ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES & CONCEPTUAL REMEDIAL ACTION PLAN
FORSTER MANUFACTURING
581 DEPOT STREET
WILTON, MAINE
REV. 0

Prepared for:

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1.0 INTRODUCTION AND BACKGROUND

Ransom Consulting, Inc. (Ransom) has completed this Analysis of Brownfields Cleanup Alternatives (ABCA) to evaluate various remedial alternatives for the adverse environmental conditions identified at the Forster Manufacturing property located at 581 Depot Street in the Town of Wilton, Maine (the “Site”). This report summarizes the evaluation of remedial alternatives for the Site and includes a discussion of each remedial option, a cost estimate, the degree of effectiveness, ease of implementation, and the resilience of each option in light of reasonably foreseeable changing climate conditions. This report also contains a discussion of the recommended remedial alternative for the Site, as well as a Conceptual Remedial Action Plan (RAP) for the selected alternative. This report was prepared for the Town of Wilton, Maine using the United States Environmental Protection Agency (US EPA) Brownfield funding under the Town of Wilton’s Brownfields Cleanup Program (Grant No. BF00A00206).

1.1 Purpose and Scope

The purpose of this report is to screen potential remedial action alternatives to mitigate previously identified adverse environmental conditions associated with the Site. Based on the information obtained during previous environmental investigations, several remediation options were considered for the Site and evaluated based on feasibility, effectiveness, cost, time to implement and meet the cleanup objectives, ability to meet the overall cleanup goal (protection of human health and the environment), and resilience to climate change conditions. Key consideration was given to eliminating or reducing, to the extent possible, the risk of exposure for existing and potential future Site occupants and workers to the identified contamination at the Site.

The overall objectives of this ABCA include the following:

1. Evaluating the remedial alternatives against specific evaluation criteria, including: overall protection of human health and the environment; technical practicality; ability to implement; reduction of toxicity, mobility, and volume; time required until remedial action objectives are attained; costs; and resiliency to climate change conditions.

2. Selecting the remedial alternative that best meets the objectives and considerations of the project.

3. Presenting a work plan (RAP) for implementing the selected remedial alternative.

The Evaluation of Remediation Alternatives (Section 5.0) discusses the requirements for each remedial alternative. The alternatives are evaluated on the previously mentioned criteria, and one alternative is recommended for implementation at the Site. Furthermore, a Conceptual RAP is presented in Section 6.0 for the recommended alternative.

1.2 Site Description

The Site, known as the Forster Manufacturing Property, is identified by the Town of Wilton’s Assessor’s Office as Lot 094 on Tax Map 5, which corresponds to a street address of 581 Depot Street in the Town of Wilton, Maine. The Site is located on the southern side of Depot Street, and is abutted to the east, south and west by Wilson Stream. The Site is a portion of a larger parcel of land, encompassing 17.65 acres, which is located on both the northern and southern sides of Wilson Stream, between Depot Street and Village View Street. For the purposes of this ABCA, portions of the property located on the southern side of Wilson Stream (undeveloped wooded areas) are considered adjacent properties. A Site Location Map is presented as Figure 1.

The Site was purchased in 1903 by the Wilton Woolen Company and the main manufacturing building was constructed. The Site was operated as a woolen mill until the late 1950's, at which time Forster purchased the property and began manufacturing croquet sets, turnings, and clothespins. In 1955, Diamond Brands purchased the mill building and began manufacturing toothpicks. In the early 2000's, the main manufacturing building was used as a printing press/box cutting/packing facility. The Site has been vacant/unused since circa 2010.

The approximately 232,000 square-foot, four-story main manufacturing building was constructed in 1903, and underwent several renovations/additions during its operational history. The southwest portion of this building is constructed over Wilson Stream, and portions of Wilson Stream were also historically diverted beneath the main manufacturing building through a series of penstocks and tail races. In addition to these waterways, portions of the basement of the facility are also underlain by crawl spaces.

The wood-frame manufacturing building is in poor condition, and in 2014, was declared a "dangerous building" pursuant to 17 M.R.S. § 2851. In 2011, the Site owners began conducting demolition activities in the southeastern portion of this building; however, due to the identified presence of asbestos-containing materials (ACM) and a lack of funds, the demolition was not completed. Beams and structural supports were removed, and this section of the structure (including an approximately 40-foot tall, free-standing southern exterior wall) appears to be structurally unstable. The main manufacturing building is currently unheated, and is not provided with running water or electricity. Historically, the Site was provided by public water and sewer.

In the southern portion of the Site, two wood-framed buildings are present which were used in connection with former Site operations. One of the buildings is a historical sawdust storage shed. Based on historical research of Site operations, this building was used to store sawdust prior to its use in the onsite boiler. The second building is referred to as the Photo Shed, and may have historically been used for the temporary storage of hazardous waste prior to its removal from Site. Both of these outbuildings are constructed on concrete blocks above the ground. The southern exterior walls of these buildings abut Wilson Stream.

A slab-on-grade metal storage building is located in the eastern portion of the Site. This building was historically used for storage, as well as automobile parking associated with a local towing service. The southern exterior wall of this building abuts Wilson Stream. Several additional outbuildings/sheds, associated with historical water service to the facility, are present in the northern portion of the Site. These small wood-frame buildings were constructed over valves, hydrants and other water facilities.

Remaining portions of the Site are generally impervious, with paved parking areas to the east and south, paved loading docks and parking areas to the north, and small areas of grassy/overgrowth in the western and northwestern portion of the Site. The southern Site boundary is an approximately three-foot-high concrete wall, which comprises the northern bank of Wilson Stream. In the northwestern portion of the Site, the former locations of two stacks could be observed, as well as an abandoned-in-place concrete oil vault with protruding process pipes. Please refer to the appended Site Plan (Figure 2) for the location of key site features.

1.3 Surrounding Land Use

The Site is located in a residential and commercial neighborhood in the Town of Wilton, along the northern bank of Wilson Stream.

1.4 Site Geology and Hydrogeology

Based on our observations during previous environmental assessments, soils beneath the building slab are generally comprised of sand with broken rock and cobbles. According to the 2015 TRC Phase II ESA (which included soil borings throughout the Site), soils onsite were observed to be generally silty sand with gravel and cobbles. According to the 2015 TRC Phase II ESA, groundwater at the Site was observed in temporary monitoring wells at depth ranging from 4.65 to 14.3 feet below ground surface (bgs), and generally flowed in a southern to eastern direction, towards Wilson Stream.

1.5 Surface Water Bodies/Floodplains

The Site is bounded to the east, south and west by the Wilson Stream.

According to the United States Fish and Wildlife Service National Wetland Inventory online wetlands mapper, no wetlands are present at the Site. Based on the Franklin County, Maine National Flood Insurance Program Map (Community Panel Number FM2300630010B), the Site is not within the 100-year flood zone. It should be noted that because the Site is bounded to the east, south, and west by the Wilson Stream, there are limited areas on the stream banks which are considered flood areas.

1.6 Potential Future Site Use

There are no current redevelopment plans for the Site; however, the Town would like to see full building demolition and mixed-use commercial or light industrial redevelopment.

2.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

“Site Assessment for the Forster Manufacturing Facility No. 6 Oil Concrete Vault Located in Wilton, Maine,” Morrison Geotechnical Engineering (Morrison), October 1992.

Morrison completed a site assessment for the abandonment-in-place of the concrete 100,000-gallon No. 6 fuel oil vault located in the northern portion of the Site. According to the Morrison Report, at the time the underground storage tank (UST) was abandoned, evidence of cracking in the vault walls and floor was observed; however, all cracks were reportedly sealed. Two soil samples were collected from beneath the base of the vault. These two soil samples were field-screened, and the volatile headspace readings were reportedly both non-detect. No confirmatory laboratory samples were collected. According to Morrison, there were “no visual signs of uncontrolled oil around the vault area.” Based on these observations, Morrison concluded that there was no evidence to indicate that this oil storage vault had adversely impacted environmental conditions at the Site. No information on the actual tank abandonment was provided in this report.

“Phase I Environmental Site Assessment, Diamond Brands, Inc. Wilton, Maine,” Shield Environmental Associates, Inc., September 2002.

Shield completed a Phase I ESA for the Site, and identified the following Recognized Environmental Conditions (RECs): 1) the presence of suspect ACM on the fourth floor of the Site building; 2) the historical use of the Site as a woolen mill and historical on-site coal and oil storage; 3) closed floor drains in an on-site service garage which historically discharged directly to Wilson Stream; 4) a 100,000-gallon concrete fuel oil storage vault which was abandoned-in-place in 1992, and the historical presence of a 12,000-gallon fuel oil tank inside of that vault; 5) the presence and former use of a hazardous waste room in the Site building; and 6) potential impacts from off-site properties, including two leaking underground storage tank (LUST) facilities and 21 UST facilities.

During their Site reconnaissance, Shield observed the presence of four 275-gallon and one 250-gallon No. 6 fuel oil aboveground storage tanks (ASTs) at the Site. Additionally, drums of oils, detergents, alcohol, waste ink, and other hazardous materials/universal waste were observed by Shield at the Site. It should be noted that the Site was operational at the time of Shield’s report.

As part of their assessment, Shield reviewed the following historical environmental reports: a 1992 GZA Phase I ESA; a 1992 GZA Phase II Investigation; a 1995 GZA Environmental Site Evaluation Update; and a 1998 EMCON Phase I ESA. *[It should be noted that Ransom was not able to locate copies of these reports during the MEDEP file review, and copies of these reports were not included in the Shield ESA appendices. The following paragraphs present Ransom’s overview of the report summaries, as presented in the Shield ESA.]*

- 1992 GZA Phase I ESA: As part of the 1992 ESA, GZA reportedly documented the following air emission sources at the Site: a wood-fired boiler; wood milling and conveying equipment used in croquet mallet production; and drying ovens used to dry volatile organic compounds (VOC)-based lacquers and paints on croquet mallets. GZA also reportedly documented the fact that the plant discharged cooling water, condensate, and stormwater directly to Wilson Stream. At the time of GZA’s site reconnaissance, paints, lacquers, water-based coatings, solvents, printing chemicals, boiler conditioning acids, ignitable solvents/inks, corrosive chemicals, and lubricating and hydraulic oils were reportedly observed throughout the Site building. At the time of the 1992 GZA ESA, the plant was a Class 2, Resource Conservation and Recovery Act (RCRA) Large Quantity Generator (LQG) of Hazardous Waste; and a hazardous waste storage area was reportedly observed on the second floor. GZA further identified potential on-site contamination from the historical 100,000-gallon concrete oil vault, incidental and historical spills/releases, historical industrial site use, historical industrial use on up-gradient properties, and historical discharge of boiler blow-down water to soils. GZA also reportedly identified compliance issues including opacity limit violations from the boiler, discharge of wastewater to Wilson Stream, National Pollution Discharge Elimination System (NPDES) stormwater violations due to roof drains, hazardous waste labeling violations, hazardous waste storage and disposal violations, improper storage and disposal of wood ash, and improper disposal of hazardous waste to the Wilton landfill.

- 1992 GZA Phase II Investigation: As part of this investigation, GZA reportedly collected soil samples, groundwater samples, surface water samples, and sediment samples at the Site. Shield reports that the soil samples were field screened, and that GZA identified no evidence of VOC contamination. Two groundwater and three surface water samples were reportedly collected; these samples reportedly did not contain VOCs, volatile petroleum hydrocarbons (VPH), semi-volatile organic compounds (SVOCs), metals, or cyanide at concentrations which exceeded applicable regulatory guidelines; however, it was reported that iron and manganese were detected at concentrations which exceeded secondary drinking water standards. Three sediment samples were reportedly collected from Wilson Stream and submitted for laboratory analysis of VOCs, SVOCs, metals and cyanide. These sediment samples reportedly contained concentrations of polycyclic aromatic hydrocarbons (PAHs) and dibenzofurans "which ranged from 4.4 to 69.4 mg/kg". According to Shield, GZA reportedly concluded that oil and hazardous substances had not impacted groundwater or surface water at the Site; and that the elevated contaminant concentrations in on-site sediments were consistent with typical background concentrations in historically industrial areas. GZA further concluded that the Site did not pose a threat to public or private water supplies.

- 1995 GZA Site Evaluation Update: During this update, GZA reportedly observed generally the same chemicals at the Site as they had observed in 1992, and reportedly identified the same RECs as were outlined in the 1992 GZA ESA. GZA reportedly collected groundwater samples from previously-installed monitoring wells, and found that they were not impacted by VOCs or VPH.

- 1998 EMCON Phase I ESA: According to Shield, the 1998 EMCON ESA identified RECs at the Site which included: potential contamination associated with the 100,000-gallon oil storage vault; historical on-site activities including oil and coal storage, and the historical use of dyes; housekeeping concerns associated with hazardous materials on-site; floor drains in the service garage which discharge directly to Wilson Stream; historical emissions from on-site sources; suspect ACM; and the lack of a stormwater pollution prevention plan.

<u>"ASTM Phase I Environmental Site Assessment, Forster Manufacturing, 81 Depot Street, Wilton, Maine, Revision 1," prepared by Ransom, dated June 29, 2015.</u>

Ransom completed a Phase I ESA on behalf of the MEDEP in June of 2015. On May 15, 2015, Ransom conducted a reconnaissance of the Site. Several items of environmental concern were observed:

- Drums, containers and hazardous materials were observed throughout the Site buildings, including the metal storage building, the Photo Shed, and throughout the main manufacturing building. Some of these containers contained unknown liquids, and many of these containers were unlabeled, rusted, leaking and/or in poor condition. Staining was observed on the floors in the vicinity of these containers.

