Re: DRAFT Analysis of Brownfield Cleanup Alternatives
Former Gilbert & Bennett Wire Mill – West Pond, Gateway, and OMS Areas
Georgetown, Connecticut

Dear Mrs. Pemberton:

Tighe & Bond, Inc. (Tighe & Bond) has prepared this Analysis of Brownfield Cleanup Alternatives (ABCA) for the Former Gilbert & Bennett Wire Mill located at 20 and 30 North Main Street and 50 Bennet Street (the site). Specifically, this ABCA pertains to the following areas:

- West Pond Area (20 North Main Street) – 12.2-acre area south of Facility Pond
- OMS Area (50 Bennet Street) – 3.7-acre area east of Facility Pond
- Gateway Area (20 North Main Street) – 1.6-acre area within southeast portion of site

This ABCA has been prepared to support proposed remediation activities at the site under a potential United States Environmental Protection Agency (EPA) Brownfields Cleanup Grant.

I. Introduction and Background

a. Site Location

The overall site consists of approximately 44 acres, located within the southeast corner of the Town of Redding and is generally bounded by Portland Avenue to the north and east, North Main Street to the south, and the Metro-North Railroad Danbury Line to the west. The site is comprised of multiple parcels of land with addresses of 20 and 30 Main Street and 50 Bennet Street. The site is currently owned by the Town of Redding. The setting surrounding the Site generally consists of residential properties to the north, west, and northeast and commercial properties to the southeast. A wastewater treatment plant as well as a former lagoon that historically received wastes from the Former Gilbert & Bennett Wire Mill are located south of the site.

The Town intends to develop the site in phases. This ABCA is for the first phase of development and consists of the West Pond Area, OMS Area, and Gateway Area, as further described below:

West Pond Area

The West Pond Area encompasses 12.2 acres of the western portion of the site. It is generally bounded by Facility Pond to the north, the Norwalk River and area of the Reverse Twist Building to the east, North Main Street to the South, and the Metro-North Railroad Danbury Line to the west. This area consists of the former warehouse and manufacturing building foundations, access roads, a dilapidated dwelling, and wooded areas.
**OMS Area**

The OMS Area encompasses 3.7 acres of the northeastern portion of the site. It is generally bounded by Factory Pond to the west, Portland Avenue to the north and east, and the Mill Center Area to the south. This area consists of a former manufacturing building foundation, associated loading dock, and wooded areas.

**Gateway Area**

The Gateway Area encompasses 1.6 acres of the southeastern portion of the site. It is generally bounded by Portland Avenue to the east, North Main Street to the south, and the Mill Hill Center to the north and west. This area contains the Main Office building, a former Machine Shop building that currently houses National Park Service operations for Weir Farm, and a dilapidated former cafeteria building.

b. **Previous Site Use(s) and Previous Cleanup/Remediation**

Gilbert & Bennett operated a wire mill at the site from 1818 through 1989 and produced metal fencing, insect screening, sieves, outdoor furniture, animal cages, reinforcing mesh for concrete, and a variety of other metal products. The primary operations included:

- **Rod Cleaning:** Until 1986, scale was removed from iron rods by rinsing them in acid baths, followed by water rinses and coating with lime, borax, or copper sulfate. After 1986, scale was removed mechanically.
- **Rod Drawing:** Steel rod was drawn through a series of round dies to produce coarse and fine wire. Soaps and animal fat were used to reduce friction in this process.
- **Annealing:** Wire was annealed to make the metal more malleable. Coarse wire was annealed in molten lead baths. Fine wire was annealed using direct flame heaters.
- **Galvanizing:** Prior to galvanizing, wire was run through an acid bath, a water rinse, and a flux bath primer. The wire was then pulled through a molten zinc bath, followed by a water quench. The wire was then coated with a water-soluble oil.
- **Fabrication:** Fabrication included the bending, twisting, and/or welding of wire.
- **Final steps in the fabrication process included painting, lacquering, or vinyl coating.**

Manufacturing operations ceased in July 1989. Gilbert & Bennett continued to operate administrative office functions from the site until filing for bankruptcy in 1998. In October 2002, Georgetown Land Development Corporation (GLDC) purchased most of the former manufacturing property and American Restoration Resources, Inc. (now Georgetown Redevelopment Corporation), purchased the remaining four-acre parcel containing a former surface impoundment area in 2002.

