

Analysis of Brownfields Clean-up Alternatives

Former Uniroyal Tire Complex – Parcel #147-10

City of Chicopee, Massachusetts

Introduction and Background

Site Location: Former Uniroyal Tire Complex – Parcel #147-10

154 Grove Street

Chicopee, MA 01020

Owner: City of Chicopee

Previous Uses of the Site: The Former Uniroyal Tire Complex consists of approximately 28 acres of land, originally developed during the late 1800s. In 1870 the property was used as a lumber yard by the Chicopee Manufacturing Company. From 1896 to 1898 the property was owned by the Spaulding and Pepper Company, who manufactured bicycle tires. The Fisk Rubber Company, which later changed its name to United States Rubber Company and then to Uniroyal, Inc., manufactured bicycle automobile & truck tires and adhesives from 1898 to 1981. Uniroyal Inc. closed their plant in 1980 and sold the property to the Facemate Corporation in 1981. Facemate leased portions of the Uniroyal buildings to various companies for manufacturing, printing, machine shops, office, storage and health care facilities. Currently, 17 vacant buildings, encompassing 1.5 million square feet, remain standing at the Site.

Former manufacturing operations entailed the use of approximately 22 underground storage tanks (USTs) and five aboveground storage tanks for the storage of various petroleum products and solvents. Twenty-five pad and/or wall mounted transformers were used to distribute electrical power for site operations. Of these, 23 contained PCB-based dielectric fluids. Also, the Boston and Maine Railroad tracks bisect the Site.

Parcel #147-10 represents 26.203 acres of the Uniroyal property. The Site is characterized as a strip of land running north from Grape Street along the Chicopee River and then bisecting the lower and middle tiers of the former Uniroyal Tire Complex before terminating at Oak Street. The strip of land was formerly the Boston & Maine Railroad right-of-way for a rail line spur off the main line running along the Connecticut River, west of the Uniroyal Site, proper. Railcars historically delivered carbon black to the complex for use in tire manufacturing. In 2010, the City contracted with the Not-for-profit Iron Horse Preservation Society for the removal of rails and ties along a majority of the corridor. Rails and ties were not removed from the portion of the Site within the boundaries of the Uniroyal Site. As with most rail lines throughout the Northeast, residual contamination in rail beds include: heavy metals (notably arsenic and lead), polynuclear aromatic hydrocarbons (PAHs); and pesticides/herbicides. The presence of this contamination has been confirmed with limited sampling of rail bed soils.

Past Assessment Findings: Michelin North America, Inc. (MNA) acquired the assets of Uniroyal, Inc. circa 1990 and is considered the primary responsible party (PRP) dealing with residual contamination at the Uniroyal property. To date, MNA has identified and removed all known USTs on the property and all transformers have been removed by MNA and the City. MNA has managed transformer fluids and PCB-impacted soils (>50 ppm) at appropriately licensed off-site waste management facilities. In addition, MNA

has consolidated PCB-impacted soils (<50ppm) on the Site and has initiated construction of a cap under applicable TSCA regulations over a portion of the rail bed located on Parcel 147-10.

Known residual site contamination along the rail bed includes: heavy metals, PAHs and pesticides/herbicides.

The City is working in cooperation with MNA to address other environmental conditions at the Site; however, MNA has taken the position that historical application of pesticides/herbicides falls under the exemption provisions of the Federal Insecticide and Rodenticide Act (FIFRA). In addition, historic rail contamination, including leaching preservatives from rail ties, exhaust from trains and ash from the combustion of coal, are exempt under the MCP. Since the City is looking to change the use of the rail line to a different exposure potential, appropriate response actions must be undertaken, consistent with the provisions and associated policies under the MCP.

Project Goals: The former Uniroyal Tire Complex 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 reconnect 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: Various consultants have completed environmental studies on the Uniroyal property, dating back to the early 1980's. A Phase I Limited Site Investigation was completed by ECS in March 1991. A Phase II Comprehensive Site Assessment (CSA) was completed by ECS in August 1997. Additional Phase II Investigations were completed by ECS in February 1998. A Supplemental Phase II CSA was completed by Gannett Fleming in June 2005. Gannett Fleming also completed a Phase III Remedial Alternatives Analysis in June 2005 as well as various Phase IV Remedy Implementation Plans from March, 2006 through April 2010. Additional work since that date has been completed by GZA GeoEnvironmental, Inc. and includes a Supplemental Phase II CSA, dated January 2011.

Phase I assessment work was completed in conformance with the American Society of Testing Materials (ASTM) Standard Practice E 1527-05 for Phase I ESAs, which meets Environmental Protection Agency (EPA) