

Analysis of Brownfields Clean-up Alternatives

*Former Facemate Corporation Property – Redevelopment Parcel #1
City of Chicopee, Massachusetts*

Introduction and Background

Site Location: Former Facemate Corporation property – Redevelopment Parcel #1
5 West Main Street
Chicopee, MA 01020
Owner: City of Chicopee

Previous Uses of the Site: *The Former Facemate Corporation property* consisted of two parcels totaling approximately 20.2 acres and was developed in the early 1800s for the manufacture of textiles. Between 1823 and 1915 the Site was owned by the Chicopee Manufacturing Company which manufactured and processed cotton cloth. The property was bought by Johnson & Johnson in 1915, who continued production activities. In 1977, the property was purchased by Facemate Corporation, which produced finished cotton and synthetic cloth. Facemate Corporation was forced to shut down in 2003 due to bankruptcy and foreclosure proceedings.

The City completed approximately \$6 million dollars in site-wide demolition and remediation work during summer and fall of 2013. Additionally, the City has completed an ALTA/ACSM Land Title Survey and Subdivision Plans for the property to create three re-development parcels. The middle parcel has already been redeveloped as a Senior Center for the City.

Redevelopment Parcel 1 consists of approximately 4.6 acres and encompasses the southern portion of the former Facemate property. It includes former Facemate Building C (known as the Baskin Building), a rectangular brick warehouse building consisting of two (2) levels. Dimensions are approximately 146 feet by 38 feet with a finished space of approximately 11,000 square feet.

Past Assessment Findings: An ASTM Phase I Environmental Site Assessment was completed in April 2010 for Redevelopment Parcel 1. Since that time, there has been significant cleanup of rail beds and surficial solid wastes. Over 3,000 cubic yards of rail bed soils were excavated and relocated to a consolidation area located on an adjacent parcel and layered with crushed asphalt, brick and concrete. Historic use of Redevelopment Parcel 1 included heavy manufacturing, with a canal, penstocks and tail races, making it very likely that buried demolition debris is located throughout much of the parcel. During on-going Phase II investigations, surface soil sampling conducted along abandoned rail lines identified the presence of heavy metals, polynuclear aromatic hydrocarbons (PAHs) and residual pesticides/herbicides. In addition, twelve exploratory test pits were excavated and buried demolition debris was encountered in many of them. A total of eight soil borings were progressed at “suspect” locations on the Site and two of them were completed as groundwater monitoring wells. No groundwater contamination was encountered at those locations.

Numerous sources of contamination are believed to have been present at the Site, including underground storage tanks (USTs) containing #6 fuel oil, aboveground storage tanks, electrical transformers and other oil and hazardous materials used in or generated during historic manufacturing operations.

Project Goals: The former Facemate property is part of a larger redevelopment project known as RiverMills at Chicopee Falls. Situated at the geographical center of the City, these post-industrial lands were once part of Factory Village, a complex of workforce housing, businesses and services that brought industrialization to Chicopee beginning in 1822. Today, RiverMills represents the City's largest Brownfields redevelopment project.

The RiverMills Vision Plan was completed in December 2010. Extensive community outreach resulted in a plan reflecting community desires and endorsed by the City as the official redevelopment guide. The plan proposes the creation of an active/passive recreational network that reconnects the neighborhood to the Chicopee River. This network is the armature around which a mixed-use community is molded. This mixed-used scheme includes 33,500 square feet of new commercial space, 131,000 square feet of new office space, 131 new housing units, the City's new Senior Center (known as RiverMills Center) and a potential Family Recreation Center. Estimates indicate that this scheme will leverage an estimated \$100 million in private investment when full build out is achieved and will support the creation of 275 new full and part time, local jobs.

City officials and residents alike have repeatedly underscored the importance of RiverMills' redevelopment as the avenue through which the Chicopee's heritage can be preserved. It is hoped that through redevelopment RiverMills can once again be a part of the community it helped to establish. With this in mind the City has established the following vision and objectives to guide redevelopment:

“The City of Chicopee envisions the creation of a mixed-use, energy conscious, walkable community integrated within the historic framework of Chicopee Falls. With expanded business and job opportunities and new living options for residents, redevelopment will re-connect the neighborhood to its rich environmental context while re-forging links between Chicopee Falls and Chicopee Center...”