GLDC developed a master plan for the site as a transit-oriented walkable downtown mixed-use village, performed environmental site investigations, developed remedial action plans, performed limited soil remediation, and began hazardous building material (HBM) abatement and removal of non-historical buildings.

In 2008, GLDC became insolvent and was unable to secure new capital investment to advance the project. In 2011, GLDC sold a portion of its property to JP Industrial Park, LLC. GLDC was unable to conduct the planned remedial actions, HBM abatement or stabilization of the remaining historic brick and masonry factory buildings.
The Town of Redding instituted tax foreclosure proceedings with respect to the 44-acre GLDC property in 2015 and acquired the property on February 16, 2021, and intends to continue to remediate the site in preparation for redevelopment.

Previous remediation/cleanup activities conducted at the site have included the following:

- **Polychlorinated Biphenyl (PCB) Transformer Removal** – In 1986, six PCB transformers were chemically dechlorinated. The transformers were removed from the Subject Property and disposed of off-site in November 1990.
- **Underground Storage Tank (UST) Removal** – By 1992, 15 USTs were removed from the site or abandoned.
- **Aboveground Storage Tank (AST) Removal** – By 1990, two ASTs were removed from the site.
- **Hazardous Waste Removal** – By 1990, all drummed hazardous wastes had been removed from the manufacturing area.
- **Container Storage Area Closure** – Eight less than 90-day hazardous waste storage area were closed. This included removal of more than 340 hazardous waste drums and decontamination of the storage areas. The closure did not address subsurface soils.
- **Interim Corrective Measures (ICMs)** – ICMs were completed at a former soil stockpile (SWMU-5) and former soluble oil sump pump (AOC-1). At SWMU-5, impacted soils were removed and disposed off-site. At AOC-1, petroleum-impacted water and soil were removed and the sump was cleaned and closed.
- **Soil Removal from the Post Office Parcel** – Between October and December 2005, non-hazardous lead-contaminated soil was removed from the Post Office Parcel and stockpiled at the former Southern Parcel of the Wire Mill prior to off-site disposal at Stablex in Canada.
- **Limited HBM Abatement and Building Removal** – During initial redevelopment activities, limited HBM abatement was completed that also included the removal of certain non-historical buildings. During Tighe & Bond’s HBM Data Gap Analysis, evidence of asbestos abatement was noted for certain buildings; however, the extent and degree of abatement is unknown as those activities ceased during the 2008 financial crisis that led to the bankruptcy of GLDC.

Other remediation/cleanup activities conducted at the site included the stabilization of Lagoon 1 and Lagoon 2 at the Southern Parcel, which is not currently owned by the Town of Redding and considered off-site.

c. **Site Assessment Findings**

The Subject Property has an extensive record of environmental assessment reports dating back to as early as 1983. Copies of reports post-1994 were obtained and reviewed as part of the completion of Tighe & Bond’s June 2022 Phase I Environmental Site Assessment (ESA). Tighe & Bond also completed an Environmental Data Gap Analysis and a HBM Data Gap Analysis in June 2023. In addition, Tighe & Bond
completed limited Phase II/III testing of the site that was focused primarily on the West Pond Area. The site assessment findings are further summarized as follows:

**Phase I ESA**

During previous assessments completed by others, numerous areas of concern (AOCs) were identified that also included solid waste management units (SWMUs), USTs, AOCs, as well as by description. As part of Tighe & Bond’s June 2022 Phase I ESA and June 2023 Environmental Data Gap Analysis, the list of AOCs was refined and consists of the following:

