental stages using age dependent potency adjustment factors (ADAFs) for different age groups. The cancer potency of other carcinogenic PAHs is adjusted by the use of relative potency factors (RPFs), which are expressed relative to the potency of benzo(a)pyrene. The non-cancer effects of benzo(a)pyrene, which were not evaluated in the past due to the absence of non-cancer values, can now be quantified.

Using EPA Regional Screening Level Calculator last updated in November 2018 (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search), the commercial soil screening levels for benzo(a)pyrene are developed as 2.11 mg/kg at target cancer risk level of $1x10^{-6}$ and 222 mg/kg at target non-cancer hazard quotient of 1.

The commercial/open space soil cleanup level for benzo(a)pyrene selected in the ROD at 2.1 mg/kg (ppm) is screened against the screening levels and results in acceptable cancer risk level of $1x10^{-6}$ and non-cancer hazard quotient of 0.009. Therefore, the soil cleanup level for benzo(a)pyrene is still protective of human health.

Due to the changes in toxicity values for benzo(a)pyrene, another update on risk screening was performed for post-excavation soil data from the 2011 Final Remedial Action Completion Report, using the current risk-based screening levels for commercial worker scenario. The maximum detected soil concentration of benzo(a)pyrene at 0.65 mg/kg at the railroad side wall location was used for screening against soil cleanup level and screening levels. This concentration is below the soil cleanup level and both screening levels, and exposure to soils at depth, although unlikely, would not cause any unacceptable human health risk as related to benzo(a)pyrene.

While some of the toxicity changes in PAHs would potentially decrease the cancer risk and increase non-cancer hazard associated with the exposures to PAHs, these toxicity changes do not affect the current protectiveness of the remedy because institutional controls currently prevent sub-surface soil exposures at the Site.

Changes in Human Health Risk Assessment Methods

There have been some changes to EPA's risk assessment methodologies since the ROD as discussed below.

- ***2014 OSWER Directive Determining Groundwater Exposure Point Concentrations, Supplemental Guidance***

In 2014, EPA finalized a Directive to determine groundwater exposure point concentrations (EPCs). https://www.epa.gov/sites/production/files/2015-11/documents/OSWER-Directive-9283-1-42-GWEPC-2014.pdf (EPA 2014c). This Directive provides recommendations to develop groundwater EPCs. The recommendations to calculate the 95% Upper Confidence Limit (UCL) of the arithmetic mean concentration for each contaminant from wells within the core/center of the plume. Using the statistical software ProUCL could result in lower groundwater EPCs than the maximum concentrations routinely used for EPCs as past practice in risk assessment, leading to changes in groundwater risk screening and evaluation. In general, this approach could result in slightly lower risk or higher screening levels.

Based on the levels of groundwater contamination detected at the Site, this change would not have resulted in a different risk determination from exposure to groundwater at the Site. The changes from this Directive recommendations would not affect the protectiveness of the selected groundwater remedy.

- ***2015 Vapor Intrusion Technical Guide and 2018 EPA VISL Calculator***

In June 2015, EPA finalized the Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air and updated the vapor intrusion screening levels (VISLs) electronic calculator to develop media-specific risk-based VISLs for groundwater, soil gas, and indoor air (http://www.epa.gov/sites/production/files/2015-09/documents/oswer-vapor-intrusion-technical-guide-final.pdf). The Vapor Intrusion Guide recommended the use of risk-based screening VISLs to screen for a potential vapor intrusion pathway. In February 2018, EPA launched an online VISL calculator which can be used to obtain risk-based screening level concentrations for groundwater, sub-slab soil gas, and indoor air. The VISL calculator uses the same database as the Regional Screening Levels for toxicity values and physiochemical parameters and is automatically updated during the semi-annual RSL updates. Please see the User's Guide for further details on how to use the VISL calculator. https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator.

Although the vapor intrusion pathway was evaluated in the baseline human health risk assessment (BHHRA) using EPA's 2002 Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, this pathway was reviewed using the 2015 Final Vapor Intrusion Guide and updated Regional Screening Levels. (EPA updates Regional Screening Level tables twice a year and the most current ones are available at the EPA Regional Screening Levels web page [https://www.epa.gov/risk/regional-screening-levels-rsls], updated November 2018.) A review of shallow (overburden) groundwater data as presented in the 2005 BHHRA and ROD shows that trichloroethene (TCE) and vinyl chloride are the only volatile contaminants of concern at the Site. The maximum detected concentrations of TCE and vinyl chloride in shallow groundwater are screened against their respective risk-based groundwater VISLs set at target cancer risk of $1x10^{-6}$ and target non-cancer hazard quotient of 1. The screening shows that groundwater levels of TCE and vinyl chloride do not exceed their VISLs and therefore do not result in unacceptable potential vapor intrusion risks. Other Site groundwater

contaminants of concern, i.e., pentachlorophenol, arsenic, and chromium, are not volatile and thus not included in this vapor intrusion pathway review.

Changes in Human Health Exposure Pathways

There have been no changes to the exposure pathways evaluated in the 2005 HHRA. As noted above, there have been changes to exposure parameters, but those changes do not affect the protectiveness of the remedy.

Review of Ecological Risk Assessment

The baseline ecological risk assessment (BERA) (Lockheed Martin, 2004) performed for the Site was based on data collected during the remedial investigations (RI). There are no newly promulgated standards, relevant to the Site, which bear on the protectiveness of the remedy. Changes in ecological risk assessment methods and ecological exposure pathways are discussed below. In general, there are no major changes in site conditions or exposure assumptions upon which the risk assessment was based that would result in increased exposure or risk.

Changes in Ecological Risk Assessment Methods

The BERA was conducted using methodology which would generally comply with current EPA risk assessment guidance. The minor discrepancies between current guidance and previous guidance exist in the areas of benchmarks and toxicity values utilized. For most contaminants, changes to toxicity information have been minimal. There have been minor changes in National Ambient Water Quality Criteria, now known as National Recommended Water Quality Criteria (NRWQC), values for surface water since 2005. The NRWQCs were used as screening values (mainly metals and pentachlorophenol) to select COCs in the BERA for surface water in the Rumford River. The NRWQCs for metals used in the BERA were not adjusted for hardness in the river and the analytical data for inorganics represented unfiltered metals which were not corrected to represent the dissolved fraction. However, the selection of COCs would not have been different in the BERA if these adjustments had been made. Additional measurement endpoints, including toxicity testing, were utilized to evaluate surface water toxicity and were the primary basis for determination in the BERA that there were not significant risks to aquatic receptors in the river.

The selection of COCs in sediment was based on screening that is generally consistent with methodology and benchmarks currently used in ecological risk assessments and consistent with guidance. All of the methods used in the BERA were generally consistent with current guidance (USEPA, 2008).

Changes in Ecological Exposure Pathways

Exposure pathway assessed in the 2005 BERA was for benthic invertebrates, water column invertebrates, fish, piscivorous birds and mammals feeding along the Rumford River exposed to Site-related contaminants. It was determined that a substantial risk was unlikely and therefore, the remedy did not include clean-up in the Rumford River. However, the ROD recommended long-term monitoring of groundwater, surface water, sediment, and fish tissue in order to confirm that groundwater is not migrating off-site or adversely impacting the Rumford River.

As discussed in Section IV, groundwater at the Site has exceed the compliance boundary standards, however sediment and surface water sampling results do not indicate a significant change from historical sampling data and/or acceptable risk ranges. Although fish tissue is no longer collected from the Rumford River because the fish community sampled in support of the BERA has been found to be depleted, there has not been significant changes that would result in increased exposure or risk. Groundwater, sediment and surface water samples will continue to be collected from the Site.

QUESTION C: Has any **other** information come to light that could call into question the protectiveness of the remedy?