- Floor drains, sumps, and open penstocks were observed throughout the basement of the main manufacturing building. These drains currently/historically have discharged directly to Wilson Stream. Widespread staining, drums and containers (some of which showed evidence of leaking), and evidence of dumping were observed in the general vicinity of the floor drains/sumps. Ransom walked along the banks of Wilson Stream, beneath the manufacturing building, and observed dozens of pipes and drains which currently/historically discharged from the building into Wilson Stream. Black staining was observed on the banks of Wilson Stream, beneath identified outfall pipes, which suggest that hazardous materials may have been discharged historically onto the banks of the stream, or into the stream itself.

- Fill and vent pipes were observed on the northern exterior wall of the main manufacturing building. These pipes were cut inside of the basement. No staining or discernible odors were observed in connection with these former fill and vent pipes.

- Significant amounts of black oily staining were observed on walls, floor and ceilings throughout the main manufacturing building. This staining is presumed to be from former Site operations.

- Three open-top dumpsters/roll-off containers on-site were observed at the Site. Two were filled with construction and demolition debris and general solid waste, and one had asbestos placarding and contained apparent ACM waste. The asbestos dumpster has reportedly been removed as of the date of this report. Staining on the ground beneath these dumpsters suggests that stormwater which is trapped in these containers eventually discharges overland towards Wilson Stream.

- Stormwater on the Site is expected to flow overland towards Wilson Stream, or into one of several on-site catch basins. Catch basins at the Site are piped directly to Wilson Stream, or into one of the penstocks/tail races which run beneath the main manufacturing building. No provisions for pre-treatment of stormwater runoff were observed or historically noted at the Site. Roof drains also discharged directly to Wilson Stream. There is no record that the facility ever maintained a Stormwater Pollution Prevention Plan (SWPPP).

- Concrete pads which supported two historical stacks were observed in the northern portion of the Site. Ransom observed that beneath each of these pads, there was a space in which ash and material was collected and could be removed.

As part of this Phase I ESA, Ransom identified RECs which included the following:

4. The main manufacturing building has been used for industrial purposes since 1902, including a woolen mill; a manufacturer of croquet sets, clothespins, and toothpicks; and a printing/packaging facility. The historical industrial use of the Site building has the potential to have impacted soil, groundwater, sediments, pore water, and soil vapor at the site.

5. The main manufacturing building has been historically heated by coal, wood and oil-fired boilers. The Site formerly maintained a 1,000-gallon gasoline UST, which was removed

in 1986, and a concrete 100,000-gallon No. 6 fuel oil UST, which was abandoned-in-place in 1992. The exact location of the 1,000-gallon UST is unknown. As part of the abandonment-in-place of the 100,000-gallon UST, no soil samples were collected for laboratory analysis. Additionally, a 12,000-gallon No. 4 fuel oil AST was historically located inside the 100,000-gallon concrete vault; and in 2002, Shield observed the presence of four 275-gallon and one 250-gallon No. 6 fuel oil ASTs at the Site. The exact location of these ASTs is unknown.

6. The Site is currently identified as a RCRA Small Quantity Generator (SQG), and prior to 1997, the Site was classified as a RCRA LQG. The facility formerly used and generated hazardous wastes including: spent cleaning solvents and hazardous flammable substances (methyl ethyl ketone, alcohol, acetone, toluene, and butyl acetate); VOC-based paint, lacquer, and spray booth-related hazardous wastes; dyes and inks; polychlorinated biphenyls (PCB)-contaminated material (transformers, capacitors, switches and ballasts); and two Safety-Keen parts cleaners with 35-gallon and 5-gallon reservoirs containing spent solvents. Hazardous wastes were stored on-site in the finishing department on the second floor of the main manufacturing building, the paint/spray booth area and a former maintenance shop on the first floor of the main manufacturing building, the hazardous waste storage area and the machine shop area located in the basement of the main manufacturing building, in the "motor and electrical equipment storage area at ground floor level at the rear of the mill complex," and a "wood-framed building adjacent to the warehouse shipping area" (presumed Photo Shed).

7. The Site formerly maintained air emission licenses, and MEDEP correspondence indicates that the facility formerly burned solvent wastes (lacquer thinner, acetone, methyl ethyl ketone, butyl acetate, ethyl acetate and toluene), waste engine oil, and garbage in the wood-fired boiler. The MEDEP also documented historical violations associated with smokestack opacity limits, smokestack height, and downwash conditions. Potentially contaminated ash remains on-site beneath the concrete pads in the northern portion of the Site which formerly supported two historical stacks.

8. Floor drains, sumps, and open penstocks were observed throughout the basement of the main manufacturing building. Widespread staining, drums and containers, and evidence of dumping were observed in the general vicinity of theses drains. It is likely that all of these drains discharged directly to Wilson Stream. Additionally, based on conversations with the Wilton wastewater department, it is known that the facility formerly discharged process water, condensate and cooling water, and pre-1978 sewer discharges directly to Wilson Stream. Ransom observed dozens of pipes and drains which currently/historically discharged from the building into Wilson Stream. Black staining was observed on the banks of Wilson Stream, beneath this portion of the building, which suggest that hazardous materials may have been discharged historically onto the banks of the stream, or into the stream itself. Historical environmental assessments, conducted by GZA is 1992, identified elevated concentrations of PAHs and dibenzofurans in on-site stream sediments.

9. According to Code Enforcement Office files, during the partial demolition of the main manufacturing building in 2011, the MEDEP permitted that construction and demolition debris from the building could be disposed on-site within a "cellar hole." The demolition was later stopped due to friable asbestos being co-mingled with demolition debris. Abatement Professionals subsequently completed a partial asbestos abatement of exterior

portions of the Site; however, it is likely that asbestos containing materials remain on-site in the main manufacturing building, and in on-site soils. The ACM present in the main manufacturing building has been address in the Hazardous Building Materials Survey, which was conducted by Ransom concurrently with this ESA. However, there is the potential that ACM was disposed in the "cellar hole" on-site. The exact location of this "cellar hole" is unknown.

10. During Ransom's Site reconnaissance, 55-gallon drums, 5-gallon buckets, miscellaneous containers, and hazardous materials were observed throughout the Site buildings, in locations including: the metal storage building; the Photo Shed; the main manufacturing building basement; and the boiler room. Many of these containers contained unknown liquids, were unlabeled, or were in poor condition (rusted, leaking, etc.). Widespread staining was observed on the floors throughout the main manufacturing building, potentially in connection with these containers.

11. Extensive black oily staining, assumed to be related to historical Site operations processes, was observed throughout the main manufacturing building, on the floors, ceilings and walls. Based on the age of the building, there is the potential that hydraulic oil used as part of historical Site operations contained PCBs.

12. Three open-top dumpsters/roll-off containers on-site were observed at the Site. Two were filled with construction and demolition debris and general solid waste, and one had asbestos placarding and contained apparent ACM waste. The asbestos dumpster has reportedly been removed as of the date of this report. Staining on the ground beneath these dumpsters suggests that stormwater which is trapped in these containers eventually discharges overland towards Wilson Stream.

13. Stormwater at the Site is expected to flow overland towards Wilson Stream, or into one of several on-site catch basins which discharge directly to Wilson Stream, or directly into one of the penstocks/tail races which run beneath the main manufacturing building. Roof drains also discharged directly to Wilson Stream. No provisions for pre-treatment of stormwater runoff were observed or historically noted at the Site.

14. Based on historical environmental reports, the age of the building and Ransom's observations during our Site reconnaissance, hazardous building materials are present on-site, and include ACM, lead-based paint, potential PCB-contaminated wastes and building materials, and universal wastes (fluorescent bulbs and ballasts, mercury thermometers, etc.). It should be noted that a Hazardous Building Materials Survey was conducted concurrently with this Phase I ESA to identify the potential presence of these materials.

Based on the information obtained during this assessment, Ransom concluded that additional investigation was warranted to further evaluate the RECs identified above. Specifically, Ransom recommended the following:

1. Conduct a subsurface investigation at the Site which would include the collection of soil, groundwater, sediment, pore water, and soil vapor samples to assist in evaluating and documenting current environmental conditions and to what extent, if any, the RECs identified above have adversely impacted environmental conditions at the Site. As part of this investigation, the ash present in the area beneath the former stacks should be

sampled and characterized for disposal; the dumping area observed on the southern bank of Wilson Stream should be assessed; and potential preferred pathways associated with underground utilities (including the piping for the former water reservoir on the northern side of Depot Street, and water infrastructure along Depot Street) should be investigated.

2. Conduct a sampling program inside the main manufacturing building to evaluate whether PCB-containing building materials are present, and to determine if PCBs were present in the oil which was observed to have historically stained interior floors, ceiling, and walls.

3. The hazardous materials, drums, and containers on-site should be thoroughly inventoried and characterized. These materials should be consolidated and properly stored on-site (in a secured area with secondary containment) until which time they can be transported offsite for proper disposal. These materials must be removed from Site prior to demolition of the building.

4. All hazardous building materials which were identified in the Hazardous Building Materials Survey (i.e. ACM, lead-based paint, and universal wastes) must be abated and/or removed from Site prior to building demolition. Any Hazardous Building Materials identified in the Phase II subsurface investigation (i.e. PCB-containing building materials) must also be property abated and/or removed from Site prior to building demolition.

5. A floor drain investigation should be conducted in the main manufacturing building to determine the ultimate disposal locations of any identified floor drains, and to determine if any subsurface sumps or dry wells are present beneath the building. A thorough inventory of drains (open and closed) will be conducted, and any open drains will be dye and/or smoke tested to determine ultimate disposal locations. Because the main manufacturing building is planned for demolition, no closure of active floor drains will be necessary; however, if the building is to remain or be redeveloped, all active floor drains in the main manufacturing building should be permanently closed.

6. Prepare a Soil and Groundwater Management Plan which will be implemented during future Site excavation and/or demolition activities. This Management Plan will provide guidance on the management of impacted soils and groundwater which may be encountered during Site redevelopment activities to minimize human exposure risks. This plan will outline soil and groundwater management procedures, testing requirements, stockpile maintenance, and notification/disposal requirements, among other pertinent data.

<u>"Hazardous Building Materials Survey, Forster Manufacturing, 81 Depot Street, Wilton, Maine," prepared by Ransom, dated June 29, 2015.</u>

Ransom also conducted a Hazardous Building Materials Survey (HBMS) on behalf of the MEDEP, concurrent with the June 2015 Phase I ESA.

ACM were identified at the Site. Materials identified as ACM that may be impacted by future renovation or demolition of the Site building should be properly removed prior to such activities. ACM identified at the Site included asbestos-cement piping, paneling, and flooring, areas of linoleum sheet flooring, interior and exterior window glazes, and pipe insulation, boiler lagging, gaskets, etc. associated with two large-unit boilers.

Due to access and safety limitations, asphalt-based roofing materials were identified as presumed asbestos-containing materials (PACM).

Lead-based paint (LBP) was identified at the Site building. General and/or demolition contractors may perform demolition of surfaces coated with LBP or lead-containing coatings, provided that the handling of components coated with paint containing lead at any concentration (referred to as lead-containing paint) complies with Occupational Safety and Health Administration's (OSHA's) lead standards.

Ransom inventoried additional hazardous or potentially hazardous building fixtures at the Site during the course of this investigation that may contain polychlorinated biphenyls (PCBs) and heavy metals. Disposal of each of these items is also subject to hazardous and/or universal waste disposal requirements.

<u>"Phase II Environmental Site Assessment Summary Report, Forster Mill, 581 Depot Street, Wilton, Maine," prepared by TRC Environmental Corporation (TRC), dated December 2015.</u>

TRC performed a Phase II ESA to evaluate the RECs identified in Ransom's Phase I ESA. Based on the results of this Phase II ESA, the following conclusions were made:

- Site Safety – The four-story unsupported exterior masonry/brick wall on-site is creating an unsafe or hazardous condition for workers and trespassers. This unsafe condition should be addressed quickly, likely through the removal of this unsupported wall.
- TRC observed relatively small quantities of presumed hazardous wastes and/or petroleum products throughout the structures but concentrated on the basement/first floors. Staining or other evidence of release was observed in some areas.
- Ash-like material was observed in the area around the smokestack.
- Floor drains, sumps, and open penstocks were observed in the basement of the building with standing water, sediment and debris located within the structures. At some locations, evidence of staining and odors were observed.
- Pipes and drains were observed on the bank of Wilson Stream. Under the Mill building, black staining was observed on rocks.
- Staining was observed on the floors throughout the site building on the floors, ceilings and walls.
- A geophysical survey was conducted to locate existing on-site utilities, screen boring locations, and trace pipes/drains. Drains were detected in the subsurface that were oriented from north to south. While the terminus of each drain was not located, it is assumed that most ultimately end in the subsurface underneath the building or at Wilson Stream. The Site is not (and to our knowledge has not been) connected to a process water system. The Site was connected to the Town sanitary sewer system in 1978.
- Soil samples were screened in the field during soil boring activities. Photoionization detector (PID) screening results from the soil collected during drilling activities ranged from non-detect to 31.1 parts per million (ppm), indicating VOC presence in a small portion of the Site soils located in close proximity to the former UST.