AOC-1: Soluble Oil Sump Pump  
AOC-2: Sulfuric and Muriatic Acid Storage Tanks  
AOC-3: Former Paint Shop and Copperas Building  
AOC-4: Former Vitriol Tank  
AOC-6: Machine Shop  
AOC-7: Former 1,000-gallon Muriatic Acid Storage Tank  
AOC-8: Paint and Oil House  
AOC-9: Acidic Wastewater Line System  
AOC-10: Neutralized Wastewater Line System  
AOC-11: Cyclone Dust Collector  
AOC-12: Galvanizing Building 2  
AOC-13: Galvanizing Building 3  
AOC-14: Galvanizing Building 1  
AOC-15: Galvanizing Building 4  
AOC-16: East Wire Mill  
AOC-17: Cleaning Area  
AOC-18: Vinyl Coating Line Area  
AOC-19: Lacquer Storage and Paint Shed and Historical Weaving Building Operations  
AOC-21: South Mill Yard  
AOC-22: North Mill Yard  
AOC-23: Norwalk River  
AOC-24: Former Coal Shed  
AOC-25: Former Coal Piles  
AOC-26: Manufactured Gas Plants  
AOC-27: Storage in Reverse Twist Building  
AOC-28: Railroad Tracks  
AOC-29: New Warehouse Building Area  
AOC-30: Former Dwellings  
AOC-31: Possible Historical Agricultural Use  
AOC-32: Automotive Repair Activities at Building 2, 2A, and 3B  
AOC-33: Automotive Repair Activities at Building 28  
AOC-34: Former Boiler Houses  
AOC-35: Soil Piles  
AOC-36: Tanks, Drums/Containers, and Discarded Materials  
AOC-37: Historical Facility Operations and Potential Leaching of Hazardous Building Materials  

ASTs  
Transformer Banks  
SWMU-1: Lime Neutralization Tank  
SWMU-2: UST-14  
SWMU-3: UST-15  
SWMU-4: Former Used Oil Storage Area  
SWMU-5: Former Soil Stockpile
SWMU-6: Reverse Twist Trench
SWMU-7: Oil/Water Separator
UST-1: Former Gasoline UST
UST-2: Former Fuel Oil UST
UST-3/4: Former 2,000-gallon and 5,000-gallon Fuel Oil USTs
UST-5: Former Waste Oil UST
UST-6: Former 5,000-gallon No. 2 Fuel Oil UST
UST-7: Former 5,000-gallon No. 2 Fuel Oil UST
UST-8: Former 20,000-gallon Fuel Oil UST
UST-9: Former 10,000-gallon Fuel Oil UST
UST-10/11: Former 20,000-gallon Fuel Oil and 20,000-gallon Fuel Oil and Kerosene USTs
UST-12/13: Two former 25,000-gallon Fuel Oil USTs
Facility Fill (site-wide)
Post Office Parcel

Tighe & Bond’s Phase I ESA was conducted in accordance with the CT Department of Energy and Environmental Protection (CTDEEP) Site Characterization Guidance Document (SCGD), which is the current expectation for prevailing standards and guidelines. Further, Tighe & Bond completed an Environmental Data Gap Analysis to evaluate previous investigations with respect to the most recent version of the CTDEEP Remediation Standard Regulations (RSRs) as well as the SCGD, which was not propagated and revised until after most of the assessment work was completed. Based on the findings of Tighe & Bond’s Phase I ESA and Environmental Data Gap Analysis, additional Phase II and III ESAs were recommended for certain AOCs.

Given that hazardous waste was stored for greater than 90 days and disposed at the former Southern Parcel of the Wire Mill (not part of the current site), the site is subject to a federal Environmental Protection Agency (USEPA) Resource Conservation and Recovery Act (RCRA) Corrective Action program. Further, portions of the Site meet the definition of an “Establishment” under the Connecticut Property Transfer Program due to previous Form III filings. The CTDEEP has primacy to oversee RCRA Corrective Action in Connecticut.