No. Other information has not come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
Site-wide

OTHER FINDINGS

- *Sediment and surface water samples should consistently be collected following a groundwater sampling event where there was an exceedance of the on-site groundwater performance standards*.
- *MassDOT indicated in their interview form that work is being planned that will require access through portions of their property. The current institutional controls could be improved by requesting that MassDOT provide a written notification to EPA and MassDEP of any work planned near the Site.*
- *Cracks in the asphalt cover on the Foxborough property should be repaired.*
- *The cover on the NE quadrant of the Mansfield property should be maintained; rutted areas should be repaired.*
- *Damaged fencing around the Site should be repaired, as appropriate.*
- *Due to exceedances of groundwater performance standards at the compliance boundary, EPA will continue to confirm that groundwater uses at private properties adjacent to the compliance boundary along the southeast quadrant of the Site do not change significantly during future five-year reviews.*

VII. PROTECTIVENESS STATEMENT

Sitewide Protectiveness Statement
Protectiveness Determination: Protective
Protectiveness Statement: The remedy at Hatheway and Patterson Superfund Site is protective of human health and the environment because construction of the remedy is complete, O&M and monitoring of the remedy is being performed, and exposure pathways that could result in unacceptable risks are controlled. The soil removal and on-site consolidation has been completed to cleanup levels that are considered protective for the anticipated future use of the property, there is no current use of on-site groundwater which is classified as non-potable, institutional controls are in place to restrict inappropriate land uses (including use of on-site groundwater) and protect the consolidation area cover.

VIII. NEXT REVIEW

The next five-year review report for the Hatheway and Patterson Superfund Site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

1. *AECOM. 2013. Hydrogeologic Conditions Report. Letter report addressed to Mr. David Lederer of EPA New England, Region 1. March 2013.*
2. *Environmental Strategies & Management (ESM). 2013. Fish Survey Report. Hatheway and Patterson Site, Mansfield, MA. October 1, 2013.*
3. *ESM 2014. Field Work Reporting Memo – April 2014. O&M Activities at the Hatheway and Patterson Superfund Site, Mansfield, MA. June 2014.*
4. *ESM 2016a. Field Work Reporting Memo –April 2016. O&M Activities at the Hatheway and Patterson Superfund Site, Mansfield, MA. June 2016.*
5. *ESM 2016b. Field Work Reporting Memo – October 2016. O&M Activities at the Hatheway and Patterson Superfund Site, Mansfield, MA. November 2016.*
6. *ESM 2017a. Field Work Reporting Memo –April 2017. O&M Activities at the Hatheway and Patterson Superfund Site, Mansfield, MA. June 2017.*
7. *ESM 2017b. Field Work Reporting Memo –October 2017. O&M Activities at the Hatheway and Patterson Superfund Site, Mansfield, MA. October 2017b*
8. *ESM 2018. Field Work Reporting Memo –April 2018. O&M Activities at the Hatheway and Patterson Superfund Site, Mansfield, MA. April 2018.*
9. *ESM 2019. Field Work Reporting Memo –October 2018. O&M Activities at the Hatheway and Patterson Superfund Site, Mansfield, MA. January 2019.*
10. *EPA 2005b. Hatheway & Patterson Record of Decision. United States Environmental Protection Agency, Region 1 – New England. September 2005.*
11. *EPA 2010. Preliminary Closeout Report, Hatheway & Patterson Superfund Site, Mansfield, Massachusetts, September 2010.*
12. *EPA 2011. Hatheway and Patterson Explanation of Significant Differences. United States Environmental Protection Agency, Region 1, August 2011.*
13. *EPA 2014a. First Five Year Review. Hatheway and Patterson Superfund Site. Foxborough, Massachusetts. September 2014.*
14. *EPA 2014b. Provisional Peer-Reviewed Toxicity Values for Perfluorobutane Sulfonate CASRN 375-73-5) and Related Compound Potassium Perfluorobutane Sulfonate (CASRN 29420-49-3). U.S. Environmental Protection Agency, Office of Research and Development: Cincinnati, OH.*
15. *EPA 2014c. Memorandum Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response: Washington, DC. OSWER Directive 9283.1-42.*
16. *EPA 2014d. Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response: Washington, DC. OSWER Directive 9200.1-120.*
17. *EPA 2015a - Hathaway Patterson Long-Term Monitoring Recommendations Memorandum. Hatheway and Patterson Superfund Site. Foxborough, Massachusetts. September 2015.*
18. *EPA 2015b. Notice of Activity and use Limitation for Foxborough Property. Hatheway and Patterson Superfund Site. Foxborough, Massachusetts. September 2015.*
19. *EPA 2015c. Notice of Activity and use Limitation for Northern Mansfield Property. Hatheway and Patterson Superfund Site. Mansfield, Massachusetts. September 2015.*

20. *EPA 2015d. Notice of Activity and use Limitation for Southern Mansfield Property. Hatheway and Patterson Superfund Site. Mansfield, Massachusetts. September 2015.*
21. *ESM 2015a. Field Work Reporting Memo – April 2015. O&M Activities at the Hatheway and Patterson Superfund Site, Mansfield, MA. June 2015.*
22. *ESM 2015b. Field Work Reporting Memo – September 2015. O&M Activities at the Hatheway and Patterson Superfund Site, Mansfield, MA. October 2015.*
23. *EPA 2016a. Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA). U.S. Environmental Protection Agency, Office of Water: Washington, DC. EPA2-R-16-005.*
24. *EPA 2016b. Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS). U.S. Environmental Protection Agency, Office of Water: Washington, DC. EPA 822-R-16-004.*
25. *EPA 2017a. Operations and Maintenance Manual. Hatheway and Patterson Superfund Site, Mansfield, Massachusetts. Version 2.0. August 2017.*
26. *EPA 2017b. Evaluation of Contamination Beyond Site Boundary, Technical Memo, Hatheway and Patterson Superfund Site. August 2017*
27. *EPA 2017c. Development of site-specific soil screening levels for arsenic and calculation of estimated arsenic risks in sediment at Hatheway & Patterson Site, Mansfield, MA. July 2017.*
28. *EPA 2017d. Final Closeout Report, Hatheway and Patterson Superfund Site. August 2017.*
29. *Lockheed Martin Information Technologies. 2004. Baseline Ecological Risk Assessment. Hatheway &Patterson Superfund Site, Mansfield, Massachusetts. July 2004.*
30. *Metcalf & Eddy, Inc. (M&E). 2005. Baseline Human Health Risk Assessment. Hatheway & Patterson Superfund Site, Mansfield, Massachusetts. January 2005.*
31. *Sevenson Environmental Services, Inc.(Sevenson) 2011. Final Remedial Action Completion Report. Hatheway and Patterson Superfund Site. Mansfield, Massachusetts. September 2011.*

APPENDIX B - SITE DETAILS AND REMEDIAL ACTIONS

Background

The Hatheway and Patterson Superfund Site is located in the towns of Mansfield and Foxborough, Massachusetts. Approximately 36 acres of the Site are located in the Town of Mansfield, which is zoned for commercial/industrial use. The remaining 1.77 acres are located in the Town of Foxborough, also zoned for commercial use. The Site is bisected by the Rumford River, which runs north to south, and by a railroad right-of-way, which runs east to west.

Prior to the 1950's, the property was reportedly used for various activities, including railroad operations, coal storage, bulk chemical transfer, and storage of electric/utility poles and railroad ties. Beginning in 1952, wood treatment operations by Hatheway & Patterson Co., Inc. (Hatheway & Patterson) began. Operations at the Site included the preservation of wood sheeting, planking, timber, piling, poles and other wood products. Wood treatment was accomplished by a variety of methods that changed over time, and included the use of pentachlorophenol (PCP), creosote, fluoro-chrome-arsenate-phenol (FCAP) salts, chromated copper-arsenate (CCA) salts, and fire retardants, including Dricon^{TM} (boric acid and anhydrous sodium tetraborate). The various wood-treating chemicals were stored in aboveground storage tanks, underground storage tanks, and sumps located inside and outside of the former process buildings. Chemicals were allowed to drip off of the treated wood onto the ground surface. Contamination was initially discovered in 1972, when a tar seep (approximately 62 feet long and 6 inches thick) was discovered on the banks of the Rumford River on the southern portion of the property. Following the initial discovery of contamination, Hatheway & Patterson took steps to control the "oily seepage" from 1973 to 1991. Hatheway & Patterson filed for bankruptcy in 1993, leading to a removal action by EPA in 1993 – 1995 to address the imminent hazard posed by abandoned chemicals and waste at the Site. Removal actions included: the off-site disposal of approximately 100,000 gallons of liquid and solid waste from various above-ground and underground storage tanks on the Site; a comprehensive surface soil investigation, which detected elevated concentrations of arsenic resulting in several areas of the property being temporarily covered with geotextile/gravel and/or asphalt; and securing the Site perimeter fencing, tank manways and buildings. The Site was placed on the National Priorities List (NPL) in 2002.