- Relatively low concentrations of SVOC compounds and metals in soil are generally distributed across the entire Site and found at similar concentrations to the background soil samples. Low concentration petroleum compounds, extractable petroleum hydrocarbons (EPH) carbon chain C11-C22 Aromatics, and certain PAHs and dibenzofuran were detected above MEDEP Remedial Action Guidelines (RAGs), and appear to be localized in the area around the 100,000-gal concrete UST bunker (northwest portion of the Site).

- Groundwater Analytical Results – One VOC, one SVOC, and one metal were detected in the groundwater samples at concentrations below the Residential and/or Construction Worker RAGs. No other constituents were detected. Based on the collected samples and applicable RAGs, groundwater does not appear to be impacted at the Site.

- Air-phase hydrocarbons (APH) and EPA Method TO-15 constituents were detected in soil gas samples below the Commercial Worker RAGs. There does not appear to be a correlation between the low-level detections and the specific location in the mill building. Based on the collected samples, soil gas does not appear to be impacted at the Site.

- Streambed Sediment Analytical Results – Five SVOC compounds were detected above Park User and/or Construction Worker Scenario RAGs. Generally speaking, the four sediment samples (one upstream, one downstream, and two adjacent) have similar relative concentration of EPH, SVOC, and metal constituents. It is likely that historical Site operations had some effect on sediment quality but the extent is not known and/or if impacts are from an upstream source. Several drains from the mill buildings appear to discharge into Wilson Stream however specific historical processes were not directly linked to SVOC compounds in sediment.

- Drain Sediment Analytical Results – Two EPH and two metals were detected above the Commercial Worker and/or Construction Worker Scenario RAGs. Petroleum compounds and metals identified in material removed from drains indicate hazardous materials and petroleum products were used in the mill building and that impacted material does exist in Site drains. Drains are assumed to discharge to the subsurface underneath the building or to Wilson Stream.

- Hazardous Waste Inventory – TRC conducted a hazardous waste inventory of safely accessible rooms/areas on each floor of the mill building, as well as the exterior metal shed, former sawdust shed, and photo shed. A total of fifteen types of potentially hazardous materials were identified including the following: paints, adhesives, silica gel desiccant, possible gasoline, propane, oxygen, and acetylene tanks, photo-development liquids, light ballasts, hydraulic oil, and unidentified liquids.

Based on the results of this Phase II ESA, the following recommendations were made:

1. Stabilize or remove the four-story unsupported exterior masonry/brick wall as soon as possible to mitigate the safety hazard to site workers and trespassers.

2. Secure both interior and exterior areas of the Site from potential trespassers which may vandalize and release petroleum and/or hazardous materials from the numerous containers within the buildings;

3. Apply to the MEDEP's Voluntary Response Action Program (VRAP) to gain the liability protections afforded under the program and work with the Department to undertake possible additional assessment and/or remedial actions to mitigate human health exposure and ecological risk;

4. Safely package for transport and dispose of all petroleum and/or hazardous materials containers offsite;

5. Demolish the Site buildings and remove debris from the Site for offsite disposal. During demolition, consider the following: Presence of possible hazardous building materials; Presence of drain lines containing petroleum and/or hazardous materials; Presence of petroleum and/or hazardous materials containers; and Proximity of buildings to Wilson Stream.

6. Once the Site buildings have been raised and debris removed from the Site, assess the most effective remedial action to mitigate human health exposure and ecological risk due to impacted soil (hotspot removal, clean cover capping, etc.); and

7. Place a deed restriction on the Site limiting future redevelopment to commercial and/or industrial activity (unless additional assessment work is conducted to allow for residential and park user uses).

<u>Letter Report: "Re: Asbestos Consulting Services", prepared by TRC Environmental Corporation (TRC), dated December 2015</u>

TRC issued this letter report to MEDEP, presenting the results of their limited inspection and sampling for asbestos at the Site, conducted in December of 2015. At the request of MEDEP, TRC collected samples of roofing materials from three distinct roofing areas of the Site building, and submitted them for laboratory analysis. Two of the three samples collected tested non-detect for asbestos, while the third (Roof-3) was identified as ACM. The results of TRC's roof testing are confirmed by sampling conducted during Ransom's supplemental roofing survey, presented herein. It is noted that TRC's roof sampling was limited in extent, and included only roof field materials, not flashings, sealants, mastics, etc.

<u>"Supplemental Phase II Environmental Site Assessment, Forster Manufacturing Mill, 581 Depot Street, Wilton, Maine," prepared by Ransom, dated March 22, 2017.</u>

Ransom performed this Supplemental Phase II ESA to address data gaps which were identified in historic environmental reports. This Phase II ESA included the advancement of five Geoprobe soil borings within the building footprint to assess sub-slab soils; field screening and laboratory analysis of soil samples for volatile organic compounds (VOCs), extractable petroleum hydrocarbons (EPH) fractions, polycyclic aromatic hydrocarbons (PAHs), volatile petroleum hydrocarbons (VPH) fractions, Resource Conservation and Recovery Act (RCRA) 8 Metals, and polychlorinated biphenyls (PCBs); collecting samples of roofing materials to determine if asbestos-containing building materials were present; the consolidation of potential hazardous waste containers throughout the Site; and collection of representative product waste characterization samples for laboratory analysis of pH, Flashpoint, Metals, and PCBs. Results are as follows:

- None of the sub-slab soil samples contained contaminant concentrations which exceeded these regulatory cleanup guidelines; therefore, no further assessment or remedial actions are recommended at the Site in connection with sub-slab soils.

- Asbestos was detected in samples of roofing materials collected from the Site buildings. Specifically, one large roof area near the westerly end of the Main building, sealants identified in roof perimeter flashings, the "silver coat sealant" applied to the majority of the Main building roof, and the asphalt shingles on the Paint Shed building were each identified as ACM.

- As part of the consolidation and characterization of potential hazardous waste remaining on-Site, waste containers were collected from safely-accessible areas of the Site, transported to the metal storage building, placed on poly sheeting, inventoried, and waste characterization samples were collected. None of the waste characterization samples collected contained contaminants which exceeded the standards outlined in the Chapter 860 Waste Oil Management Rules for Specification Waste Oil or the MEDEP Chapter 850 Identification of Hazardous Wastes; therefore, these waste materials are anticipated to be profiled and characterized as non-hazardous.

Based on the information obtained during this Supplemental Phase II ESA, Ransom recommended the following with respect to Site redevelopment:

1. The results of this Supplemental Phase II ESA, as well as the Phase I and Phase II ESAs completed in 2015 through the MEDEP Brownfield Assessment Program, should be submitted to the MEDEP Voluntary Response Action Program (VRAP);

2. A Soil and Groundwater Management Plan should be prepared prior to Site redevelopment to insure proper characterization, handling, and management of impacted soils and groundwater during future Site redevelopment and/or subsurface earthwork-related activities at the Site;

3. Materials identified as ACM that may be impacted by future renovation or demolition of the Site building should be properly removed for off-Site disposal, prior to or during such activities;

4. Waste containers which have been consolidated in the metal storage building should be properly managed for off-Site transportation and disposal; and

5. As a likely condition of the MEDEP VRAP and assuming U.S. EPA Brownfields Cleanup funding will be utilized for cleanup of the Site, an ABCA/RAP should be prepared for review and approval by the MEDEP and U.S. EPA, prior to future Site cleanup, remedial actions, and redevelopment activities.

<u>MEDEP Task Order, March 2017</u>

In March of 2017, Ransom and the MEDEP oversaw the removal and off-site disposal of hazardous waste containers which were consolidated in the metal storage building onsite. As part of this task order, universal waste was also removed from the Site Building.

As part of this task order, Ransom and the MEDEP also oversaw the abatement and removal of ACM in the onsite boiler room.

3.0 SITE CHARACTERIZATION AND CLEANUP GOALS

Previous environmental investigations completed at the Site have identified RECs, many of which have been evaluated and subsequently dismissed. However, several environmental conditions remain at the Site which require environmental cleanup and abatement. The identified contamination/environmental conditions and appropriate cleanup goals are summarized below.

3.1 Building Safety

It should be noted that the wood-frame main manufacturing building is in poor condition, and in 2014, was declared a "dangerous building" pursuant to 17 M.R.S. § 2851. In 2011, the Site owners began conducting demolition activities in the southeastern portion of this building; however, due to the presence of ACM and a lack of funds, the demolition was not completed. Beams and structural supports were removed, and the structure (including an approximately 40-foot tall, free-standing southern exterior wall) appears to be structurally unstable.

No interior environmental abatement (floor drain decommissioning, asbestos abatement, lead-based paint abatement), or exterior environmental cleanup in close proximity to the building, can be safely conducted with the building in its current condition.

3.2 Floor Drains

During previous environmental assessments, floor drains, sumps, and open penstocks were observed throughout the basement of the main manufacturing building. These drains currently/historically have discharged directly to Wilson Stream. Widespread staining, drums and containers (some of which showed evidence of leaking), and evidence of dumping were observed in the general vicinity of the floor drains/sumps. Along the banks of Wilson Stream and beneath the manufacturing building dozens of pipes and drains which currently/historically discharged from the building into Wilson Stream were observed. Black staining was observed on the banks of Wilson Stream, beneath identified outfall pipes, which suggest that hazardous materials may have been discharged historically onto the banks of the stream, or into the stream itself.

As part of TRC's Phase II, three samples were collected from inside representative floor drains throughout the building, and were submitted for laboratory analysis of VOCs, VPH, SVOCs, EPH, PCBs, and RCRA 8 Metals. EPH (C11-C22 aromatics and C19-C36 aliphatics) and arsenic were detected at concentrations which exceeded the applicable MEDEP RAGs.

The cleanup goal for these floor drains is to eliminate or reduce the risk of human contact to sediment inside the floor drains during building demolition and/or redevelopment activities; and to eliminate or reduce the risk of these contaminated sediments from being discharged into Wilson Stream.

3.3 Asbestos Containing Building Materials

Asbestos abatement has been performed in the boiler room; however, ACM remains in onsite buildings, as follows: 1 cement cylinder and cap in the Photo Building; window glazing on approximately 485 windows in the Main Building and Photo Building; interior window glazing on approximately 66 windows in the Main Building; approximately 150 square feet of cement board in the Main Building; approximately 1,800 square feet of cement paneling in the Main Building; approximately 1,380 square feet of sheet flooring in the Main Building; approximately 400 square feet of cement panel flooring in the Main Building; and approximately 60 fire doors in the Main Building.

Additionally, ACM was detected in roofing materials collected from the Site buildings, as follows: approximately 100,000 square feet of “silver coat sealant;” approximately 3,500 linear feet of perimeter flashing; approximately 1,200 square feet of asphalt shingles; and approximately 9,200 square feet of asphalt roll roofing.

The cleanup goal for the Site, pertaining to the ACM, is to eliminate the risk of human contact to ACM during/prior to building demolition and/or renovation activities. Cleanup actions including removal of ACM should be completed to meet USEPA and MEDEP regulatory requirements and eliminate human exposure through inhalation.

3.4 Lead-Based Paint

As part of the HMI, Ransom also conducted an inspection for the presence of LBP, using a direct-reading XRF analyzer manufactured by Innov-X. Lead-based paint was identified in the Site buildings. Handling of components coated with lead-containing paint *at any concentration* requires compliance with the Occupational Safety and Health Administration (OSHA) lead standard (*Lead in Construction*, 29 CFR 1926.62). Under the existing conditions, contractors may perform demolition, renovation, abatement, stabilization, cleanup, and daily operations in buildings that have lead-based paint or lead-containing paint, provided that this regulatory requirement is met.

The cleanup goal for the Site pertaining to the LBP is to eliminate the risk of human contact to lead during/prior to proposed building demolition activities. Lead waste must be managed in accordance with USEPA and regulatory requirements, and in accordance with local or disposal facility-specific requirements.

3.5 Impacted Surficial Soils

Surficial soils throughout the Site (outside the building footprint) contain concentrations of EPH (C11-C22 aromatics), PAH [benzo(a)pyrene], arsenic and lead which exceed the applicable MEDEP RAGs.

The Site is proposed for mixed use commercial and light industrial redevelopment; therefore, the cleanup goal for the Site is to eliminate or reduce the risk of human contact to the contaminated surficial soils during construction and redevelopment activities, and as future Site users/workers. Targeted soil removal activities and/or the installation of a barrier or engineered cover system over contaminated soils would likely eliminate human exposure through direct contact, ingestion, or inhalation to contaminated soils. The areas of impacted surficial soils requiring mitigation are depicted on Figure 3, Proposed Mitigation Plan.

It should be noted that existing pavement in the southern portion of the Site and approximately half of the northern portion of the Site would remain and act as a barrier cover system. This pavement is currently preventing human exposure to the underlying contaminated soils through direct contact, ingestion, or inhalation, and as such, it shall remain.

4.0 DESCRIPTION OF EVALUATION CRITERIA

The comparison of the selected remediation alternatives was conducted using the evaluation and threshold criteria discussed below.

4.1 Overall Protection of Human Health and the Environment

Alternatives must pass this threshold criterion to be considered for implementation as the recommended alternative. The goal of this criterion is to determine whether a remediation alternative provides adequate protection of human health and the environment. It also addresses how identified risks are eliminated, reduced, or controlled. Protection of human health is assessed by evaluating how site risks from each exposure route are eliminated, reduced, or controlled through the specific alternative.

4.2 Technical Practicality

The focus of this evaluation criterion is to determine technical practicality of instituting the specific alternative. This criterion evaluates the likelihood that the alternative will meet project specifications.