Phase II and III Level Investigations

According to previous environmental reports, subsurface and surface soil samples, groundwater samples, and sediment samples were collected from throughout the site and analyzed for constituents of concern (COCs). In addition, Tighe & Bond completed additional investigations at the site in August 2023 to address certain data gaps that were identified in the West Pond Area and at former Manufactured Gas Plants (MGPs) and further evaluate current groundwater conditions.

COCs were detected throughout the site soil with concentrations of various metals, total petroleum hydrocarbons (TPH)/extractable total petroleum hydrocarbons (ETPH), and/or semi-volatile organic compounds (SVOCs) above RSRs. Xylenes were also detected above RSR criteria in the soil near the Weaving Buildings. In addition, tetrachloroethylene (PCE) was detected above RSR criteria in the soil near the former reported form Saw-Tooth Building MGP. Additionally, low pH levels (below 5.0) were reported in various locations at the site in soil.

Groundwater monitoring historically completed at the site identified exceedances to RSR criteria that primarily consisted of metals (zinc and cadmium). Although not as prevalent, several other metals, cyanide, TPH, and a few SVOCs and volatile organic compounds (VOCs) were identified in certain samples. Notably, xylenes were reported
above RSR criteria within the Weaving Building. In addition, a thin layer of LNAPL (0.02 feet) was reported at one monitoring well location within the Mill Center Area. Recent groundwater monitoring was completed by Tighe & Bond in August 2023 for currently existing monitoring wells identified concentrations of copper and zinc above RSR criteria. Tighe & Bond also evaluated groundwater for per- and polyfluoroalkyl substances (PFAS). PFAS was identified in most groundwater samples collected at concentrations below RSR criteria. However, one sample collected from the northwest corner of the Reverse Twist Building contained elevated concentrations of PFAS above apparent background.

Based on historical review of the groundwater monitoring data, the depth to groundwater beneath the site generally ranged from 2.27 feet to 17.67 feet below ground surface (bgs), with an average of approximately 9 feet bgs.

Sediment within Factory Pond and the Norwalk River at the site was previously assessed. The results were determined to be consistent with background conditions of the river in Factory Pond and in the Norwalk River downstream of Route 107 to the railroad bridge. Sediment in the Norwalk River adjacent to the former manufacturing areas contained metals and PAH concentrations above ecological screening criteria and above background conditions.

The following summarizes the investigation findings for the West Pond, OMS, and Gateway Areas:

**West Pond Area**

- Arsenic background condition in northwest corner of west pond area, south of Factory Pond.
- Lead and arsenic above RSRs in one sample along off-Site railroad tracks.
- Elevated concentrations of petroleum hydrocarbons above RSRs in one sample beneath parking lot/former building where welding was completed.
- Lead above RSRs in samples collected in the vicinity of former dwellings and potentially associated with lead-based paint.
- Petroleum impact above RSRs at former location of a residential heating oil UST.
- Petroleum impact above RSRs at former location of a 10,000-gallon heating oil UST south of the former New Warehouse Building. Additional sampling of this area indicated that petroleum impact naturally attenuated to a concentration below RSRs.
- Low-level petroleum impact, SVOCs (mainly polycyclic aromatic hydrocarbons), and elevated metals above and below RSRs were noted throughout the West Pond Area are attributed to possible historical fill material and/or atmospheric deposition from historical manufacturing activities.

**OMS Area**

- Antimony above RSRs between the west side of former OMS building and Factory Pond.
- Arsenic above RSRs in several samples surrounding the former OMS building.
- Low-level petroleum impact below RSRs throughout the OMS area.
- PCBs below RSRs in one sample collected beneath the concrete slab of the former OMS building.
- SVOCs below RSRs in one sample collected within the southwest portion of the OMS Area.