Redevelopment Objectives

- ***Mixed Use Redevelopment:*** The City is interested in redevelopment schemes that provide a diverse mix of uses on the Site. This mix should preferably include complementary uses that will directly and indirectly enhance the area as a place to live, work, shop, dine, visit and as a place to connect with recreational and environmental amenities. Schemes should provide for high quality improvements with uses that will actively contribute to the economy of the City, provide public access where appropriate and add to the neighborhood's vitality and tax base.
- ***Site Legacy:*** The City has a vested interest in preserving the site's history as part of the redevelopment process. It is hoped that redevelopment schemes will address how the site's industrial past can be incorporated into its reuse, remembering the site's history.
- ***Environmental Connections:*** Development schemes should strive to surround proposed buildings with a series of green spaces linked with pedestrian walkways, greenways or trails that also take advantage of the Chicopee River Walk that is currently under development. The entire RiverMills development should strive to be a pedestrian friendly environment, while enhancing the Chicopee River. Redevelopment schemes should propose avenues through which the river can be accessed and utilized from RiverMills by the public.

- *Neighborhood Connections:* The RiverMills property has been inaccessible to the Chicopee Falls neighborhood for nearly thirty (30) years. Redevelopment schemes should propose avenues through which the site will be reintegrated into the surrounding neighborhood and enable new connections to Chicopee Center and Memorial Drive's commercial corridor.
- *Green Development:* The City of Chicopee supports sustainable development practices and is pursuing LEED certification for the City's new Senior Center, which is the first RiverMills redevelopment project. The use of 'green' development techniques, with respect to energy efficiency, materials, building systems, construction methods, long-term building operations and site planning will be key factors considered during the developer selection and bid process. The City will work with the preferred developer to incorporate such practices into the reuse of Building 26.
- *Effective Public-Private Partnership:* With City, state and federal agency investments of nearly thirty million dollars to date, redevelopment schemes should not place disproportionate requirements on City resources.

Summary of Phase I & II Assessment Reports and Other Environmental Investigations: An ASTM Phase I Environmental Site Assessment was completed in April 2010 for Parcel 1. Since that time, there has been significant cleanup of rail beds and surficial solid wastes. Over 3,000 cubic yards of rail bed soils were excavated and relocated to a consolidation area on an adjacent parcel and layered with crushed asphalt, brick and concrete. Historic use of Parcel 1 involved heavy manufacturing, including a canal, penstocks and tail races, making it likely that historic demolition debris is located under much of the parcel.

Reference is made to the Past Assessment Findings section above.

Applicable Regulations and Cleanup

Cleanup Oversight Responsibility: The Commonwealth requires property owners to hire a Licensed Site Professional (LSP) if cleanup activities are deemed necessary. As defined by the Commonwealth, the LSP "ensures that actions taken to address contaminated property comply with Massachusetts regulations and protect public health, safety, welfare and the environment." In Massachusetts, LSPs are licensed by the state Board of Registration of Hazardous Waste Site Cleanup Professionals.

Following designation as a Brownfield Priority Project by MassDevelopment, the City released a Request for Proposals for Licensed Site Professional Services for the Facemate Site. The City followed all federal (40 CFR 31.36) and state public procurement guidelines during the process and has retained BETA Group, Inc. of Norwood, MA to provide LSP services related to oversight, assessment and cleanup of residual contamination and management of hazardous materials at the Site. Alan Hanscom, MA License #2152, serves as the lead BETA representative for the City.

The primary environmental regulations governing cleanup of the Site include the Massachusetts Contingency Plan (MCP) (310 CMR 40.0000); the MassDEP Solid Waste Regulations (310 CMR 19.0000); the Wetlands Protection Act (WPA), the Rivers Protection Act (RPA); the Resource Conservation and Recovery Act (RCRA); and the Toxic Substances Control Act (TSCA).