During subsequent investigations at the Site, elevated arsenic levels were found in soil adjacent to the Site boundary on County Street. As a result, EPA undertook a second removal action in 2003 to address contaminated soil on both sides of County Street. EPA removed 376 tons of contaminated soil, but excavation in some areas bordering County Street stopped at two feet due to concerns that further excavation would undermine the stability of County Street, the adjoining road. In these areas, if arsenic contamination remained below two feet, the soil was covered with a filter fabric and brought to grade with clean fill.

Selected Remedy

In September 2005, EPA issued a ROD that set forth the Selected Remedy at the Hatheway and Patterson Superfund Site to address current and future risks due to direct contact and incidental ingestion of soil and risks to future users of groundwater.
The Remedial Action Objectives (RAO) for the Site outlined in the ROD are summarized below:

- Surface Soil – Prevent current and future users from ingesting or contacting surface soils contaminated with arsenic, dioxin, pentachlorophenol, benzo(a)pyrene, and other Site contaminants that pose a risk to human health.
- Subsurface Soil – Prevent future users from ingesting or contacting subsurface soils contaminated with arsenic, dioxin, pentachlorophenol, benzo(a)pyrene, and other Site contaminants that pose a risk to human health.

- Groundwater - Prevent discharge of pentachlorophenol and other COPCs from soil to groundwater and from groundwater to surface water at concentrations that would result in an in stream exceedance of the Ambient Water Quality Criteria (AWQCs) through source control. Prevent exposure to groundwater by future residents, recreational users, or commercial workers by monitoring extent of plume (to ensure it is remaining on-site) and implementing institutional controls to restrict groundwater use within the Site boundary.
- Inter-Media Transfer - Eliminate or reduce potential for leaching through source control and inter-media transfer of COPCs from soil to groundwater and surface water.
- LNAPL – Minimize further contaminant transfer from LNAPL to groundwater by reducing LNAPL source material in soil excavation/treatment areas. Minimize further migration of LNAPL to groundwater and surface water by removing free product "hotspots" to the extent feasible.

The Selected Remedy included:

- demolition of buildings in and near Hatheway & Patterson's former manufacturing area;
- excavation and on-site consolidation of soils contaminated with arsenic and pentachlorophenol under a low-permeability cover, after being stabilized with cement to achieve leachability criteria;
- disposal of soil contaminated with dioxin and free product (Light Non-Aqueous Phase Liquid or "LNAPL") at a licensed off-site facility;
- Institutional Controls to prohibit the use of Site groundwater and restrict land uses in a manner that ensures the protectiveness of the remedy as described in the ROD;
- long term monitoring of groundwater, surface water, sediment, as well as fish tissue analysis of specimens caught in the Rumford River; and
- Five Year reviews of the remedy.

Modifications to the remedy were documented in the 2011 Explanation of Significant Differences (ESD). Based on a zoning change for the Foxborough parcel from residential use to "Limited Industrial" use, and intended reuse of the parcel as a parking lot, EPA and Massachusetts Department of Environmental Protection (MassDEP) determined that the Foxborough parcel should be remediated to a Reasonably Anticipated Future Use of commercial/open space and changed the cleanup level for arsenic to 16 ppm. It was determined that a consolidation area for soils in Foxborough contaminated with arsenic could be built on the Foxborough parcel and designed with an asphalt cover in order to facilitate use as a parking lot. The ESD also documented that PCP and arsenic-contaminated soils in the Mansfield portion of the Site were disposed at an off-site facility rather than consolidated on-site as described in the ROD. In addition, the ESD clarified the extent of institutional controls to be placed on the Site properties. The institutional controls specify the current allowable and prohibited uses of the property and establishes limits and conditions on the future uses of contaminated portions of the property. The restrictions are different for each property, but generally restrict the use of groundwater and subsurface soils where contamination remains on the Site.

Remedial Construction Activities

Through an Interagency Agreement with EPA Region I, the U.S. Army Corps of Engineers New England District (USACE) contracted with Sevenson Environmental Services to perform the Selected Remedy. USACE provided construction management technical oversight. Remedial construction activities commenced in September 2009 and were substantially completed in September 2010.
The work conducted included the following:

- mobilization;
- geotechnical investigation;
- preparation of all required infrastructure including the construction of two small bridges;
- demolition and off-site disposal of one on-site building, including asbestos abatement;
- removal and disposal of six underground storage tanks;

- removal and disposal of all surficial and subsurface concrete and asphalt within the northeast and northwest quadrants of the Site;
- installation of groundwater monitoring wells and groundwater sampling;
- pre-excavation soil investigation for waste characterization and to refine excavation limits;
- excavation of contaminated soils in the northeast, northwest, and southeast quadrants to the groundwater table – approximately 5 – 10 feet below ground surface;
- backfilling of excavated areas with common fill;
- consolidation of arsenic contaminated soils from the Foxborough Property and installation of an asphalt cover over the consolidation area; and
- Site restoration and demobilization.

A total of 34,000 tons of soil was removed from the Northern Mansfield Property and the Foxborough Property and 9,500 tons of soil was removed from the eastern portion of the Southern Mansfield Property for off-site disposal to a RCRA subtitle C hazardous waste landfill, Envirosafe of Oregon, Ohio. Approximately 5,000 tons of soil exceeding arsenic cleanup levels were consolidated in the "Capped Consolidation Area" on the Foxborough Property under a multi-layer low-permeability barrier (i.e., the asphalt cover). A small portion of land along the western boundary of the Foxborough Property, approximately 30 feet wide, was left unpaved. All portions of the Foxborough Property that are not part of the Capped Consolidation Area are referred to as the "Unpaved Area". The Unpaved Area of the Foxborough Property was cleaned-up to the same level that was being used in the rest of the Site in Mansfield that was zoned open space/commercial. A final inspection was conducted in September 2011 and the only item that was outstanding was the documentation of the survival of a number of plantings. After replanting, the project was determined to be Operational and Functional. The Remedial Action Completion Report (Sevenson 2011) for the site provides additional details on the remedial actions.

Source Control Remedy Confirmatory Sampling

The source control remedy at the Site was performed in accordance with EPA-approved plans and specifications. No additional EPA construction is anticipated at the Site. The source control remedial cleanup levels (listed below) were set in the ROD based on commercial/open-space reuse:

Contaminant	Cleanup Level
Benzo(a)pyrene	2.1 ppm
Dioxin	0.001 ppm
Arsenic	16.0 ppm
Pentachlorophenol	90.0 ppm

During the remedial action, if contaminants of concern (COCs) were detected above the clean-up criteria listed above, excavation continued horizontally and vertically until either: 1) post-excavation confirmatory samples met the clean-up criteria; 2) planned excavation limits along County Street and the railroad right of way were met, or 3) for vertical excavation, the water table was reached.

Post-excavation confirmatory sampling was performed in conjunction with excavation activities from the bottom of excavation and "clean" perimeter embankment and tested for the COCs. Generally, as excavation was completed in a grid cell area, confirmatory soil samples were collected from the bottom and sidewalls of the excavation. Bottom samples were comprised of a five-point composite sample collected from the center and four corners of the excavation cell. Sidewall samples were collected from the sidewalls of excavations when grids were adjacent to the Site perimeter. If excavation sidewalls were greater than 3 feet in depth, an additional sample was collected below this interval to the bottom of the excavation. All samples collected, and analytical results are summarized in the *Remedial Action Completion Report*, dated August 2011 (Sevenson 2011).

The properties owned by the Town of Mansfield and Foxborough have institutional controls in the form of Notice of Activity and Uses Limitations (NAULs), to prevent uncontrolled access to the remaining contamination as described and shown in the figure below:

- soils two feet below the ground surface at the Site's northern boundary in Mansfield, from County Street to a distance about 5 feet laterally within the fence line at a depth 2 feet below ground surface below a filter fabric layer ("County Street Area" shown in figure below);
- soils below the water table in the area excavated in the NE quadrant in Mansfield ("Northeast Quadrant Excavated Area", shown in figure below);
- groundwater throughout the Site (Northern and Southern Mansfield, and Foxborough Properties); and
- soils within the Capped Consolidation Area in the NW quadrant (Foxborough Property).