**Gateway Area**

- Antimony, arsenic, cadmium, lead, thallium, and zinc were detected above RSRs in a few samples collected from the exterior vicinity of the machine shop.
- Petroleum impact below RSRs and SVOCs above and below RSRs were identified in a few samples collected from the exterior vicinity of the machine shop.

d. **HBM Assessments**

Hazardous Building Material (HBM) assessments have been previously completed at the site. Tighe & Bond provided complete asbestos surveys of all buildings, bridges, and river walls in 2005. This included sampling of 37 buildings that existed at the time of the assessments. Limited lead-based paint sampling was performed by EnviroScience in 2006 on three buildings. It is understood that no additional HBM assessments have been performed at the site including, but not limited to, PCB assessments, comprehensive lead-based paint sampling and/or waste characterization, and assessment for universal waste and other hazardous/regulated building wastes. Limited abatement activities related to the initial redevelopment activities occurred in the 2005-2007 timeframe which included the removal of certain non-historical buildings and interior component removal.

Current HBM assessment and redevelopment work includes the Machine Shop and adjacent Cafeteria along with the Main Office Building found within the Gateway Area. Paints, caulks, and glazing within these buildings have been assumed to contain PCBs at concentrations ≥50 parts per million (ppm). Extensive asbestos-containing materials are found in each of these buildings including pipe insulation, roofing, flooring, boiler systems, and cement boards.

e. **Project Goal**

A major Town goal is to promote the Town’s livability for residents, enhancing the character of Redding’s commercial zone by cleaning up the blight of the former Wire Mill and investing in a walkable downtown that enlivens the area and stimulates economic growth in an environmentally and culturally sustainable manner. The revitalization of the former Gilbert & Bennett Wire Mill is a priority of the Town of Redding’s Plan of Conservation and Development. Presently the dilapidated factory buildings loom over the Georgetown neighborhood and present a health and safety hazard to the community. Given the size of the site, the extensive environmental impact identified throughout, and to facilitate realized benefits to the community, the site will be redeveloped in phases. This current phase includes the West Pond Area, OMS Area, and Gateway Area. Redevelopment of the West Pond and OMS Areas would provide access to Factory Pond and opportunities for other community improvements. The Gateway Area contains the Main Office and former Machine Shop buildings, which frame the main entrance into the former Wire Mill area. These buildings are in disrepair and currently a blight for the community. HBM abatement would be needed to rejuvenate these buildings for beneficial use. The former cafeteria building, which is also within the Gateway Area, is severely dilapidated and would not be a benefit if rehabilitated; as such, this building is slated for demolition.
Funding from the EPA Brownfield Cleanup grant would be utilized to complete site remediation and bring the site into compliance with the CTDEEP RSRs. It is anticipated that future development will serve as part of the remedy to comply with the CTDEEP RSRs.

II. Applicable Regulations and Cleanup Standards

a. Cleanup Oversight Responsibility

The site is anticipated to be entered into the Abandoned Brownfield Cleanup Program (ABC) at a later date to facilitate cleanup in accordance with the CTDEEP RSRs by a Licensed Environmental Professional (LEP).

b. Cleanup Standards for Major Contaminants

The site is subject to Sections 22a-133k-1 through 3 of the Regulations of Connecticut State Agencies (RCSA), otherwise known as the RSRs. Connecticut’s RSRs provide detailed guidance and standards that may be used at any site to determine whether remediation of contamination is necessary to protect human health and the environment. Generally, the RSRs apply to any action taken to remediate polluted soil, surface water or groundwater at or emanating from a release area which action is required pursuant to Chapter 445, Chapter 446k, or section 22a-208a(c)(2) of the Connecticut General Statutes, including, but not limited to, any such action required to be taken or verified by a licensed environmental professional.

The RSRs are incorporated in Sections 22a-133k-1 through 22a-133k-3 of the RCSA, adopted January 1, 1996, and amended on June 27, 2013, and February 16, 2021. The RSRs contain numeric cleanup standards for 88 substances. Factors that may affect the degree of remediation at a polluted site include the groundwater quality classification of the site, the land use of the site, and proximity of sensitive receptors to the contamination.

Under specific circumstances, an Environmental Use Restriction (EUR) may be considered as an alternative to remediating contamination to a concentration that is consistent with specific criteria of the RSRs. The purpose of an EUR is to prevent certain types of uses of a property, or to limit or require specific activities on a contaminated property, or to minimize the risk of exposure to the pollutants. There are two types of EURs, an Environmental Land Use Restriction (ELUR) and a Notice of Activity and Use Limitation (NAUL). Both EURs are recorded on the municipal land records.