BETA reports directly to the City's Office of Community Development and BETA's services related to subsurface contamination was funded through the MassDevelopment Brownfields Priority Project Fund. Services related to building inspections, demolition and other related services are separately funded. If funding is appropriated under EPA's Cleanup Grants program, BETA would continue to provide LSP and oversight services. Any additional contractors needed to perform the proposed cleanup projects will be retained following all federal (40 CFR 31.36) and state public procurement guidelines.

Clean-up Standards for Major Contaminants and Planned Reuse: The Site is likely to include some combination of residential, commercial and recreational uses. To that end, the primary regulations dealing with environmental contamination and buried demolition debris are the MCP, RCRA, TSCA and the MassDEP Solid Waste Regulations. Cleanup at the Site will necessarily involve some form of Activity and Use Limitation (AUL) under the MCP. To that end, the clean-up standards can vary under the applicable regulations, supported by risk characterization performed largely under the provisions of the MCP.

- Environmental releases of regulated contaminants, including heavy metals, petroleum, polynuclear aromatic hydrocarbons (PAHs), are largely regulated under the MCP. Depending upon the concentrations, potential for exposure and Site inhabitants, varying standards apply. When such exposure is eliminated or limited by capping and implementation of site activities or uses, the concentrations of residual contamination can be increased without impact to human health or the environment. We often characterize contaminated soil for off-site management for beneficial reuse (landfill cover, asphalt batching, etc.), when on-site management is either undesirable or infeasible.
- The presence of buried demolition debris is a significant issue at this Site. Of particular concern is the likely presence of asbestos and other regulated building materials, including PCBs, mercury, lead and other contamination regulated under the MCP. The remaining debris is largely comprised of solid waste. The inert fractions of solid waste (asphalt, bricks and concrete) may be reused on Site under a generic beneficial use determination issued by MassDEP. That requires segregation of deleterious materials, including rebar, crushing to 3-6 inches and placement in a designated area of the Site. Trash, refuse and other similar materials require segregation and off-site management at an appropriately licensed disposal facility. Reusable and recyclable materials (i.e. wood, metal, glass, plastics, etc.) will be managed at appropriately licensed off-site re-use and/or recycling facilities. In certain circumstances, on-site containment of asbestos and other inert type contaminants may be permitted under the MCP or under certain provisions of the MassDEP Solid Waste regulations (i.e. special waste determination, beneficial use determination, demonstration of need, etc.).
- Polychlorinated Biphenyls (PCBs) are primarily regulated under TSCA, with U.S. EPA maintaining jurisdiction over all PCB releases greater than 50 ppm. The management of most PCB-containing equipment and fluids is also regulated under TSCA, but may also be subject to various regulations under RCRA and the Massachusetts Contingency Plan (MCP). Releases to the environment less than 50 ppm are regulated under the MCP.
- Certain contaminated wastes or byproducts generated from historical manufacturing operations may be encountered on the Site. These wastes are highly regulated under RCRA and associated provisions under the MassDEP Hazardous Waste regulations at 310 CMR 30.0000. The standards vary widely, depending upon the nature of the manufacturing and the categorical standards that

apply. Generally, we will be looking to establish whether any such wastes are “listed” or considered “categorically hazardous” under the RCRA statute. We will also look to establish whether any such waste demonstrates “hazardous” characteristics, as defined under RCRA. If the wastes are determined to be hazardous, they must be managed off-site at an appropriately licensed hazardous waste landfill. In certain cases, on-site treatment may be used to allow for off-site management at a Special Waste Landfill.

Laws & Regulations Applicable to the Cleanup: There are three primary federal regulations that govern the pre-demolition abatement and disposal of regulated building materials:

- Resource Conservation and Recovery Act (RCRA);
- Toxic Substances Control Act of 1976 (TSCA); and
- Asbestos Hazard Emergency Response Act (AHERA) of 1986.

In addition to the regulations promulgated under the referenced laws, the MassDEP and U.S. EPA have provided numerous guidance documents and policies that govern the manner in which the presence of regulated building materials in buried demolition debris is handled and managed. Such regulations are very prescriptive and close adherence to the requirements is required, except in unusual circumstances when site-specific requirements are waived by state and/or federal regulators.