In general, the NAULs will prevent the properties from being used for:

(i) Residential use, or use as a school or childcare center;
(ii) Cultivation of plants or crops for human or animal consumption;
(iii) Extraction, consumption, or utilization of groundwater for any purpose including potable, industrial, irrigation, or agricultural use except for activities associated with operation and maintenance or monitoring of the Selected Remedy;
(iv) Excavations or other soil disturbances in areas where contamination remain (as described above), except any excavations or soil disturbances conducted in accordance with approvals granted by MassDEP and EPA; and
(v) Any activity or use which would interfere with, or would be reasonably likely to interfere with, the implementation, effectiveness, integrity, operation, or maintenance of the Selected Remedy, including, but not limited to, systems and studies to monitor implementation of the Selected Remedy, to provide long-term environmental monitoring of on-site groundwater, soils, and/or sediments, and to ensure that the remedial action is effective in the long-term and protective of human health or the environment.

Institutional controls were also placed on the railroad right-of way, owned by the Massachusetts Department of Transportation, in the form of signage (see figure below) to prevent the potential exposure to possible subsurface soil contamination to any future utility workers. The property owners are required to comply with the institutional controls for the Site; this will be verified during the Five-Year Reviews.

Figure B-1

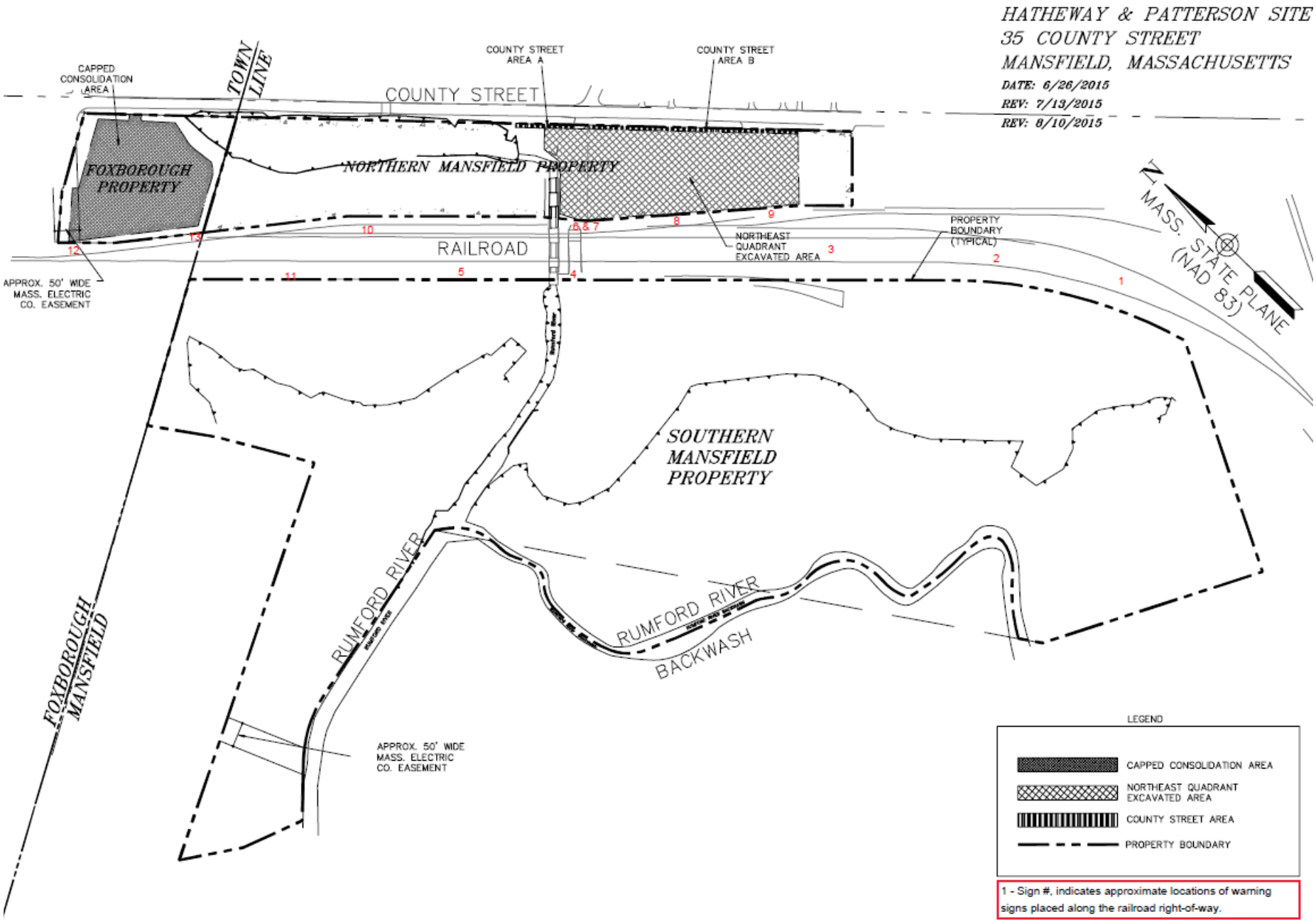
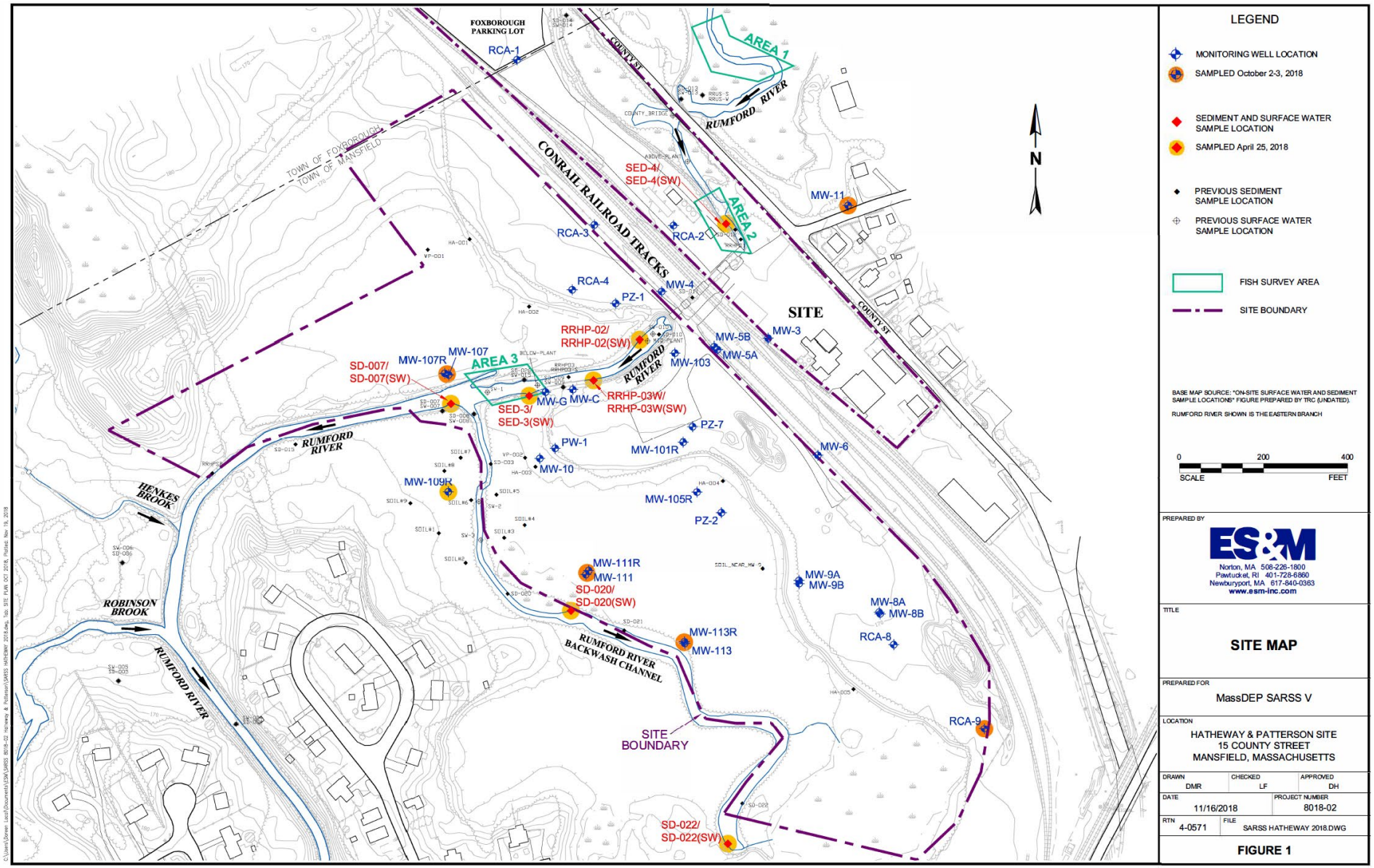