4.3 Ability to Implement

This criterion analyzes technical feasibility and the availability of services and materials. Technical feasibility assesses the ability to implement and monitor the effectiveness of the alternative. Availability of services and materials evaluates the need for off-site treatment, storage or disposal services and the availability of such services. Necessary equipment, specialists and additional resources are also evaluated.

4.4 Reduction of Toxicity, Mobility, and Volume

This criterion evaluates the ability of the remediation alternative to significantly achieve reduction of the toxicity, mobility, and volume of the hazardous substances present at the Site. This analysis evaluates the quantity of hazardous substances and/or petroleum-impacted media to be removed, the degree of expected reduction in toxicity, the type and quantity of residuals to be reduced, and the manner in which the principle threat is addressed through the remediation alternative.

4.5 Short Term Effectiveness

This criterion addresses the period of time needed to complete the remediation, potential adverse impacts on human health and the environment that may exist until the cleanup goals are achieved, and the time frame for accomplishing the associated reduction in the identified environmental conditions.

4.6 Resiliency to Climate Change Conditions

This criterion evaluates the resilience of the remediation alternative to reasonably foreseeable changing climate conditions, such as increasing/decreasing temperatures, increasing/decreasing precipitation, extreme weather events, rising sea level, changing flood zones, and higher/lower groundwater tables, among others.

4.7 Preliminary Cost

The preliminary cost criterion for the remediation alternatives evaluates the estimated capital, operation, and maintenance costs of each alternative. Capital costs include direct capital costs, such as materials and equipment, and indirect capital costs, such as engineering, sampling contingencies, and licenses. Costs were developed as a balancing criterion for the remedial alternatives and should not be construed as bid costs or engineer's cost estimates. Cost may be used as a distinguishing factor in the selection of the remedial action. The preliminary costs developed should in no way be construed as a cost proposal, but rather a guide for selecting a remedial action.

5.0 EVALUATION OF REMEDIATION ALTERNATIVES

Based on the evaluation criteria outlined in the previous section and the potential exposure pathways identified for the Site, the remedial actions selected for the Site should accomplish the following objectives:

1. Minimize the potential for direct contact with contaminated surficial soils located throughout the Site;

1. Minimize the potential for direct contact with contaminated floor drain sediment;

2. Minimize the potential for contaminated sediment in floor drains from being discharged to Wilson Stream;

3. Minimize the potential for human exposure to hazardous building materials; and

4. Reduce the toxicity, mobility, and volume of hazardous building materials.

To achieve these objectives, three remedial alternatives were considered for the Site to remediate contaminated surficial soils onsite, including the “No Action” alternative, “Soil Cover Systems” alternative, and “Soil Removal” alternative.

Additionally, three remedial options were considered for the Site to remediate interior building contamination (ACM, floor drains, and lead-based paint), including the “No Action” alternative, “Abatement and Building Demolition” alternative, and “Abatement without Building Demolition” alternative.

These alternatives were evaluated using the criteria described in Section 4.0 and are summarized below. The attached Table 1 includes a Summary of the Evaluation and Comparison of the Remedial Alternatives.

5.1 Soil Remediation Alternatives

As stated previously, the wood-frame main manufacturing building is structurally unstable, and includes an approximately 40-foot tall, free-standing, unsupported southern exterior wall. Conducting any earthwork in close proximity to this building would create a situation which was unsafe for Site workers, contractors, and bystanders; therefore, no earthwork or soil remediation should be conducted onsite until which time this building demolition has occurred. As such, there is the potential that soil remediation would only occur at a later date (when the Town has obtained additional funds to complete remedial tasks onsite). The following soil remediation alternatives assume that building demolition has been completed.

5.1.1 No Action Alternative

A “No Action” alternative signifies that no soil remediation activities would be conducted at the Site. The “No Action” alternative does not include a means for mitigating exposure to identified adverse environmental conditions or unacceptable risks remaining from contaminated soils; therefore, the potential for human exposure through direct contact, accidental ingestion, and/or inhalation of dust would continue to exist for current trespassers, construction workers, and potential future Site occupants, workers, or trespassers. The “No Action” alternative would not achieve reduction of the toxicity, mobility, and volume of the hazardous substances present at the Site.

5.1.2 Soil Cover Systems Alternative

The second remediation alternative evaluated in this ABCA is the “Soil Cover Systems” alternative. This alternative involves mitigating the potential for human exposure to impacted soils through installation of cover systems over impacted soils at the Site.

Based on the results of TRC’s Phase II ESA, areas of surficial soils (0 to 2 feet bgs) in the northern and southern portions of the Site were found to be impacted with petroleum constituents, PAHs, and/or metals exceeding their respective MEDEP RAGs for “Outdoor Commercial Worker”, and/or “Excavation/ Construction Worker” exposures. These areas will be covered by MEDEP-approved cover systems underlain by a fabric marker layer, which would be placed over in-situ impacted material prior to placement of the remedial cover system. It should be noted that existing pavement in the southern portion of the Site and approximately half of the northern portion of the Site would remain and act as a barrier cover system. This pavement is currently preventing human exposure to the underlying contaminated soils through direct contact, ingestion, or inhalation, and as such, it shall remain. Please see Figure 3 which illustrates the areas of surficial contaminated soil at the Site which require cover systems. Figure 4 depicts several types of MEDEP-approved protective cover systems that may be used at this Site, depending on final reuse and/or redevelopment scenarios.

Additional remedial activities are proposed to be conducted at the Site in conjunction with cover system construction. An institutional control (deed restriction) would need to be recorded on the deed to indicate the need for a Post-Closure Cover System Maintenance Plan and a Soil Management Plan in order to prevent future exposure to contaminated soil onsite. The Soil Management Plan would insure proper characterization, handling, and management of contaminated soils, which may be encountered and displaced during redevelopment of the Site property (e.g., displaced and/or excess soils generated during installation of new foundations/utilities may require on-site management and/or off-site disposal). Additionally, to facilitate the construction of the cover system, some tree/brush removal would be necessary, as well as removal of unused sheds/outbuildings and antiquated water system components in the northern portion of the Site.

The evaluation of the “Soil Cover Systems Alternative” is discussed below.

<u>Overall Protection of Human Health and the Environment</u>

This alternative provides adequate protection of human health and the environment through reducing the risk of human exposure to contaminated soils via installing a cover system over areas of impacted soils. In addition, a Soil Management Plan will be prepared and implemented to minimize and manage future exposures to contaminated soils which remain onsite; and a Post-Closure Cover System Maintenance Plan will be prepared and implemented to ensure the long-term integrity of the cover systems. The goal of reducing or eliminating the risk of human exposure to impacted soils could be achieved through this alternative.

<u>Technical Practicality</u>

Cover system activities are technically practical. The construction of engineering cover systems could be completed utilizing accepted construction techniques. Contractors with experience with similar projects are readily available in the region.

Ability to Implement

Covering the impacted soils is technically feasible and is an effective action for reducing the risk of human exposure. Services and materials necessary to conduct this alternative are readily available.

Reduction of Toxicity, Mobility and Volume

This remediation alternative achieves reduction in the mobility of the impacted soils at the Site, by preventing contaminated dust from being created, and by preventing stormwater from coming into contact with contaminated soil and creating contaminated runoff. Because no impacted soil would be removed from the site, the toxicity and volume of impacted soils onsite would not be reduced.

Short Term Effectiveness

The remedial action objective could be attained when the impacted soils covered with the MEDEP-approved cover systems. Potential adverse impacts to human health from exposure to contaminated soils and groundwater may exist until the cleanup goals are achieved.

Resiliency to Climate Change Conditions

Although the Wilson Stream serves as the southern Site boundary, climate change effects from rising sea level and changing flood zones are not anticipated to represent a major threat due to the rise/elevation of the concrete retaining wall which comprises the stream bank. Therefore, the primary climate change concerns would be associated with extreme weather, increased rainfall, and rising groundwater tables.

This remedial alternative meets the objectives associated with these criteria by capping impacted soils which may come into contact with rain/stormwater. The cover/cap system will also shed and redirect stormwater run-off and minimize infiltration and runoff within the impacted areas. Because impacted soils may remain onsite, rising groundwater tables have the potential to come into contact with impacted soils; however, the contaminants of concern are not expected to be significantly leachable, thus reducing potential groundwater impacts.

Preliminary Cost

The estimated costs associated with this soil remedial alternative are outlined in the attached Table 2. Capital costs include direct capital costs, such as materials and equipment, and indirect capital costs, such as engineering and sampling contingencies. The costs associated with this alternative are not prohibitive, and are lower than costs associated with the Soil Removal Alternative.

5.1.3 Soil Removal Alternative

The third remediation alternative evaluated in this ABCA is the "Soil Removal" alternative. This alternative involves mitigating the potential for human exposure to impacted soils through excavation and off-Site disposal of impacted surficial soils (0 to 2 feet bgs) at the Site.

As stated previously, areas of surficial soils in the northern and southern portions of the Site were found to be impacted with petroleum constituents, PAHs, and/or metals exceeding their respective MEDEP RAGs for “Outdoor Commercial Worker”, and/or “Excavation/ Construction Worker” exposures. As part of this alternative, surficial soil (0 to 2 feet bgs) which had contaminant concentrations which exceeded the applicable MEDEP RAGs would be excavated, removed from Site, and properly disposed. Once excavation activities were completed, the excavated area would be backfilled with clean fill and seeded loam.

The evaluation of the “Soil Removal” is discussed below.

Overall Protection of Human Health and the Environment

This alternative provides protection of human health and the environment by eliminating the risk of human exposure to contaminated surficial soils via soil removal activities. The goal of reducing or eliminating the risk of human exposure to impacted soils could be achieved through this alternative.

Technical Practicality

Soil removal activities are technically practical. The removal of contaminated soil could be completed utilizing accepted construction techniques. Both contractors and disposal facilities with experience with similar projects are readily available in the region.

Ability to Implement

Removal and off-site disposal of contaminated soils is technically feasible and is an effective action for reducing or eliminating the risk of human exposure. Services and materials necessary to conduct this alternative are readily available.

Reduction of Toxicity, Mobility and Volume

This remediation alternative achieves reduction in the toxicity, mobility and volume of the impacted soils by removing them from Site.

Short Term Effectiveness

The remedial action objective could be attained when the impacted soils were removed from Site. Potential adverse impacts to human health from exposure to contaminated soils may exist until the cleanup goals are achieved.

Resiliency to Climate Change Conditions

Although the Wilson Stream serves as the southern Site boundary to the Site, climate change effects from rising sea level and changing flood zones are not anticipated to represent a major threat due to the concrete retaining wall which comprises the stream bank. Therefore, the primary climate change concerns would be associated with extreme weather, increased rainfall, and rising groundwater tables.

This remedial alternative meets the objectives associated with these criteria by removing contaminated soils which may come into contact with rain/stormwater.

Preliminary Cost

The estimated costs associated with this remedial alternative are outlined in the attached Table 3. Capital costs include direct capital costs, such as materials and equipment, and indirect capital costs, such as engineering and sampling contingencies. The costs associated with this alternative are higher than costs associated with the Soil Cover System alternative.

5.2 Hazardous Building Materials Abatement Alternatives

5.2.1 No Action Alternative

A "No Action" alternative signifies that no hazardous building material abatement, lead-based paint abatement, or abatement of floor drain sediment would be conducted. The "No Action" alternative does not include a means for mitigating exposure to ACM, lead-based paint, and contaminated sediment located in the floor drains; nor does it mitigate unacceptable risks associated with the contaminated sediment from being discharged to Wilson Stream. Additionally, as part of this alternative, no building demolition would occur (therefore, as discussed in Section 5.1, no soil abatement activities would be conducted).

The "No Action" alternative is not protective of human health and the environment and does not meet the threshold criteria. The potential for human exposure through direct contact and/or inhalation continues to exist for current trespassers, construction workers, and potential future Site occupants, workers, or trespassers. The "No Action" alternative would not achieve reduction of the toxicity, mobility, and volume of the hazardous substances present at the Site. In addition, the "No Action" alternative would not be an effective remediation alternative, and potential impacts to human health would remain at the Site. For these reasons, the "No Action" alternative was not selected for implementation or further consideration.

5.2.2 Abatement and Building Demolition Alternative

The second remediation alternative evaluated in this ABCA for abatement of hazardous building materials is the "Abatement and Building Demolition" alternative. This alternative involves abating safely-accessible ACM prior to building demolition; and abating remaining ACM, ACM roofing materials, and lead-based paint concurrently with building demolition.

During building demolition, floor drains/sumps/etc. would be disconnected and decommissioned (as necessary) and the sediment contained within the floor drains would be properly managed and disposed.

The evaluation of the "Abatement and Building Demolition" alternative is discussed below.

<u>Overall Protection of Human Health and the Environment</u>

This alternative provides protection of human health and the environment through eliminating the risk of human exposure to ACM via abatement and removal; and through proper construction management, will reduce the risk of human exposure to lead-based paint and contaminated sediments. Through proper construction management, this alternative also reduces the potential for contaminated sediment to be discharged to Wilson Stream. By conducting the environmental abatement tasks concurrently with building demolition, safety concerns can also be mitigated (i.e. abating roofing ACM when the roof is on the ground, versus having to abate roofing ACM while the building is standing).

Technical Practicality

This alternative is technically practical. Hazardous materials abatement, building demolition and floor drain decommissioning could be completed utilizing accepted construction techniques. Contractors and disposal facilities with experience with similar projects are readily available in the region. Conducting asbestos abatement and floor drain decommissioning concurrently with demolition will create efficiencies and be easier to implement.