Applicable RSR criteria for the site include the RES and I/C direct exposure criteria (DEC), groundwater RES and I/C volatilization criteria (GWVC), groundwater protection criteria (GWPC), and surface water protection criteria (SWPC), including alternate SWPC that was calculated for certain metals (cadium, copper, lead, and zinc) and phenanthrene and documented in the September 2007 Remedial Action Plan and Engineered Control Variance Request. Further, it was previously approved that the results of mass soil analysis can be compared to ten times the GA Pollutant Mobility Criteria (GA PMC) or for TCLP/SPLP analytical results for certain portions of the site, be compared to ten times the GWPC. This provision does not apply to soils in a GA area polluted with xylenes or other VOCs, which was identified at the Weaving Building and former MGP.

c. Laws & Regulations Applicable to the Cleanup

Laws and regulations that are applicable to this cleanup include the RCRA Corrective Action Program, Property Transfer Program (CGS 22a-134 through 22a-134e), CTDEEP RSRs (RCSA 22a-133k-1 through 22a-133k-3, Town of Redding regulations, and CT
Prevailing Wage (CGS Section 31-53). Federal, state, and local laws regarding the procurement of contractors to conduct the cleanup will be followed.

In addition, all appropriate permits (e.g., call-before-you-dig, soil transport/disposal manifests) will be obtained prior to work commencing.

III. Hazardous Building Materials Regulatory Programs

a. Laws & Regulations Applicable to Hazardous Building Materials Abatement

Laws and regulations that are applicable to asbestos abatement include:

- Abatement and work area preparation regulations – EPA National Emissions for Hazardous Air Pollutants (NESHAP) Regulations (Title 40 CFR, Part 61, Subpart M) and RSCA Sections 19a-332a- 1 to 19a-332a-16.
- Worker Protection – Occupational Safety and Health Administration (OSHA) Asbestos Regulations (Title 29 CFR, Part 1926.1101)

Laws and regulations that are applicable to PCB abatement include:

- EPA Toxicity Substance Control Act PCB Regulations and Guidance Documents (Title 40 CFR, Part 761) and Sections 22a-463 through 22a-469a of the Connecticut General Statutes).

Laws and regulations that are applicable to lead abatement include:


Laws and regulations that are applicable to universal waste removal include:


In addition, all appropriate permits (e.g., CTDPH and EPA asbestos notifications, waste transport/disposal manifests and/or waste shipment records) will be obtained prior to work commencing.

IV. Evaluation of Cleanup Alternatives

Cleanup activities to date have included some soil remediation, capping of impacted soils through engineered controls to prevent human exposure, removal of chemical wastes, removal of AST systems, removal or abandonment of UST systems, HBM abatement, and demolition of certain non-historical buildings. Site assessment findings indicate soil, sediment, and groundwater is environmentally impacted. In addition, HBM is present at existing site buildings and presents a concern for human health. Soil and groundwater require remediation to comply with the CTDEEP RSRs and HBM abatement is necessary.

a. Cleanup Alternatives Considered

Based on the results of site assessments, four cleanup alternatives listed below were considered to address soil and groundwater contamination at the West Pond, OMS, and Gateway Areas of the site.

- Alternative #1: No action
- Alternative #2: Hotspot excavation of all identified soil impacts above RSR criteria. Compliance groundwater monitoring as required by the CTDEEP RSRs
would be used to demonstrate effectiveness of soil remediation and to comply with the groundwater standards.

- Alternative #3: Combination of hotspot excavation of certain identified soil impacts above RSR criteria and use of statistical analysis and engineered controls (ECs) to render certain impacts inaccessible and/or environmentally isolated as defined by the CTDEEP RSRs. Impacted soil at these areas would be reused and/or capped as part of the future site redevelopment, beneath buildings, asphalt-pavement, clean fill material, and/or liners as specified in the CTDEEP RSRs. An Environmental Use Restriction (EUR) would be filed to prohibit future activities at the site (i.e., excavation, etc.). Compliance groundwater as required by the CTDEEP RSRs would be used to demonstrate the effectiveness of soil remediation/ECs and to comply with the groundwater standards.