HATHEWAY & PATTERSON SITE
35 COUNTY STREET
MANSFIELD, MASSACHUSETTS
DATE: 6/26/2015
REV: 7/13/2015
REV: 8/10/2015
CAPPED CONSOLIDATION AREA
TOWN LINE
COUNTY STREET AREA A
COUNTY STREET AREA B
COUNTY STREET
FOXBOROUGH PROPERTY
NORTHERN MANSFIELD PROPERTY
RAILROAD
NORTHEAST QUADRANT EXCAVATED AREA
PROPERTY BOUNDARY (TYPICAL)
MASS. STATE PLANE (NAD 83)
APPROX. 50' WIDE MASS. ELECTRIC CO. EASEMENT
SOUTHERN MANSFIELD PROPERTY
RUMFORD RIVER
RUMFORD RIVER BACKWASH
FOXBOROUGH MANSFIELD
APPROX. 50' WIDE MASS. ELECTRIC CO. EASEMENT
LEGEND
CAPPED CONSOLIDATION AREA
NORTHEAST QUADRANT EXCAVATED AREA
COUNTY STREET AREA
PROPERTY BOUNDARY
1 - Sign #, indicates approximate locations of warning signs placed along the railroad right-of-way.

Figure B-2


FOXBOROUGH PARKING LOT
RCA-1
AREA 1
COUNTY ST
RUMFORD RIVER
TOWN OF FOXBOROUGH
TOWN OF MANSFIELD
CONRAIL RAILROAD TRACKS
SED-4/
SED-4(SW)
AREA 2
MW-11
RCA-3
RCA-2
RCA-4
PZ-1
MW-4
SITE
MW-3
MW-5B
MW-5A
RRHP-02/
RRHP-02(SW)
SD-007/
SD-007(SW)
MW-107R
MW-107
AREA 3
MW-103
MW-G
MW-C
RRHP-03W/
RRHP-03W(SW)
SED-3/
SED-3(SW)
PZ-7
PW-1
MW-101R
MW-6
MW-10
MW-109R
MW-105R
PZ-2
HENKES BROOK
ROBINSON BROOK
MW-111R
MW-111
SD-020/
SD-020(SW)
MW-9A
MW-9B
MW-8A
MW-8B
RCA-8
MW-113R
MW-113
RUMFORD RIVER BACKWASH CHANNEL
SITE BOUNDARY
RCA-9
SD-022/
SD-022(SW)
N
LEGEND
MONITORING WELL LOCATION
SAMPLED October 2-3, 2018
SEDIMENT AND SURFACE WATER SAMPLE LOCATION
SAMPLED April 25, 2018
PREVIOUS SEDIMENT SAMPLE LOCATION
PREVIOUS SURFACE WATER SAMPLE LOCATION
FISH SURVEY AREA
SITE BOUNDARY
BASE MAP SOURCE: "ON-SITE SURFACE WATER AND SEDIMENT SAMPLE LOCATIONS" FIGURE PREPARED BY TRC (UNDATED).
RUMFORD RIVER SHOWN IS THE EASTERN BRANCH
0
200
400
SCALE
FEET
PREPARED BY
ES&M
Norton, MA 508-226-1800
Pawtucket, RI 401-728-6860
Newburyport, MA 617-840-0363
www.esm-inc.com
TITLE
SITE MAP
PREPARED FOR
MassDEP SARSS V
LOCATION
HATHEWAY & PATTERSON SITE
15 COUNTY STREET
MANSFIELD, MASSACHUSETTS
DRAWN DMR
CHECKED LF
APPROVED DH
DATE 11/16/2018
PROJECT NUMBER 8018-02
RTN 4-0571
FILE SARSS HATHEWAY 2018.DWG
FIGURE 1

APPENDIX C – INTERVIEW RECORDS

INTERVIEW RECORD

Site Name: Hatheway and Patterson Superfund Site (Mansfield, MA)		**EPA ID No.:** MAD001060805
Subject: Five Year Review	**Time:**	**Date: 11/28/18**

Type: ☐ Telephone ☐ Visit ☒ E-mail ☐ Other:

Location of Visit:

Contact Made By:

Name: Kimberly White	**Title:** EPA RPM	**Organization:** EPA

Individual Contacted:

Name: Garry Waldeck	**Title:** State Remedial Project Manager	**Organization:** MassDEP
Telephone No: (617) 348-4017 **E-Mail Address:** garry.waldeck@state.ma.us		**Street Address:** 1 Winter Street, Boston, MA 02108

1. Have there been any issues/ concerns with completing O&M activities (including site visits, inspections, reporting, etc.) conducted by your office at the site? If so, please give purpose and results.

No

2. Have there been any complaints, violations, or other incidents related to the site requiring response by your office? If so, please give details of the events and results of the responses.

No

3. Are you aware of any problems or issues that will affect the institutional controls?

No

4. Have there been any unusual or unexpected activities or events at the site (e.g., flooding)? If so, has this resulted in any damage or had an impact on operations at the site?

No

5. Have you had any interested parties approach you about the site's future reuse?

No

6. Please describe any communication you have received about the site property, not previously mentioned.

None

7. Are there any changes in State laws and regulations that may impact protectiveness?

No

8. Has the site been in compliance with reporting requirements?

Yes

7. Is there any other information that you wish to share that might be of use?

No

INTERVIEW RECORD

Site Name: Hatheway and Patterson Superfund Site (Mansfield, MA)		**EPA ID No.:** MAD001060805
Subject: Five Year Review	**Date: 11-14-2018**	**Time: 3:00PM**

Type: ☐ Telephone ☐ Visit ☒ E-mail ☐ Other:

Location of Visit:

Contact Made By:

Name: Kimberly White	**Title:** EPA RPM	**Organization:** EPA

Individual Contacted:

Name: Mike Ahern	**Title:** Department of Public Works	**Organization:** Town of Mansfield
Telephone No: (508) 261-7335 **E-Mail:** mahern@mansfieldma.com	**Street Address:** 6 Park Row, Mansfield, MA 02048	

1. Do you feel well informed about site activities? Overall yes, I feel that the EPA and DEP are very good with passing along information and keeping us informed.

2. What are the planned future uses of the property (if different from current uses)? Currently the site is used for MEMA, some overflow train station parking due to the current MaDOT project at the train station. It also being utilized as a lay down yard for 2 contractors of which 1 is MaDOT doing a railway project and the second is a contractor doing work for the town on the N. Main Street Underpass. Looking forward, the town has hired a consultant to look at the entire TOD area around the train station and this site is part of the overall scope of work. The town is looking to have a plan of future reuse encompassing this entire area along with the TOD area. The consultants are aware of the AUL for the property and will be considering this in their plan.

3. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details. As reported previously there is allot of fencing along the tracks that has fallen over and made the site very easily accessible to anybody mainly along the southern parcels along the tracks. It's believed this fencing belongs to the railroad but hasn't been replaced or repaired in a number of years.

4. Do you have any recommendations for reducing or increasing activities at the site? Presently the site will have reduced activity when the 2 contractors are completed and the site may get further developed in the future when the TOD master plan is completed.

5. Have there been any unusual or unexpected activities or events at the site (e.g., flooding)? If so, what if anything was done to address these issues? Presently there has been some wear and tear on the access road across from King Street to the site, some rutting in the beginning of the field area and parking area abutting Foxboro's parking lot needs to be regraded. These areas are being addressed with the contractors that are using the site and many repairs have happened today. No excavation has occurred just rutting and wear and tear.