Ability to Implement

This alternative is technically feasible and is an effective action for reducing or eliminating the risk of human exposure. Services and materials necessary to conduct this alternative are readily available.

Reduction of Toxicity, Mobility and Volume

This remediation alternative achieves reduction in the toxicity, mobility and volume of hazardous building materials at the Site by removal and off-site disposal.

Short Term Effectiveness

The remedial action objective could be attained when the hazardous building materials were removed from Site and the building was demolished. Potential adverse impacts to human health from exposure to hazardous building materials may exist until the cleanup goals are achieved.

Resiliency to Climate Change Conditions

The primary climate change concern would be associated with extreme weather and increased rainfall. This remedial alternative meets the objectives associated with these criteria by removing hazardous building materials which may come into contact with rain/stormwater.

Preliminary Cost

The estimated costs associated with this remedial alternative are outlined in the attached Table 4. Capital costs include direct capital costs, such as materials and equipment, and indirect capital costs, such as engineering and sampling contingencies. The costs associated with this alternative are higher than costs associated with other proposed Alternatives for hazardous building abatement.

5.2.3 Abatement without Building Demolition Alternative

The third remediation alternative evaluated in this ABCA for abatement of hazardous building materials is the "Abatement without Building Demolition" alternative. This alternative involves abating the ACM and decommissioning the floor drains while the building remains standing. As part of this alternative, lead-based paint would not be abated, and the building would not be demolished. This alternative would require provisions for Site security, building stabilization, and construction methods to ensure worker safety during abatement activities.

The evaluation of the "Abatement without Building Demolition" alternative is discussed below.

Overall Protection of Human Health and the Environment

This alternative provides adequate protection of human health and the environment through eliminating the risk of human exposure to ACM and contaminated sediment via removal, off-site disposal and decommissioning activities. Through proper construction management, this alternative also reduces the potential for contaminated sediment to be discharged to Wilson Stream. However, it does not mitigate the potential for human exposure to lead-based paint. Nor does it mitigate safety risks associated with the dangerous building structure.

Technical Practicality

This alternative is technically practical; however, is more difficult to construct than previous alternatives. Conducting work in and around this unsafe building may require structural supports, safety provisions, or other means to protect workers and contractors. Because of the increased technical difficulty, it may be more difficult to find contractors that could perform the work.

Ability to Implement

This alternative is technically feasible and is an effective action for reducing or eliminating the risk of human exposure; however, as stated previously, performing abatement activities while the building is standing will require technical capabilities to support the structure and ensure worker safety. Contractors may be less likely to perform the work due to safety concerns.

Reduction of Toxicity, Mobility and Volume

This remediation alternative achieves partial reduction in the toxicity, mobility and volume of hazardous building materials at the Site by removal and off-site disposal of ACM and contaminated sediments.   Lead-based paint would remain onsite.

Short Term Effectiveness

The remedial action objective could be attained when the hazardous building materials were abated.   Potential adverse impacts to human health from exposure to hazardous building materials may exist until the cleanup goals are achieved, and potential adverse impacts to human health from exposure to lead based paint would continue to exist.

Resiliency to Climate Change Conditions

The primary climate change concern would be associated with extreme weather and increased rainfall. This remedial alternative partially meets the objectives associated with these criteria by removing ACM and contaminated sediment which may come into contact with rain/stormwater; however, lead-based paint would remain.

Preliminary Cost

The estimated costs associated with this remedial alternative are outlined in the attached Table 5. Capital costs include direct capital costs, such as materials and equipment, and indirect capital costs, such as engineering and sampling contingencies. The costs associated with this alternative are lower than costs associated with other proposed Alternatives for abatement of hazardous building materials.

5.3 Selection of Proposed Remediation Alternative

Based on the results of the initial screening of each alternative, as shown on Table 1 and discussed in detail above, the “Soil Cover Systems” alternative is selected as the preferred soil remediation alternative and the “Abatement and Building Demolition” alternative is the selected as the preferred hazardous building materials abatement alternative. These alternatives are proven to protect human health and the environment; are effective, technically feasible, and practical.

6.0 CONCEPTUAL REMEDIAL ACTION PLAN

Based on the proposed future use of the Site for mixed commercial and light industrial purposes, the final cleanup goal for the Site is to minimize the risk of human exposure to contaminated surficial soils located throughout the Site, to minimize the risk of human exposure to hazardous building materials and contaminated floor drain sediment, and to minimize the risk for contaminated sediment to discharge into Wilson Stream. To accomplish this, two separate remedial alternatives were selected.

The "Soil Cover Systems" alternative protects human health and the environment and is effective, technically feasible, and practical. Because this alternative meets the evaluation criteria and is not cost-prohibitive, this alternative has been selected for implementation at the Site for remediation of contaminated soils at the property. This alternative also includes implementation of institutional controls/deed restrictions which protect the cover systems; implementation of a Soil Management Plan and Post-Closure Cover System Maintenance Plan; and provisions to enter the Site into the MEDEP VRAP. It should be noted that as part of this alternative, contaminated soil will remain on the Site.

The "Abatement and Building Demolition" alternative is the selected hazardous building materials abatement alternative. These alternatives are proven to protect human health and the environment; are effective, technically feasible, and practical. This alternative involves abating safely-accessible ACM prior to building demolition; and abating remaining ACM, ACM roofing materials, and lead-based paint concurrently with building demolition. During building demolition, floor drains/sumps/etc. would be disconnected and decommissioned (as necessary) and the sediment contained within the floor drains would be properly managed and disposed. This alternative may be implemented in a phased approach, as funds become available.

It should be noted that due to safety concerns, the "Abatement and Building Demolition" alternative must be completed prior to implementation of the "Soil Cover System" alternative.

6.1 Building Demolition

Demolition of the Site Building will be conducted in accordance with applicable local and state regulations. During demolition, the Contractor shall provide and maintain environmental and engineering controls to contain potentially hazardous dust from impacting the public, site workers, or occupants of adjacent properties. Materials shall be recycled, as much as practical, and certain historically-significant items (such as boiler doors) shall be salvaged as directed by the Town. Construction wastes, including paint chips or lead painted items (see Section 6.3) must be disposed as construction and demolition debris at an appropriate disposal facility.

During building demolition, floor drains, sumps and penstocks will be removed (and decommissioned as necessary) in accordance with MEDEP and best management practices. Contaminated sediments will be containerized and properly disposed.

After demolition, voids, basement spaces and excavation holes shall be backfilled with clean fill, compacted, and finished with loam and seed. Riprap shall be placed along impacted stream banks.

Pavement onsite shall not be demolished. Existing pavement in the northern and southern portions of the Site are currently acting as a barrier cover system to underlying contaminated soils, and as such, it shall remain undisturbed.

6.2 Asbestos Abatement/Removal

Airborne asbestos fibers represent a potential human health hazard. Current regulations require that ACM be removed if it will be disturbed by renovation, demolition, or other building maintenance activities. Since the Site buildings are proposed for demolition, ACM identified within interior and exterior portions will require removal prior to the initiation of these activities.

ACM abatement must be performed using approved methods in accordance with applicable regulations established by the U.S. EPA, OSHA, and the State of Maine. ACM will be removed by a licensed asbestos abatement contractor and in accordance with a project design prepared by a certified Abatement Project Designer.

Key elements of any asbestos abatement include the following:

1. <u>Notification:</u> A notification is required to be filed prior to any removal repair, demolition, enclosure, encapsulation, or handling of more than three linear or square feet of an asbestos-containing material with the exception of demolition of single family owner-occupied residential dwellings. This notification requirement designed to provide the MEDEP with adequate information to effectively schedule compliance inspections.

   The notification must be postmarked at least 10 calendar days, or received by the MEDEP at least 5 working days, prior to commencement of the asbestos abatement project. The start date on the notification should encompass the set-up of the regulated area, including any pre-cleaning and the hanging of polyethylene sheeting.

2. <u>Asbestos Abatement Contractor:</u>

   a. <u>License Requirements:</u> A company engaged in an asbestos abatement activity must hold a valid Asbestos Abatement Contractor license.

   b. <u>Personnel Requirements:</u> A licensed Asbestos Abatement Contractor must have a certified Asbestos Abatement Project Supervisor employed on staff. Asbestos abatement work must be completed by individuals trained in accordance with OSHA, U.S. EPA and MEDEP requirements. Individuals must possess a valid MEDEP certification.

3. <u>Asbestos Abatement Activities:</u> Asbestos abatement activities in the state of Maine are subject to the following work practice requirements:

   a. All projects must be performed in accordance with a project design by a MEDEP-certified Asbestos Project Designer.

   b. A certified Asbestos Abatement Project Supervisor must be designated as the lead supervisor for the project and must be present at the work Site at all times personnel are within the regulated area.

   c. Prior to starting an asbestos abatement activity, the Asbestos Abatement Contractor must establish the regulated area. For activities where containment is not required, the regulated area must be demarcated with barrier tape marked "ASBESTOS HAZARD" (or equivalent wording) and OSHA warning signs, and located such that it protects persons from exposure to asbestos and minimizes the number of persons in the area. In facilities where plastic barrier tape may cause a safety hazard, red cloth tape may be used.

d. The regulated area must include a polyethylene-enclosed structure formed by partitions or framing or by covering walls and ceilings with a minimum of two layers of 4-mil polyethylene sheeting or one layer of 6-mil polyethylene sheeting, and by covering the floor with a minimum of two layers of 6-mil polyethylene sheeting. The surface to be abated does not need to be covered with polyethylene sheeting. Exterior walls must have critical barriers and any seams must be fiber tight.

e. Access into the polyethylene-enclosed containment area is provided through a decontamination unit. The decontamination unit consists of aluminum, tin, fiberglass, preformed plastic, or other impervious surface, or two layers of 6-mil polyethylene sheeting. Decontamination units must have 6-mil polyethylene sheeting flaps or air-locks between each chamber.

f. A ventilation system providing an exchange of at least four volumes of air per hour at a volume sufficient to establish and maintain a pressure differential within the ambient environment of negative 0.02 inches of water column. The ventilation units must be operated in accordance with US EPA recommendations set forth in Appendix J of US EPA Guidance Document EPA 560/5-85-024 (effective June, 1985) or in Appendix F to 29 CFR Part 1926.1101 (effective August 10, 1994). Make-up air entering the containment must pass through the decontamination system whenever possible, or through waste load-out and/or make-up air intakes specified by the project design. The exhaust air must be HEPA filtered before being discharged outside of the work area and must be discharged to the outside.

g. Individuals not directly involved in the asbestos abatement activity must be excluded from the regulated area. Warning signs, meeting the requirements established by OSHA (29 CFR 1926.1101), are required at all approaches to the regulated area, and at the decontamination and waste load out unit's outermost boundaries.

4. Personal Protective Equipment: An individual involved in an asbestos abatement activity or an individual who enters the regulated area, excluding the clean room, must be provided with and wear appropriate respiratory protection and personal protective clothing. Minimum respiratory protection shall be half-faced negative pressure respirator equipped with HEPA filters. Minimum protective clothing shall be disposable full body suits, including head and foot coverings. OSHA also regulates asbestos activities involving respirators and personal protective equipment. OSHA regulations may require a higher degree of respiratory protection and/or protective clothing.

5. Wetting of ACM: Prior to removal of ACM, including removal of components covered with thermal system insulation, all ACM must be adequately wetted with water. Throughout the removal, storage, transport, and disposal processes, ACM must be kept adequately wet.

6. Containerization of Asbestos Waste: Prior to removal from the regulated area, asbestos waste must be containerized in fiber-tight leak-proof packaging and properly labeled, in accordance with OSHA requirements (29 CFR 1926.1101). Fiber-tight packaging must be maintained throughout the storage, transport, and land filling processes.

   Friable asbestos waste that does not contain components with sharp edges must be adequately wetted and then containerized in two polyethylene bags with a 6-mil minimum thickness for each bag.

   Exterior cementious asbestos-containing materials must be wetted and containerized in leak-proof containers for delivery to a landfill licensed to accept non-friable waste. Other non-friable waste may be packaged as friable or must be adequately wetted and thoroughly wrapped in a minimum of two layers of 6-mil or one layer of 12-mil polyethylene sheeting with all joints, seams, and overlaps sealed in a fiber-tight manner. Containerization in disposable leak-proof fiber-tight containers, such as fiber-tight drums, is also acceptable. Non-friable waste also may be packaged in large containers, such as dumpster or roll-offs, as long as the container is lined with two layers of 6-mil or one layer of 12-mil polyethylene sheeting and secured fiber-tight prior to transport and the ACM is maintained in a non-friable state when placed in the dumpster. Fiber-tight packaging must be maintained throughout storage, transport, and off-loading at the landfill.

7. Close-out: Following the initial visual evaluation and receipt of acceptable air clearance sampling results from a MEDEP-Certified Asbestos Air Monitor, the contractor can remove the containment, critical barriers, and the decontamination unit from the work Site. The contractor must cleanup any visible dust or debris resulting from teardown activities prior to the final inspection after removal of containment. An asbestos abatement activity is not considered complete and acceptable for regulated area release until a visual evaluation and final air clearance standards have been met.

6.3 Lead-Based Paint Abatement

Lead-based paint identified in the Site buildings will be abated in accordance with State and Federal regulations. Since the buildings are proposed to be demolished, LBP abatement conducted as part of this cleanup project will include off-site disposal of the lead-painted surfaces/materials as construction and demolition debris at an appropriate disposal facility.