- Alternative #4: Full excavation of fill materials at the OMS and Gateway Areas to depths of up to 8 feet bgs. Impacts identified at these areas are largely attributed to impacted construction and/or facility fill. Substantial excavation of the West Pond Area to remove elevated concentrations of COCs attributed to fill materials, atmospheric deposition of impact from former manufacturing activities, railroads, and use of lead based paint within the shallow soils up to 4 feet bgs. At certain locations where impact was identified deeper, over-digging to remove the entirety of impact. Compliance groundwater monitoring as required by the CTDEEP RSRs would be used to demonstrate the effectiveness of soil remediation/ECs and to comply with the groundwater standards.

b. Evaluation of Cleanup Alternatives

To satisfy EPA requirements, each alternative's effectiveness, implementability, and cost were considered prior to selecting a recommended cleanup alternative, as discussed below.

Effectiveness

- Alternative #1: No Action is not effective in controlling or preventing exposure for receptors to contamination at the West Pond, OMS, and Gateway Areas.

- Alternative #2: Hotspot excavation of all identified impacts and compliance groundwater monitoring is an effective way to prevent receptors from coming into direct contact with contaminated materials at these areas. Removal of hotspots will help achieve compliance with CTDEEP RSR soil and groundwater standards. However, when evaluating this alternative, certain assumptions were made regarding the potential extent of the impact. As most identified impacts are attributed to fill materials, there is a potential that, given the prevalence, the extent of impact could be larger than anticipated. These hot spot areas would be further assessed as part of the remedial design investigation, which will support the final Remedial Action Plan for the West Pond, OMS, and Gateway Areas.

- Alternative #3: Combination of hotspot excavation of certain identified soil impacts above RSR criteria and use of statistical analysis and ECs to render certain impacts inaccessible and/or environmentally isolated and compliance groundwater monitoring is also an effective method to prevent direct exposure and prevent future exposure. Use of an EC would require an EUR that would restrict certain activities on the site (i.e., excavations or cap removal). This alternative is a common approach for addressing
Historical brownfield sites and sites that are completely underlain by impact fill materials. Compliance with the CTDEEP RSRs can be achieved by integrating future development as a means of capping. Soil excavation is conducted where necessary (hotspots) to assist with the natural attention of impacted groundwater. Further, with the removal of certain hotspots, statistical evaluation of the release could be completed to achieve compliance.

- Alternative #4: Full excavation of fill materials at the OMS and Gateway Areas and substantial excavation of the West Pond Area is an effective way to prevent receptors from coming into direct contact with contaminated materials at the site. This alternative will also increase contaminant mass removal and would not require a cap or EUR to comply with the RSRs. As such the site would be unrestricted and unencumbered. Compliance groundwater monitoring would be required.

Implementability

- Alternative #1: No Action is easy to implement since no actions will be conducted.

- Alternative #2: Hotspot excavation of all identified impacts and subsequent compliance groundwater monitoring is generally easy to implement as all identified hotspots are easily accessible and can be excavated, direct-loaded and/or temporarily stockpiled and transported off-site for disposal. This is a common means of remediation for projects of this type. However, limitations to how much soil can be excavated and disposed of at the permitted facility may be experienced that could result in delays in implementation. Excavations would be back-filled using a nearby, clean source. Compliance groundwater monitoring would commence following the installation of appropriate groundwater monitoring wells (as applicable for pollutant mobility criteria exceedances).