6. Have any problems been encountered or changes in the site conditions that affect the current operations at the site? Presently as stated in question 3 security of the southern section is probably the biggest change. Previously we were watching the fencing to maintain security but the fencing is in such poor condition that the south elevations are easily accessible.

7. Has the site been the subject of any community complaints? If so, please give details. None

8. Have there been routine communications or activities (site visits, inspections, reporting activities, etc.) conducted by your office regarding the site? If so, please give purpose and results. Previously we were watching the fencing to maintain security but the fencing is in such poor condition presently and missing in some areas. We mow the facility generally 2 times per year to keep up with the vegetation management.

9. Do you have any comments, suggestions, or recommendations regarding site management or operation? It should be investigated with the railroad about fencing if it's a concern to the site for security. I don't believe if the site was reused the fencing would be a waste whereas new fencing would be required along the tracks in this section no matter what the reuse would be.

10. Is there any other information that you wish to share that might be of use? None

INTERVIEW RECORD

Site Name: Hatheway and Patterson Superfund Site (Mansfield, MA)	**EPA ID No.:** MAD001060805
Subject: Five Year Review	**Date:**

Type: ☐ Telephone ☐ Visit ☐ E-mail ☐ Other:

Location of Visit:

Contact Made By:

Name:	**Title:**	**Organization:**

Individual Contacted:

Name: Chalita Belfield	**Title: Director of Railroad Properties**	**Organization: :** Massachusetts Department of Transportation (MassDOT)

Telephone No: 857-368-8957 **E-Mail:**	**Street Address: 10 Park Plaza** **Suite 4160** **Boston, MA 02116**

1. What is your overall impression of the project? (general sentiment)

We appreciate EPA's efforts in completing the cleanup of the site.

2. What effects have the Superfund Site operations had on MassDOT railroad property?

The effects have been minimal because maintenance of the track in the yard required no excavation below the bottom of ties. If excavation below the bottom of tie is needed our Licensed Site Professional will prepare a plan and provide notification.

3. What impact have the Institutional Controls (Signage) had on the property or your operations?

None. Calls in response to the posted number have not been received to date.

4. Have there been any planned changes in projected land use / zoning for your property?

Yes, but the changes are only in the discussion phase. The Town of Mansfield is proposing a Transit-Oriented Development project that may require access through a portion of the property. However, plans have not been filed.

5. Have any interested parties approached MassDOT about the site's future reuse (if different from current uses)? If so, what is the schedule for future development?

None except as noted above.

6. Are you aware of any community concerns regarding the site's operation and administration? If so, please give details.

No.

7. Are you aware of any other community concerns?

No.

8. Are you aware of any events of vandalism or trespassing, incidents, or activities at the site (such as emergency responses, flooding, etc.)? If so, please give details.

No, other than the extinguishing of minor fires confined to several railcars containing construction debris. The fires were caused by contact with the catenary on the Northeast Corridor.

9. Have the activities to date at the site helped the neighborhood and/or community?

Yes.

10. Do you have any recommendations for reducing or increasing activities at the site?

No.

11. Do you feel well informed about the site's activities and progress?

Yes.

12. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

No.

13. Is there any other information that you wish to share that might be of use?

As previously reported to EPA, soil temporarily stockpiled at the Mansfield Yard in August 2018 originated from an area to the north, outside of the Superfund site, where a new piece of track was built.

INTERVIEW RECORD

Site Name: Hatheway and Patterson Superfund Site (Mansfield, MA)		**EPA ID No.:** MAD001060805
Subject: Five Year Review	**Date:** Tuesday, March 6, 2019	**Time:** 1015 - 1030am
Type: ☒ Telephone ☐ Visit ☐ E-mail ☐ Other:		**Location of Visit:** N/A

Contact Made By:

Name: Kimberly White	**Title:** RPM	**Organization:** USEPA

Individual Contacted:

Name: Kevin J. Dumas	**Title:** Town Manager	**Organization:** Town of Mansfield
Telephone No: 508-261-7370 **E-Mail:** kdumas@mansfieldma.com		**Street Address:** Mansfield Town Hall 6 Park Row, Mansfield, MA 02048

1. What are the expected future plans for the Site ?

The Town of Mansfield, in partnership with various parties, is considering development of a Transit Oriented Development (TOD) District which includes a portion of the Hatheway and Patterson Site (in particular the Southern Mansfield Property near the backwash channel of the Rumford River). The development may include a boardwalk/nature trail in that area. The boardwalk/nature trail would serve the TOD development as well as the existing neighborhood. In the upland area, along the railroad track, they are planning for the development of a temporary parking lot while the TOD is being constructed.

As part of the TOD, they are also planning to put in a new North/South connector road to handle the TOD development. The road will go from Rte 106 through the TOD development, then cross the railroad tracks and end with a round-a-bout at North Main Street and County Street.

.

The Towns plans for the development of this TOD area are under discussion and will likely not be completed until May 2020. Once the plans are completed, they would still be subject to various approvals and appropriation of funding.

2. Is the expected future plans expected to result in zoning changes ? or other changes that could impact the current ICs?

At this time, the town plans are not expected to result in any zoning changes or activities that are inconsistent with the current ICs.

The Town has reported activities planned to EPA and MassDEP as required by the annual Institutional Controls verification and as needed. The town will continue to communicate with

EPA and MassDEP as the project proceeds.

3. Are there any immediate plans for repairs/ changes with MassDOT property ?

There are plans for to be a re-alignment and expansion of the existing railyard in order to efficiently and adequately transfer and store rail cars. The plans are preliminary at this time. They are being coordinated with the Town's plans for Transit Oriented Development. When the time is right, the Town and Mass DOT will reach out to EPA with more details.

4. Do you have any comments, suggestions, or recommendations regarding site management or operation? Is there any other information that you wish to share that might be of use?

No.

INTERVIEW RECORD

Site Name: Hatheway and Patterson Superfund Site (Mansfield, MA)		**EPA ID No.:** MAD001060805
Subject: Five Year Review	**Date:**	**Time:**

Type: ☐ Telephone ☐ Visit ☐ E-mail ☐ Other:

Location of Visit:

Contact Made By:

Name: Emily Bender	**Title:**	**Organization:**

Individual Contacted:

Name: William Keegan	**Title:** Town Manager	**Organization:** Town of Foxborough
Telephone No: 508-543-1205 **E-Mail: bkeegan@foxboroughma.gov**	**Street Address: 40 South Street** **Foxborough, MA 02035**	

1. **Has the deletion of the Site from the National Priorities List had any impact on the surrounding community? Not to our knowledge**

2. **Have any interested parties approached the Town about the site's future reuse (if different from current uses)? If so, what is the schedule for future development?**
   Not at this time

3. **Do you have any recommendations for reducing or increasing activities at the site?**
   Possibly to build a walkway from the Parking Lot along the road to the Train Station so that pedestrians could walk to the Station if they missed the parking lot bus.

4. **Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities?**
   We have encountered a few situations involving vandalism at the bus stop and a few cars have been broken into but local police have assisted in solving both situations.

5. **Have any problems been encountered or changes in the site conditions that affect the current institutional controls at the site?**
   Not to our knowledge.

6. Do you have any comments, suggestions, or recommendations regarding site management or operation?

Not at this time.

7. Is there any other information that you wish to share that might be of use?

Not at this time.