Lead in paint was detected on various materials throughout the Site buildings. Handling of components coated with lead-containing paint requires compliance with the OSHA lead standard ("Lead in Construction," 29 CFR 1926.62). Under the existing conditions, demolition contractors may perform demolition, renovation, abatement, stabilization, cleanup, and daily operations in buildings that have lead-based paint or lead-containing coatings, provided that the following regulatory requirements are met:

1. Demolition activities that disturb surfaces that contain lead must be conducted in accordance with the OSHA regulation 29 CFR 1926.62 "Lead Exposure in Construction: Interim Final Rule." This regulation requires that a Site-specific health and safety plan be prepared before conducting activities that create airborne lead emissions such as cutting, grinding, or sanding surfaces coated with lead-containing paint. Such a plan must include the identification of lead components, an exposure assessment, and, if applicable, the required work procedures and personal protective equipment to be used.

2. The US EPA and MEDEP regulate the disposal of potentially hazardous wastes. Such wastes include paint chips and residue generated during abatement or repainting work, or whole components, such as wood windows, doors, and trim coated with lead-containing paint and disposed of as a result of proposed demolition work. Metal components are not regulated if they will be recycled and not disposed of in a landfill.

3. To minimize exposure to airborne dust or fumes containing lead and avoid the requirement to implement a lead exposure assessment, torch burning, cutting, grinding, or similar high impact work on components covered by lead-containing paint should be avoided. Such work would need to be conducted by properly trained workers using appropriate worker protection and engineering controls. For work activities that may generate airborne lead, the employer should perform an initial exposure assessment (personal air monitoring) for each individual task (e.g. demolition, abrasive blasting, and painting) that has the potential for causing worker exposure to be at or above the OSHA Action Level (30 micrograms of lead per cubic meter of air). In lieu of monitoring, recent historical data from similar operations may be used to comply with OSHA requirements.

6.4 Soil Cover Systems

Once building demolition has occurred, soil cover systems will be installed over surficial soils with contaminant concentrations exceeding their corresponding MEDEP RAGs. It should be noted that existing pavement in the southern portion of the Site and approximately half of the northern portion of the Site would remain and act as a barrier cover system. Soil cover systems can be in the form of 1) a minimum of 4 inches of pavement, asphalt, or concrete with marker layer; 2) a minimum of 12 inches of compacted clean fill (or riprap) with marker layer; 3) a combination of at least 8 inches of compacted clean fill, 4 inches of vegetated topsoil, and marker layer; 4) a minimum of 24-inches of compacted clean fill (or riprap); or 5) a structural cover (i.e. concrete building foundation). TRM and/or riprap shall be installed on all slopes as necessary for slope stabilization and erosion/sedimentation control. These options are further discussed below:

- Asphalt/Concrete Pavement Cover Systems (Parking Lots, Driveways, Sidewalks, etc.): Asphalt and/or concrete parking lots, driveways, sidewalks, or other paved areas proposed to be constructed as part of Site redevelopment can act as cover systems over contaminated soil. These impervious cover systems should be underlain by a minimum of 6 inches of clean compacted structural soils (gravel sub-base materials) to ensure the structural integrity of the paved parking/driveway/sidewalk areas, as well as a marker layer (snow fence or geotextile marker layer) indicating the extent of clean materials. It should be noted that building slabs and foundations (existing or proposed) would fall under this category of engineered cover system.

- Fill/Loam/Rip Rap/Stone Landscaped Cover Systems: Areas utilizing a loam/fill/rip rap cover systems will be underlain with a marker layer (snow fence or geotextile marker layer) indicating the extent of clean materials. A minimum of 12 inches of compacted fill or rip rap material will be placed in these areas over the marker layer. In areas where grass or other plantings are proposed, 8 inches of compacted fill and 4 inches of compacted loam shall be placed, which will then be seeded or planted in accordance with the redevelopment landscape plans. No less than 12-inches total cover material shall be permitted in these areas underlain by a marker layer over the contaminated soils.

- Clean Fill/Rip Rap Cover Systems: Areas of contaminated soil may also be covered by 24-inches of compacted clean fill or rip rap. In areas where the cover system is 24 inches or greater, no marker layer is necessary.

In addition, impacted soils excavated from other areas of the Site during redevelopment activities may be relocated at the property underneath an approved cover system, as noted above. Figure 4 presents a conceptual schematic of the various types of potential cover systems that may be used to accommodate future Site redevelopment plans.

6.5 Deed Restrictions/Institutional Controls/Declaration of Environmental Covenant

As stated previously, institutional controls and a deed restriction will be required following the remedial activities conducted at the Site, which will include the following, at a minimum:

1. Notify future Site owners/occupants of the existence and location of soil contamination (beneath cover systems) at the Site;

2. Prohibit future disturbance of the cover system during construction, remediation, or landscaping without prior notification and consent from the MEDEP;

3. Require a Soil Management Plan to minimize and manage future exposures to contaminated soil (beneath cover systems);

4. Require a Cover System Maintenance Plan describing long-term maintenance procedures for the different types of cover systems installed at the Site. This maintenance plan will establish routine inspection procedures and requirements for the repair and/or reconstruction of the cover systems, as necessary, to maintain the physical barriers and mitigate contact with impacted soils remaining at the Site.

6.6 Permitting & Erosion Control Measures

Appropriate local, State, and Federal permitting should be conducted prior to commencing with remediation activities. Given that the proposed remediation activities are adjacent to the Wilson Stream, a Maine Construction General Permit (MCGP) and a Natural Resources Protection Act (NRPA) Permit-by-Rule may be required for the project. In addition, under the MCGP, erosion control measures are proposed to be implemented and maintained throughout the project in accordance with the Maine Erosion and Sediment Control Best Management Practices (BMPs).

7.0 SITE CLOSURE AND REPORTING

As part of the proposed cleanup activities, the Site will be entered into the MEDEP VRAP for review of environmental conditions and proposed remedial actions. Upon agreement with the proposed work by the MEDEP, the MEDEP will issue a VRAP No Action Assurance (NAA) letter.

An approved final written completion report summarizing the field activities conducted as part of the remediation of the Site will be submitted to the MEDEP. The final report will include a description of the remedial actions and field methods implemented at the Site. Upon submittal and approval of the completion documentation, the MEDEP VRAP will issue a Certificate of Completion.

8.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

The following Ransom personnel possess the sufficient training and experience necessary to conduct an Analysis of Brownfields Cleanup Alternatives, and from the information generated by such activities, have the ability to develop opinions and conclusions regarding remediation alternatives and a Conceptual Remedial Action Plan, as presented herein, for the Site.

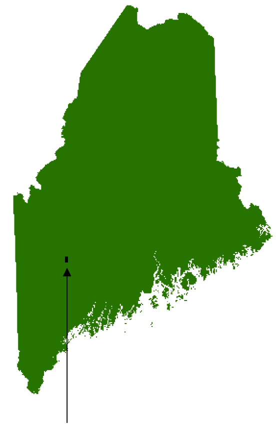
Environmental Professionals:

Jaime L. Madore, P.E.
Project Engineer

Nicholas O. Sabatine, P.G.
Vice President/Gardiner Brownfields Program Manager

RANSOM
Consulting Engineers and Scientists

Regional Locator Map



Notes

1. Data Source: USGS National Map Seamless Server, 24K DRG, 1/3" NED
2. USGS Quad Name: Wilton
3. Latitude: 44° 35' 24" N
   Longitude: 70° 13' 18" W
   UTM Northing: 4938119 mN
   UTM Easting: 403038 mE

Scale and Orientation

0 1,000 2,000

1 inch = 2,000 feet

Prepared For

Town of Wilton
158 Weld Road
Wilton, Maine

Site Address

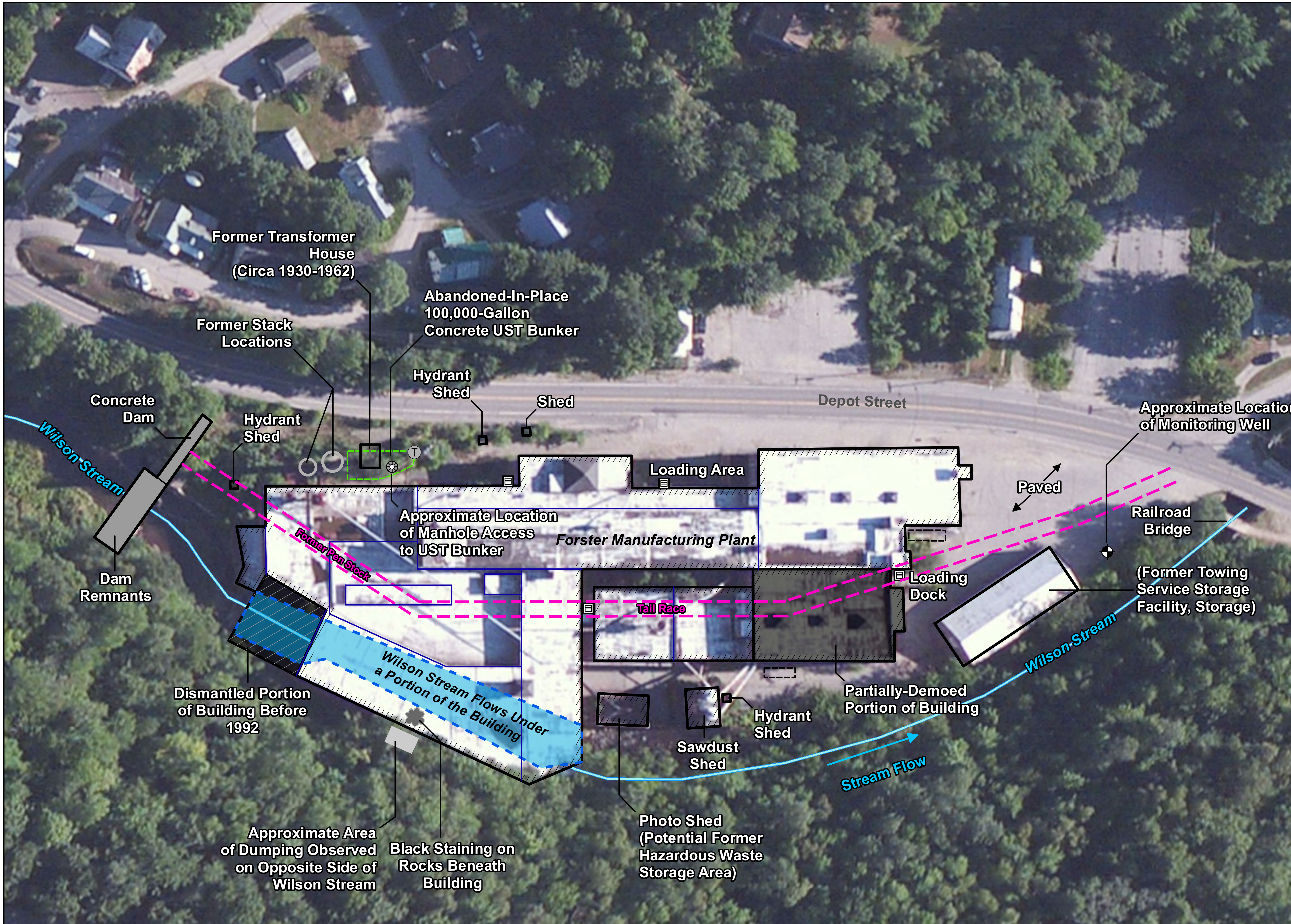
Forster Manufacturing Co.
581 Depot Street
Wilton, Maine

161.06104 | July 2017

Figure 1

Site Location

G:\Data\ME\Project\161_06104\Maps\Figure_1.mxd



RANSOM
Consulting Engineers and Scientists

Legend & Notes

Site Boundary

Dumpster

Former Transformer Location

Notes

1. Site Plan based on National Agricultrual Imagery Program Orthoimagery
2. Some features are approximate in location and scale
3. This plan has been prepared for the Town of Wilton. All other uses are not authorized unless written permission is obtained from Ransom Consulting, Inc.