- Alternative #3: Combination of hotspot excavation of certain identified soil impacts above RSR criteria and use of statistical analysis and ECs to render certain impacts inaccessible and/or environmentally isolated and compliance groundwater monitoring requires removal of impacted soil that cannot remain at these areas and then coordination and integration with site redevelopment on capping requirements. The capping design can be moderately difficult to implement as it relies on site development characteristics such as site grading, cuts, and fills. An EUR is a common institutional control designed to prevent future exposure by prohibiting certain activities at the site. Monitoring and maintenance of the cap will also require periodic coordination and reporting. Compliance groundwater monitoring would commence following the installation of appropriate groundwater monitoring wells (as applicable for pollutant mobility criteria exceedances).

- Alternative #4: Full excavation of fill materials at the OMS and Gateway Areas and substantial excavation of the West Pond Area would prove to be highly difficult to implement due to the excessiveness of excavation and proximity to Factory Pond and the Norwalk River. This scale of excavation would require significant planning efforts.
Cost

- There will be no costs under Alternative #1: No Action
- The anticipated cost for implementing Alternative #2 is expected to be on the order of $1,140,000.
- The anticipated cost for implementing Alternative #3 depends on the proposed redevelopment of the site, which is unknown at this time.
- The anticipated cost for implementing Alternative #4 is expected to be on the order of $40,000,000.

C. Hazardous Building Material Abatement

Site abatement items have also been categorized into “Alternatives” similar to the site cleanup. Each alternative’s effectiveness, implementability, and cost were considered prior to selecting a recommended abatement alternative, as discussed below.

Effectiveness

- Alternative #1A: No Action is not effective in controlling or preventing exposure to HBM contamination at the site.
- Alternative #2A: Stabilization and encapsulation of hazardous building materials. This is not feasible in the majority of the site and is specifically not allowed or not recommended for asbestos-containing materials.
- Alternative #3A: Full abatement of hazardous building materials. The Town is scheduled for building renovations for commercial use in the Machine Shop and Main Office Buildings. The Cafeteria is scheduled for demolition as a majority of the building is not usable for reuse/rebuilding.

Implementability

- Alternative #1A: No Action is easy to implement since no actions will be conducted.
- Alternative #2A: Not feasible nor allowed in most areas. This Alternative cannot be implemented.
- Alternative #3A: Removal of asbestos-containing materials from interior and exterior sections of the Machine Shop and Main Office buildings by a licensed asbestos abatement contractor. Materials scheduled to be impacted that included paints, caulks, and glazing will be removed and disposed of as PCB Bulk Product Waste. Workers will perform lead safe work practices per 29 CFR 1962.62 during renovation work. Demolition of the Cafeteria will be performed under an CTDPH approved Alternative Work Practice (AWP) to allow for asbestos abatement variance. All demolition waste from the Cafeteria to be disposed of as mixed friable asbestos and PCB Bulk Product Waste.

Cost

- There will be no costs under Alternative #1A: No Action
- Alternative #2A is not feasible and removal/cleanup costs would fall under abatement/demolition.
- The anticipated cost for implementing Alternative #3A is expected to be on the order of $760,000.
d. Recommended Cleanup Alternatives

Subsurface Remediation

Alternative #2 is recommended because this is the most cost-effective, prudent and practicable means to remediate the site in accordance with the CTDEEP RSRs, thereby being protective of human health and environment. However, based on the completion of the remedial design investigation, redevelopment plan, and potentially during the completion of the hotspot remediation, Alternative #3 may be more feasible.

Alternative #1 cannot be recommended because No Action is not protective of human health and the environment and does not provide for beneficial redevelopment of the site.

Alternative #4 is not recommended because soil excavation to this degree would prove to be technically complex and require significant planning efforts and funding. As such, this alternative would be cost-prohibitive, nor would it be a practicable or prudent solution for this site.

HBM Abatement

Alternative #3A is recommended because this is the most prudent and practicable means for HBM abatement to restore the Main Office building and former Machine Shop to beneficial use.

Alternative #1A cannot be recommended because No Action is not protective of human health and does not provide beneficial redevelopment of the site.

Alternative #2A cannot be recommended because it is generally not allowed or recommended given the condition of HBM observed at the site.

If you have any questions or comments, please contact James T. Olsen at (860) 704-4761 or jtolsen@tighebond.com.

Very truly yours,

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