APPENDIX D – SITE INSPECTION CHECKLIST AND PHOTOGRAPHS

Five-Year Review
Site Inspection Checklist

I. SITE INFORMATION

Site Name: Hatheway & Patterson Superfund Site

Location and Region: Mansfield, MA; Region I EPA ID: MAD001060805

Date of Inspection: 11/19/2018 Weather/temperature: Clear

Agency, office, or company leading the 5-year review: USEPA and MassDEP

Remedy Includes: (Check all that apply)

- ☐ Landfill cover/containment
- ☒ Access controls
- ☒ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls
- ☐ Surface water collection and treatment
- ☐ Other: Monitoring of groundwater, surface water, sediment, and fish; asphalt-paved parking lot on Foxborough portion of NW quadrant of site

Attachments: ☐ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS

Foxborough portion of NW quadrant of site

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

☒ O&M manual:	☒ Readily available	☐ Up to date	☐ N/A
☒ As-built drawings:	☒ Readily available	☐ Up to date	☐ N/A
☒ Maintenance logs:	☐ Readily available	☒ Up to date	☐ N/A

Remarks

2. **Site-Specific Plans**

☐ Health and Safety Plan	☐ Readily available	☐ Up to date	☐ N/A
☐ Contingency plan/emergency response plan	☐ Readily available	☐ Up to date	☐ N/A
☐ Other:	☐ Readily available	☐ Up to date	☐ N/A

Remarks Not seen or reviewed; available at office of contractor who performs monitoring and inspection

Site: Hatheway & Patterson Superfund Site

5-year Review Inspection Conducted on: 11/19/18

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Cont'd)

3. **Training Records**

Remarks _____

_____

4. **Permits and Service Agreements**

Remarks _____

_____

5. **Gas Generation Records**

☐ Readily available ☐ Up to date ☐ N/A

Remarks _____

6. **Settlement Monument Records**

☐ Readily available ☐ Up to date ☐ N/A

Remarks _____

_____

7. **Groundwater Monitoring Records**

☒ Readily available ☐ Up to date ☐ N/A

Remarks _____

_____

8. **Leachate Extraction Records**

☐ Readily available ☐ Up to date ☐ N/A

Remarks _____

_____

9. **Discharge Compliance Records**

☐ Air	☐ Readily available	☐ Up to date	☐ N/A
☐ Water (effluent)	☐ Readily available	☐ Up to date	☐ N/A

Remarks _____

_____

10. **Daily Access/Security Logs**

☐ Readily available ☐ Up to date ☐ N/A

Remarks _____

IV. OPERATION & MAINTENANCE COSTS

1. **O&M Organization**

☐ State in-house ☒ Contractor for State ☐ N/A
☐ PRP in-house ☐ Contractor for PRP ☐ N/A
☐ Federal Facility in-house ☐ Contractor for Federal Facility ☐ N/A

Other: _____

2. **O&M Cost Records**

☐ Readily available ☒ Up to date ☐ N/A
☒ Funding mechanism/agreement in place
☐ Original O&M cost estimate _____ ☐ Breakdown attached

Total annual cost by year for review period if available

	Total Cost
FY 2014	39,000
FY 2015	38,712
FY 2016	33,882
FY 2017	37,917
FY 2018	46,770
2019 (est.)	45,000

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS

☐ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged**

☐ Location shown on site map ☒ Gates secured ☐ N/A

Remarks minor damage to stockade fence

Site: Hatheway & Patterson Superfund Site

5-year Review Inspection Conducted on: 11/19/18

V. ACCESS AND INSTITUTIONAL CONTROLS (cont'd)

B. Other Access Restrictions

1. **Signs and other security measures**

☒ Location shown on site map ☐ N/A

Remarks Signs located on along the railroad right-of-way were in good condition

C. Institutional Controls (ICs)

Description : **NAULs on all 3 properties - Foxborough, Northern and Southern Mansfield signage on right of way**

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented	☒ Yes	☐ No	☐ N/A
Site conditions imply ICs not being fully enforced	☒ Yes	☐ No	☐ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) reporting from property owners;

Frequency Annual

Responsible party/agency Towns of Mansfield & Foxborough

Contact

Name	Title	Date	Phone no.

Reporting is up-to-date	☒ Yes	☐ No	☐ N/A
Reports are verified by the lead agency	☒ Yes	☐ No	☐ N/A
Specific requirements in deed or decision documents have been met	☒ Yes	☐ No	☐ N/A
Violations have been reported	☐ Yes	☒ No	☐ N/A

Other problems or suggestions: ☒ Report attached Although letters from the Towns are not provided annually as indicated in the NAUL, regular communication is made with the town, at least Annually. Regular communication is not received from MassDOT

2. **Adequacy**

☒ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks

D. General

1. **Vandalism/trespassing**

☐ Location shown on site map ☒ No vandalism evident

Remarks

V. ACCESS AND INSTITUTIONAL CONTROLS (cont'd)

2. **Land use changes on site**

☐ Redevelopment ☒ N/A

Remarks Portions of the northern mansfield property which was previously not being used except for periodic parking, is currently being used as a temporary staging area by MassDOT contractors. The area is includes buckets of various metal parts and a contractor trailers (photos attached). Although active work was not being conducted on the railroad right of way, changes in tracks were visible. Other portions of the property remain the same since the last 5YR.

3. **Land use changes off site**

☒ N/A

Remarks _____

VI. GENERAL SITE CONDITIONS

A. Roads ☐ Applicable ☒ N/A

1. **Roads damaged**

☐ Location shown on site map ☐ Roads adequate ☐ N/A

Remarks _____

B. Other Site Conditions

Remarks _____

VII. LANDFILL COVERS

☒ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots)

☐ Location shown on site map ☒ Settlement not evident

Areal extent _____ Depth _____

Remarks _____

2. **Cracks**

☒ Location shown on site map ☐ Settlement not evident

Length _____ Width _____ Depth _____

Remarks normal cracks/seams were observed in the pavement (see photos); the parking lot is well maintained.

Site: Hatheway & Patterson Superfund Site

5-year Review Inspection Conducted on: 11/19/18

VII. LANDFILL COVERS (cont'd)

3. **Erosion**

☐ Location shown on site map ☒ Settlement not evident

Areal extent _____ Depth _____

Remarks _____

4. **Holes**

☐ Location shown on site map ☒ Settlement not evident

Areal extent _____ Depth _____

Remarks _____

5. **Vegetative Cover**

☒ Grass ☒ Settlement not evident

Areal extent _____ Depth _____

Remarks Grass on NE quadrant is reportedly cut twice per year

6. **Alternative Cover (armored rock, concrete, etc.)**

☐ Additional Layer: Parking Lot

Remarks Foxborough lot covered with asphalt and is maintained as a parking lot. NW quadrant of the site is covered with crushed rock – this area is being used as a lay-down area for construction work in the area

7. **Bulges**

☐ Location shown on site map ☒ Bulges not evident

Areal extent _____ Height _____

Remarks _____

8. **Wet Areas/Water Damage**

☒ Wet areas/water damage not evident

☐	Wet areas	☐	Location shown on site map	Areal extent _____
☐	Ponding	☐	Location shown on site map	Areal extent _____
☐	Seeps	☐	Location shown on site map	Areal extent _____
☐	Soft subgrade	☐	Location shown on site map	Areal extent _____

Remarks _____

Site: Hatheway & Patterson Superfund Site

5-year Review Inspection Conducted on: 11/19/18

VII. Landfill Covers (cont'd)

9. **Slope Instability**

☐ Slides ☐ Location shown on site map ☒ No evidence of slope instability

Areal extent _____

Remarks _____

B. Benches

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

☐ Applicable ☒ N/A

C. Letdown Channels

(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

☐ Applicable ☒ N/A

D. Cover Penetrations ☐ Applicable ☒ N/A

E. Gas Collection and Treatment ☐ Applicable ☒ N/A

G. Detention/Sedimentation Ponds ☐ Applicable ☒ N/A

H. Retaining Walls ☐ Applicable ☒ N/A

I. Perimeter Ditches/Off-Site Discharge ☐ Applicable ☐ N/A

1. **Siltation** ☐ Location shown on site map ☒ Siltation not evident

Areal extent _____ Depth _____

Remarks _____

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A

☒ Vegetation does not impede flow

Areal extent _____ Depth _____

Remarks _____

3. **Erosion** ☐ Location shown on site map ☒ Erosion not evident

Areal extent _____ Depth _____

Remarks

_____

4. **Discharge Structure** ☒ Functioning ☐ N/A

Remarks _____

Site: Hatheway & Patterson Superfund Site

5-year Review Inspection Conducted on: 11/19/18

VIII. VERTICAL BARRIER WALLS

☐ Applicable ☒ N/A

IX. GROUNDWATER/SURFACE WATER REMEDIES

☐ Applicable ☒ N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ☐ Applicable ☒ N/A

B. Surface Water Collection Structures, Pumps, and Pipelines ☐ Applicable ☒ N/A

C. Treatment System ☐ Applicable ☒ N/A _____

D. Monitoring Data

1. Monitoring Data

☒ Is routinely submitted on time ☒ Is of acceptable quality

2. Monitoring data suggests:

☐ Groundwater plume is effectively contained ☐ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled ☒ Good condition

☒ All required wells located ☐ Needs Maintenance ☐ N/A

Remarks _____

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

The remedy is effective and functioning as intended.