Scale & Orientation

0 35 70

1 inch = 70 feet

Prepared For

Town of Wilton
15 Weld Road
Wilton, Maine

Site Address

Forster Manufacturing
581 Depot Street
Wilton, Maine

161.06104 | July 2017

Figure 2
Site Plan

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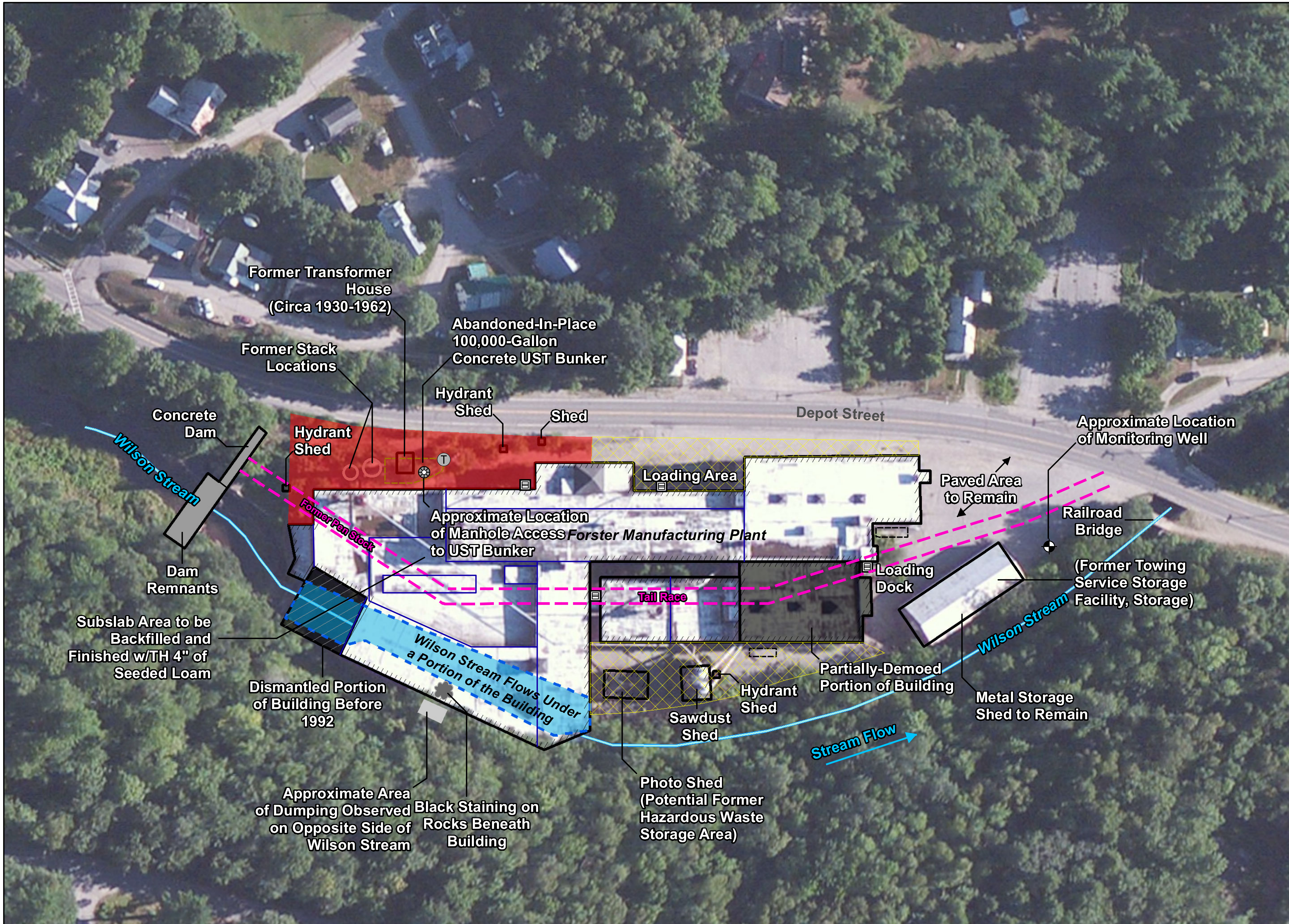


RANSOM
Consulting Engineers and Scientists

Legend & Notes

- Site Boundary
- Dumpster
- Proposed Location of Cover System
- Existing Pavement to Remain and Act as Cover System
- T Former Transformer Location

Notes

1. Site Plan based on National Agricultural Imagery Program Orthoimagery
2. Some features are approximate in location and scale
3. This plan has been prepared for the Town of Wilton. All other uses are not authorized unless written permission is obtained from Ransom Consulting, Inc.

Scale & Orientation

0 40 80

1 inch = 80 feet

Prepared For

Town of Wilton
158 Weld Road
Wilton, Maine

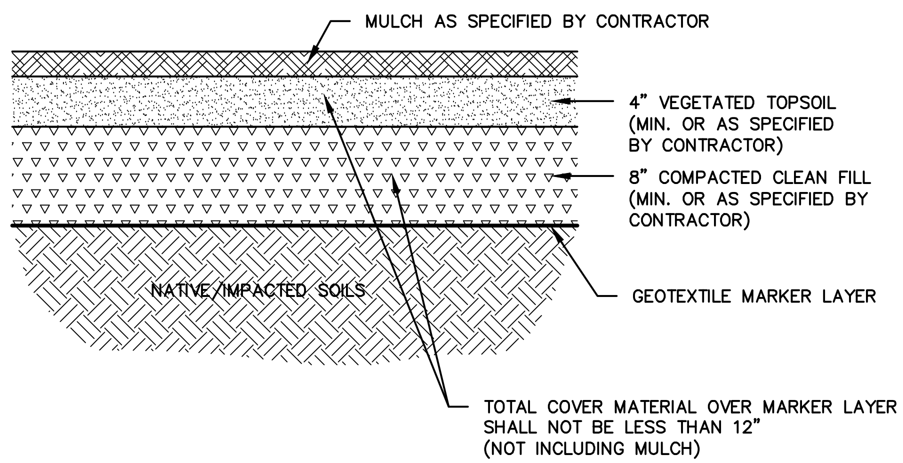
Site Address

Forster Manufacturing
581 Depot Street
Wilton, Maine

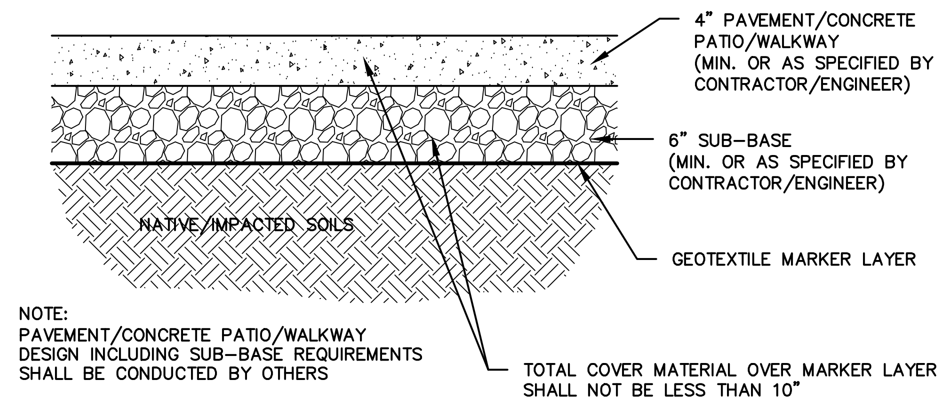
161.06080 | *July 2017*

Figure 3
Proposed Soil Mitigation System

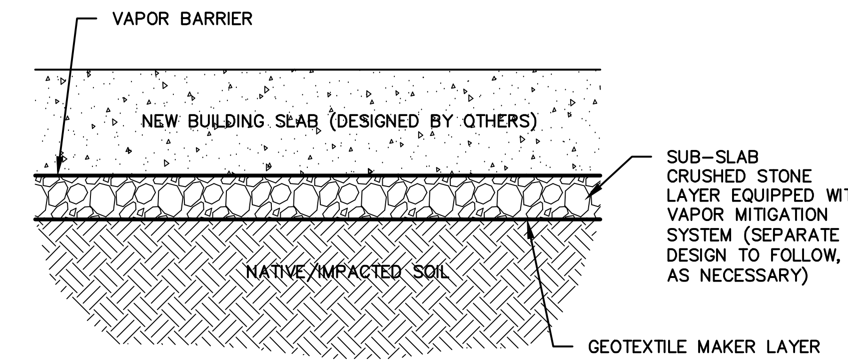
G:\Data\ME\Project\161_06104\Maps\Figure_3.mxd



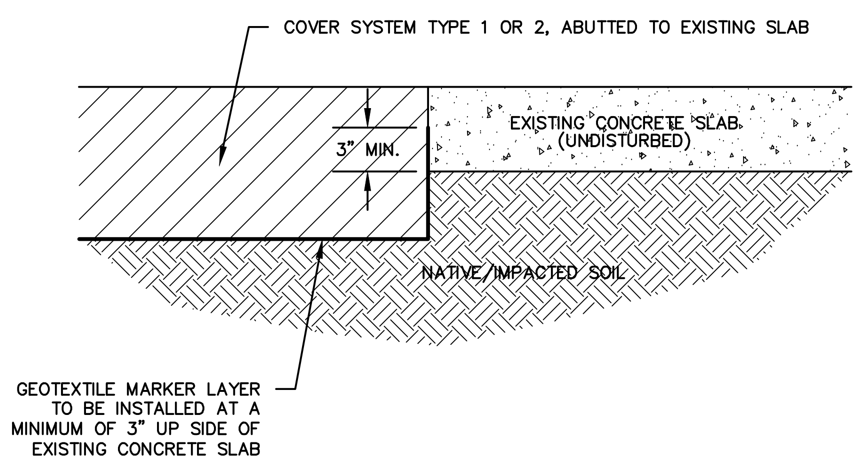
COVER SYSTEM TYPE 1:
LANDSCAPE COVER PLUS MARKER LAYER
NOT TO SCALE



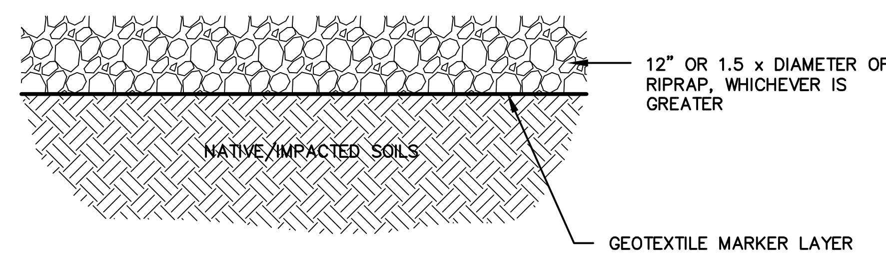
COVER SYSTEM TYPE 2:
NEW ASPHALT/CONCRETE COVER PLUS MARKER LAYER
NOT TO SCALE



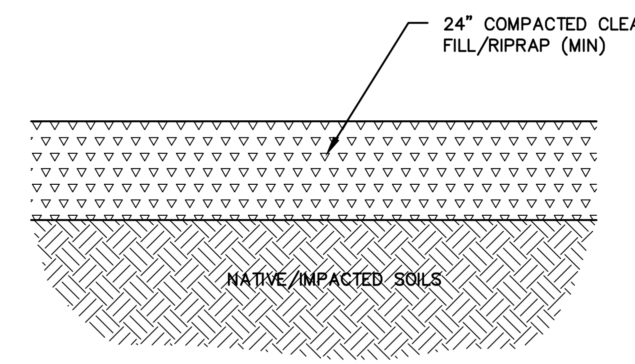
COVER SYSTEM TYPE 3:
STRUCTURE/BUILDING FOUNDATION COVER
NOT TO SCALE



COVER SYSTEMS ABUTTING EXISTING CONCRETE SLABS
NOT TO SCALE



COVER SYSTEM TYPE 4:
RIPRAP COVER (STREAM BANK)
NOT TO SCALE



COVER SYSTEM TYPE 5: CLEAN FILL
NOT TO SCALE
NOTE: NO MARKER LAYER NECESSARY IF COVER SYSTEM IS GREATER THAN 24 INCHES

NOTES:

1. THE QUANTITIES IDENTIFIED ARE MINIMUM REQUIREMENTS FOR COVERING OF THE IDENTIFIED CONTAMINATED SOILS. ADDITIONAL SUB-BASE MATERIALS MAY BE REQUIRED IN AREAS PROPOSED FOR ASPHALT PAVING, BUILDINGS AND/OR CONCRETE SIDEWALKS/PATIOS, AS NECESSARY, TO MAINTAIN STRUCTURAL INTEGRITY OF THESE MATERIALS. THE SITE DESIGN ENGINEER IS REQUIRED TO MAKE THE DETERMINATION OF STRUCTURAL SUITABILITY.
2. GEOTEXTILE MARKER LAYER SHALL BE US65HVO DEMARCATION FABRIC OR APPROVED EQUAL.

RANSOM Consulting, Inc.