In this case, the MassDEP has jurisdiction over most activities involving the abatement and off-site management of buried demolition debris. Several federal and state solid and hazardous waste regulations, including air and resource protection regulations, govern the licensing and permitting of pertinent recycling and disposal facilities.

Specific state regulations that govern environmental site investigations, characterization and disposal activities include:

- Solid Waste Regulations, administered through MassDEP (310 CMR 7.000 and 19.0000);
- Air Quality Regulations, Department of Labor Standards, Division of Occupational Safety (453 CMR 6.00);
- Massachusetts Contingency Plan (MCP) at 310 CMR 40.0000; and
- Massachusetts Hazardous Waste Regulations at 310 CMR 30.0000.

There are also numerous state and federal policy and guidance documents that regulate the handling, transportation and off-site management of contaminated soil, groundwater and buried demolition debris.

Evaluation of Clean-up Alternatives

Clean-up Alternative A – No Action

The “no action” alternative is simply not practical in light of the abovementioned project goals. The associated cleanup costs would severely restrict the parcel’s appeal and marketability and in turn, serve to obstruct realization of the project goals. No further consideration of this alternative will be made.

Clean-up Alternative B – Cap in Place with On and Off-Site Management of Debris, Wastes and Contaminated Soil

This alternative has merit in several circumstances for the referenced Site. Where the residual contaminant levels meet acceptable risk management objectives under the MCP, capping with two feet of an engineered barrier (i.e. parking areas) and/or three feet of soil in landscaped areas is often a cost effective strategy that is protective of both human health and the environment. It is likely that this alternative would also include off-site management of: recyclable and reusable material (including contaminated soil); all hazardous and special wastes; and any other deleterious materials that are not suitable for capping on the Site. On-Site consolidation of certain debris and/or contaminated soil in designated areas (i.e. parking, under buildings, etc.) would also be implemented where appropriate and consistent with applicable regulations.

Clean-up Alternative C – Excavation & Off-Site Management of All Debris, Wastes and Contaminated Soil

This alternative would provide for the delineation, characterization and off-site management of all debris, wastes and contaminated soil, consistent with applicable regulations. Typical activities would include segregation and off-site recycling of recyclable materials (metal, glass, plastics, etc.) at appropriately licensed off-site recycling facilities; characterization and off-site re-use of contaminated soil (i.e. landfill cover material, asphalt batching, etc.); characterization and disposal at appropriately licensed disposal facilities (hazardous wastes, TSCA wastes, special wastes, etc.); and implementation of other applicable off-site management options, depending upon the nature of the materials encountered. In the event contaminated sludge or other similar materials are encountered, such materials would be chemically and/or physically stabilized prior to shipping.

Cost Estimates for Each Alternative**Clean-up Alternative A – No Action**

Not Viable

Clean-up Alternative B – Cap in Place with On and Off-Site Management of Debris, Wastes and Contaminated Soil

The estimated cost for capping impacted areas of the Site would range from approximately **\$750,000 to \$1.5 million**, depending upon the nature and extent of subsurface contamination and debris encountered during redevelopment. The actual cleanup will be dependent upon the approved reuse plan for the Site, including considerations for subsurface utilities, storm water management, the degree of fill materials placed on the Site and several other factors to be defined once the final re-use plan is developed and approved.

Clean-up Alternative C – Excavation and Off-Site Management of all Debris, Wastes and Contaminated Soil

To excavate, characterize and manage all debris, wastes and contaminated soil from the Site, we estimate the costs to be on the order of **\$3.2 million**. This estimate is based upon recent remediation work performed on the adjacent site, assuming similar subsurface debris, wastes and soil contamination will be encountered.

Recommended Clean-up Alternative:

We recommend that Alternative B – Cap in Place with On and Off-Site Management of Debris, Wastes and Contaminated Soil be the selected alternative. This alternative will allow for cost-effective management of subsurface debris, wastes and soil, using risk characterization and capping strategies, consistent with applicable regulations. In addition, it allows for coordination of response actions with the proposed redevelopment plan. This is a particularly appropriate strategy, considering that the City is not constrained by regulatory submittals and deadlines, as private sector developers often are.