XI. OVERALL OBSERVATIONS (cont'd)

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

Sediment and surface water samples should be collected following any event when on-site groundwater Performance standards are exceeded.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

None

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

Photo #1: Capped Area in Foxborough/ Parking Lot

Photo #2: Cracks in pavement in Asphalt cover, Foxborough/ Parking Lot

Photo #3: Stormwater control structure on Foxborough property. Drainage area clear; no obstructions noted.

Photo #4: Well-maintained vegetated buffer along the Foxborough parking area; stockade fence on the northwest side of the lot- minor damage observed.

Photo #5: Utility Poles along the Foxborough Parking lot. EPA & MassDEP were notified when pole was replaced by utility company; no issues noted.

Photo #6: The NW quadrant of the Site, within the Town of Mansfield, is mostly covered with crushed rock. This area is being used for parking and as an equipment laydown area by MassDOT contractors.

Photo #7: Material stockpiles in NW quadrant.

Photo #8: Crushed rock and fill material stockpile along railroad right-of way. MassDOT indicated that this material was from another part of the track.

Photo #9: signage along the Railroad right-of way warning of contamination below the tracks; phone number listed works and signs in good condition.

Photo #10: Rumford River, near the confluence with the backwash channel had an observable flow.

Photo #11: Vegetative cover on NE quadrant of the Site appeared well maintained; fencing along the Site in good condition.

Photo #12: Some portions of the vegetated cover in NE quadrant rutted; interview form from town of Mansfield DPW indicates that this area will be repaired.

Photo #13: Monitoring Well on Northeast quadrant of Mansfield portions of the Site; well secured and in good condition.

Photo #14: Monitoring Well along Railroad fencing; Well in good condition and secured.

Photo #15: Mansfield Emergency Management Office and parking area on the Northeast Quadrant / Mansfield portion of the Site

Institutional Control Notifications Received from Property Owners

Town of Mansfield
6 Park Row, Mansfield, Massachusetts 02048

Town Manager
William R. Ross

July 5, 2016

Garry Waldeck
Project Manager for
Hatheway & Patterson Superfund Site
MassDEP - BWSC
1 Winter St
Boston, MA 02108

Kimberly White
Remedial Project Manager for
Hatheway & Patterson Superfund Site
EPA Region 1, OSRR
5 Post Office Sq., Suite 100
MC: OSRR07-1
Boston, MA 02119

Re: Hathaway and Patterson Superfund Site Annual Compliance Letter

Dear Mr. Waldeck and Ms. White:

The Town of Mansfield hereby submits this annual compliance letter to EPA and MassDEP as required in the Notice of Activity Use Limitation for the Hathaway Patterson properties. The purpose of this letter is to describe generally any permitted activities and uses that have occurred on the southern Mansfield property during the past calendar year and to certify compliance with the Notice of Activity Use Limitation for the south Mansfield property. The activities on the south Mansfield property consist of the following:

1. The Mansfield Emergency Management Division has its headquarters located on the south Mansfield property. The headquarters consist of a former residential property that is utilized for office and training facilities and a metal garage building which houses equipment of the Emergency Management Agency. The metal garage building was constructed under the supervision of the Environmental Protection Agency during the cleanup of the site. The activities on the site consist of training activities and record-keeping within the office building and the storage of equipment within the previously permitted metal storage facility.

2. The Town, during the past year, painted and conducted minor repairs on the building housing the office facility. The painting and minor repairs did not involve any removal of lead-based paint, asbestos or similar materials.

The above-described activities are the only activities that have occurred on this site during the past year. If any additional information is required, or if you have any questions, please contact me.

Very truly yours,

William R. Ross
Town Manager

WRR/dah

cc: Neal Boldrighini, Fire Chief/EM Director

Phone (508)261-7370 • Fax (508)261-7498 • Email townmanager@mansfieldma.com

Town of Mansfield

6 Park Row, Mansfield, Massachusetts 02048

Acting Town Manager
John F. Stanbrook

September 29, 2017

Garry Waldeck, Project Manager for
Hatheway & Patterson Superfund Site
MassDEP - BWSC
1 Winter St
Boston, MA 02108

Kimberly White, Remedial Project Manager for
Hatheway & Patterson Superfund Site
EPA Region 1, OSRR
5 Post Office Sq., Suite 100, MC: OSRR07-1
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1.a The Mansfield Emergency Management Division has its headquarters located on the south Mansfielda property. The headquarters consist of a former residential property that is utilized for office and training facilities and a wood framed garage building which houses equipment of the Emergency Management Agency. The wood framed garage building was constructed under the supervision of the Environmental Protection Agency during the cleanup of the site. The activities on the site consist of training activities and record-keeping within the office building and the storage of equipment within the previously permitted wood framed storage facility.

2.a The Town, during the past year, conducted minor repairs on the building housing the office facility.a The minor repairs did not involve any removal of lead-based paint, asbestos or similar materials.

3.aThe Town has allowed National Grid access to the property to do utility pole replacements beyond the reara property line and allow access to Foxboro's rear section by utilizing the rail crossing.

4.aParking has been allowed on a temporary basis at the Foxboro end of the site while train stationa improvements are ongoing. The access to the temporary parking is accessed thru the existing Foxboroa commuter lot.a

5.aIt should be noted, a considerable amount of fencing has rotted along the tracks and has fallen down.a

The above-described activities are the only activities that have occurred on this site during the past year. If any additional information is required, or if you have any questions, please contact me.

Very truly yours,

John F. Stanbrook
Acting Town Manager

JFS/nlg

cc: Neal Boldrighini, Fire Chief/EM Director

Town of Mansfield

6 Park Row, Mansfield, Massachusetts 02048

Town Manager
Kevin J. Dumas

July 26, 2018

Garry Waldeck, Project Manager for
Hatheway & Patterson Superfund Site
MassDEP - BWSC
1 Winter St
Boston, MA 02108

Kimberly White, Remedial Project Manager for
Hatheway & Patterson Superfund Site
EPA Region 1, OSRR
5 Post Office Sq., Suite 100, MC: OSRR07-1
Boston, MA 02119

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1.e The Mansfield Emergency Management Division has its headquarters located on the southe Mansfield property. The headquarters consist of a former residential property that is utilized for office and training facilities and a wood framed garage building which houses equipment of the Emergency Management Agency. The wood framed garage building was constructed under the supervision of the Environmental Protection Agency during the cleanup of the site. The activities on the site consist of training activities and record-keeping within the office building and the storage of equipment within the previously permitted wood framed storage facility.

2.e The Town, during the past year, conducted minor repairs on the building housing the officee facility. The minor repairs did not involve any removal of lead-based paint, asbestos or similar materials.

3.e The Town is allowing a contractor (Aetna Bridge) to use a portion of the existing gravel sectione of the lot abutting the Foxboro lot as a staging area for the North Main Street Underpass Upgrade and Repair Project being performed for the town. This work is estimated to be completed within the next 4 months at which time the area will be vacated by Aetna Bridge and restored to the original condition.

4.e A second contractor LMH is preforming improvements to the rail yard and rail line as part of ae MADOT rail upgrade project. LMH is also using a section of the existing gravel lot as a lay down area fore material and equipment for the rail upgrade project as well as access to the tracks. This work is estimatede to be completed within the next 30 days at which time the area will be vacated by LMH and restored toe the original conditione

5.e Parking has been allowed on a temporary basis at the Foxboro end of the site while train statione improvements are ongoing. The access to the temporary parking is accessed thru the existing Foxboroe commuter lot.e

Phone (508)261-7370 • Fax (508)261-7498 • Email townmanager@mansfieldma.com

6. It should be noted as described last year; a considerable amount of fencing has rotted along the tracks and has fallen down.

7. The town continues to mow the site on a year basis per part of the project plan.

The above-described activities are the only activities that have occurred on this site during the past year. If any additional information is required, or if you have any questions, please contact me.

Regards,

Kevin J. Dumas
Town Manager

KJD/nlg

cc: Neal Boldrighini, Fire Chief/EM Director
Mike Ahern, Public Buildings/Special Projects Manager