PREPARED FOR:	SITE:	
TOWN OF WILTON 158 WELD ROAD WILTON, MAINE	FORSTER MANUFACTURING CO. 581 DEPOT STREET WILTON, MAINE	***COVER SYSTEM DETAILS*** DATE: JULY 2017 PROJECT: 161.06104 FIGURE: 4

P:\2016\161.06104\ABCA\DRAWINGS\141.06123-COVER.dwg Jul 11, 2017 – 12:37pm

TABLE 1 – SUMMARY OF THE EVALUATION AND COMPARISON OF REMEDIAL ALTERNATIVES
FORSTER MANUFACTURING, 581 DEPOT STREET, WILTON, MAINE

Remedial Action Alternative	Overall Protection of Human Health and the Environment	Technical Practicality	Ability to Implement	Reduction of Toxicity, Mobility and Volume	Short Term Effectiveness	Resiliency to Climate Change Conditions	Estimated Cost	Comments
SOIL REMEDIATION ALTERNATIVES								
No Action	• Risks to human health by direct contact, inhalation, and ingestion remain. • Potential long-term risks to the environment by stormwater runoff and/or leaching to groundwater may continue. • Cleanup goals will not be met.	• Not applicable.	• Not applicable – other than natural attenuation, no response action will be implemented.	• No reduction in toxicity, mobility or volume of the contaminated media.	• Not applicable – other than natural attenuation (long-term), no response action will be implemented.	• Impacted soils will remain in contact with stormwater, rising groundwater tables, and extreme weather.	• This alternative will involve ongoing security measures (fencing), maintenance, and security (police patrols) and will cost approximately $1,000 per year.	• This alternative does not address the recognized environmental conditions and contamination stigma at the property. • Because contaminated soil will remain onsite, this alternative will require a deed restriction to limit future site use and restrict access to the buildings.
Soil Cover Systems	• Risks to human health by direct contact, inhalation and ingestion is significantly reduced or eliminated by covering the contaminated soils. • Risks to the environment are reduced by covering contaminated soils that may come in contact with rain or stormwater. • Cleanup goals will be met.	• The construction of engineering cover systems could be completed utilizing accepted construction techniques. Therefore, the alternative is technically practical.	• Covering the contaminated soils at the property is technically feasible. The necessary services and materials to complete the remedial tasks are readily available.	• Reduction in the mobility of contaminated soils by preventing dust from being created and preventing stormwater from encountering soil and creating contaminated runoff. • No reduction in the toxicity or volume of contaminated soil.	• Capping of impacted soils is a proven method of remediation.	• Impacted soils are covered, reducing the risk of direct contact with stormwater/rainfall. • Impacted soils may still come into contact with rising groundwater tables.	• Estimated cost of approximately $108,900. • Capital costs include materials and equipment, and indirect capital costs such as engineering and sampling. • These cost estimates are for budgetary purposes only and in no way should be construed as a cost proposal.	• Additional remedial actions associated with this alternative would include: the creation of institutional controls/deed restrictions which will prohibit future disturbance of the cover system, require a Soil Management Plan, and require a Cover System Maintenance Plan. • Conducting earthwork in close proximity to the building would create an unsafe situation for Site workers; therefore, no earthwork or soil remediation should be conducted until building demolition has occurred.
Soil Removal	• Risks to human health by direct contact, inhalation and ingestion is eliminated by removing contaminated soil from the Site. • Risks to the environment are reduced by removing and properly disposing impacted soils. • Cleanup goals will be met.	• The removal of impacted soil could be completed utilizing accepted construction techniques. Therefore, the alternative is technically practical.	• Removal and off-site disposal of impacted soil is technically feasible. The necessary services and materials to complete the remedial tasks are readily available.	• Reduction in the toxicity, mobility and volume of contaminated soils onsite by removal and off-site disposal.	• Removal of impacted soils is a proven method of remediation.	• Impacted soils are removed, eliminating the risk of direct contact with stormwater/rainfall.	• Estimated cost of approximately $346,480. • Capital costs include materials and equipment, and indirect capital costs such as engineering and sampling. • These cost estimates are for budgetary purposes only and in no way should be construed as a cost proposal.	• Additional remedial actions associated with this alternative would include implementation of a Soil Management Plan. • Conducting earthwork in close proximity to the building would create an unsafe situation for Site workers; therefore, no earthwork or soil remediation should be conducted until building demolition has occurred.
HAZARDOUS BUILDING MATERIALS ABATEMENT ALTERNATIVES								
No Action	• Risks to human health by direct contact, inhalation, and ingestion remain. • Potential long-term risks to the environment by stormwater runoff and floor drain discharge may continue. • Cleanup goals will not be met.	• Not applicable.	• Not applicable.	• No reduction in toxicity, mobility or volume of the contaminated media.	• Not applicable.	• Hazardous building materials will remain in contact with stormwater and extreme weather. • Sediments in floor drains may discharge to Wilson Stream during wet weather events.	• This alternative will involve ongoing security measures (fencing), maintenance, and security (police patrols) and will cost approximately $1,000 per year.	• This alternative does not address the recognized environmental conditions and contamination stigma at the property. • Because hazardous building materials will remain onsite, this alternative will require a deed restriction to limit future site use and restrict access to the buildings.
Abatement and Building Demolition	• Risks to human health by direct contact, inhalation and ingestion is significantly reduced or eliminated by abating ACM, management of lead-based paint during demolition activities, and removal and disposal of contaminated floor drain sediments. • Risks to the environment are reduced by eliminating hazardous building materials and contaminated floor drain sediments that may come in contact with rain or stormwater. • Cleanup goals will be met.	• Hazardous materials abatement, building demolition and floor drain decommissioning could be completed utilizing accepted construction techniques. Therefore, the alternative is technically practical. • Conducting asbestos abatement and floor drain decommissioning concurrently with demolition will create efficiencies and be easier to implement.	• This alternative is technically feasible. The necessary services and materials to complete the remedial tasks are readily available.	• Reduction in the toxicity, mobility and volume of hazardous building materials onsite by removal and off-site disposal.	• Removal of hazardous building materials and contaminated floor drain sediment is a proven method of remediation.	• This remedial alternative meets the objectives associated with these criteria by removing hazardous building materials which may come into contact with rain/stormwater.	• Estimated cost of approximately $1,332,000. • Capital costs include materials and equipment, and indirect capital costs such as engineering and sampling. • These cost estimates are for budgetary purposes only and in no way should be construed as a cost proposal.	• Once building demolition has occurred, subsequent soil abatement tasks can be completed.

Remedial Action Alternative	Overall Protection of Human Health and the Environment	Technical Practicality	Ability to Implement	Reduction of Toxicity, Mobility and Volume	Short Term Effectiveness	Resiliency to Climate Change Conditions	Estimated Cost	Comments
Abatement without Building Demolition	• Risks to human health by direct contact, inhalation and ingestion is significantly reduced or eliminated by abating ACM and removal and disposal of contaminated floor drain sediments. • Risks to human health by direct contact, inhalation and ingestion of lead remain. • Risks to the environment are reduced by eliminating ACM and contaminated floor drain sediments that may come in contact with rain or stormwater. • Risks to the environment by lead-based paint remain. • Cleanup goals will be partially met.	• This alternative may be difficult to implement, and may require structural supports, safety provisions, or other means to protect workers and contractors. • Because of the increased technical difficulty, contractors may be more difficult to find.	• This alternative is technically feasible. The necessary services and materials to complete the remedial tasks are available. • Contractors may be less likely to perform the work due to safety concerns.	• Reduction in the toxicity, mobility and volume of ACM and floor drain sediment onsite by removal and off-site disposal. • Lead-based paint would remain.	• Removal of hazardous building materials and contaminated floor drain sediment is a proven method of remediation. • Exposure to lead-based paint would remain.	• This remedial alternative meets the objectives associated with these criteria by removing ACM and floor drain sediment which may come into contact with rain/stormwater. • Lead-based paint may continue to come into contact with rain/stormwater.	• Estimated cost of approximately $1,005,600. • Capital costs include materials and equipment, and indirect capital costs such as engineering and sampling. • These cost estimates are for budgetary purposes only and in no way should be construed as a cost proposal.	• Because no building demolition occurs, no soil earthwork or soil remediation should be conducted.

Table 2: Summary of Estimated Remediation Costs for the "Soil Cover Systems" Alternative (1)

Task	Number	Units	Unit Cost	Total
Erosion and Sedimentation Control	1	LS	$2,500	$2,500
Site Grading/Preparation	1	LS	$2,500	$2,500
Placement of Cover Systems				
Clean Fill, Loam and Seed [2]	1,600	SY	$25	$40,000
Riprap Stream Bank/Slopes [3]	250	SY	$35	$8,750
Site Restoration	1	Ea	$3,500	$3,500
Confirmatory Laboratory Samples	10	Ea	$500	$5,000
Engineering Design/Oversight/Regulatory/Closure				
Engineering Design [4]	1	LS	$11,500	$11,500
Construction Oversight [5]	1	LS	$8,500	$8,500
VRAP Closure Report [6]	1	LS	$8,500	$8,500
Subtotal				*$90,750*
Contingency 20% [7]				$18,150
TOTAL				**$108,900**

1 - Costs assume that hazardous building materials abatement and full building demolition have occurred
2 - Includes furnishing and installing marker layer, 8-inches of common borrow, and 4-inches of loam (seeded and mulched)
3 - Includes furnishing and installing marker layer and 12-inches of riprap (8-inch minus)
4 - Cost includes design, bidding phase services and contractor selection.
5 - Assumes 2 weeks of construction oversight (dependant on contractor schedule) plus expenses.
6 - Cost includes preparation of a VRAP Closure Report, Post Closure Cover System Maintenance, Soil Management Plan, and Declaration of Environmental Covenant.
7 - Covers previously unidentified issues that could come up during cleanup activities on Site.

NOTE: Costs presented in table above do not include programmatic Brownfields costs. These costs may include: Site-Specific Quality Assurance Project Plan, MEDEP VRAP Submittals, Historic Preservation, Quarterly Reports, Regulatory Interfacing, Community Relations Plan & 30-day Public Comment, and Public Meetings. These costs may range from $30,000 to $40,000.

LS = Lump Sum, Ea = Each, SY = Square Yard

Table 3: Summary of Estimated Remediation Costs for the "Soil Removal" Alternative [(1)]

Task	Number	Units	Unit Cost	Total
Erosion and Sedimentation Control	1	LS	$2,500	$2,500
Soil Removal				
Excavation, Transportation, and Disposal of Surficial Soils [2]	3,200	CY	$65	$208,000
Backfill and Compaction	3,200	CY	$8	$25,600
Waste Characterization Sampling [3]	16	Ea	$800	$12,800
Loam/Seed and Site Restoration	1	Ea	$6,500	$6,500
Confirmatory Laboratory Samples	10	Ea	$500	$5,000
Engineering Design/Oversight/Regulatory/Closure				
Engineering Design [4]	1	LS	$11,500	$11,500
Construction Oversight [5]	1	LS	$8,500	$8,500
VRAP Closure Report [6]	1	LS	$8,500	$8,500
Subtotal				*$288,900*
Contingency 20% [7]				$57,780
TOTAL				**$346,680**

1 - Costs assume that hazardous building materials abatement and full building demolition have occurred
2 - Assumes excavation of the top two feet of soil, transportation and disposal at a licensed disposal facility
3 - Assumes one waste characterization sample for every 250 tons of excavated material
4 - Cost includes design, bidding phase services and contractor selection.
5 - Assumes 2 weeks of construction oversight (dependant on contractor schedule) plus expenses.
6 - Cost includes preparation of a VRAP Closure Report, Post Closure Cover System Maintenance, Soil Management Plan, and Declaration of Environmental Covenant.
7 - Covers previously unidentified issues that could come up during cleanup activities on Site.

NOTE: Costs presented in table above do not include programmatic Brownfields costs. These costs may include: Site-Specific Quality Assurance Project Plan, MEDEP VRAP Submittals, Historic Preservation, Quarterly Reports, Regulatory Interfacing, Community Relations Plan & 30-day Public Comment, and Public Meetings. These costs may range from $30,000 to $40,000.

Table 4: Summary of Estimated Remediation Costs for the "Abatement and Building Demolition" Alternative

Task	**Number**	**Units**	**Unit Cost**	**Total**
Building Demolition (Includes Floor Drain Decomissioning)	1	LS	$400,000	$400,000
Disposal of Building Components	1	LS	$400,000	$400,000
Hazardous Building Materials Abatement				
Interior Asbestos Abatement	1	LS	$123,000	$123,000
Roofing Materials Asbestos Abatement	1	LS	$150,000	$125,000
Engineering Design/Oversight/Regulatory/Closure				
Engineering Design [1]	1	LS	$25,000	$25,000
Construction Oversight [2]	1	LS	$25,000	$25,000
VRAP Closure Report [3]	1	LS	$12,000	$12,000
Subtotal				*$1,110,000*
Contingency 20% [4]				$222,000
TOTAL				**$1,332,000**

1 - Cost includes design, bidding phase services and contractor selection.
2 - Assumes 2 weeks of construction oversight (dependant on contractor schedule) plus expenses.
3 - Cost includes preparation of a VRAP Closure Report, Post Closure Cover System Maintenance, Soil Management Plan, and Declaration of Environmental Covenant.
4 - Covers previously unidentified issues that could come up during cleanup activities on Site.

NOTE: Costs presented in table above do not include programmatic Brownfields costs. These costs may include: Site-Specific Quality Assurance Project Plan, MEDEP VRAP Submittals, Historic Preservation, Quarterly Reports, Regulatory Interfacing, Community Relations Plan & 30-day Public Comment, and Public Meetings. These costs may range from $30,000 to $40,000.
LS = Lump Sum, Ea = Each, CY = Cubic Yard

Table 5: Summary of Estimated Remediation Costs for the "Abatement without Building Demolition" Alternative

Task	Number	Units	Unit Cost	Total
Structural Support	1	LS	$250,000	$250,000
Floor Drain Decomissioning	1	LS	$26,000	$26,000
Hazardous Building Materials Abatement				
Interior Asbestos Abatement	1	LS	$175,000	$175,000
Roofing Materials Asbestos Abatement	1	LS	$325,000	$325,000
Engineering Design/Oversight/Regulatory/Closure				
Engineering Design [1]	1	LS	$25,000	$25,000
Construction Oversight [2]	1	LS	$25,000	$25,000
VRAP Closure Report [3]	1	LS	$12,000	$12,000
Subtotal				*$838,000*
Contingency 20% [4]				$167,600
TOTAL				**$1,005,600**

1 - Cost includes design, bidding phase services and contractor selection.
2 - Assumes 2 weeks of construction oversight (dependant on contractor schedule) plus expenses.
3 - Cost includes preparation of a VRAP Closure Report, Post Closure Cover System Maintenance, Soil Management Plan, and Declaration of Environmental Covenant.
4 - Covers previously unidentified issues that could come up during cleanup activities on Site.

NOTE: Costs presented in table above do not include programmatic Brownfields costs. These costs may include: Site-Specific Quality Assurance Project Plan, MEDEP VRAP Submittals, Historic Preservation, Quarterly Reports, Regulatory Interfacing, Community Relations Plan & 30-day Public Comment, and Public Meetings. These costs may range from $30,000 to $40,000.
LS = Lump Sum, Ea = Each, CY = Cubic Yard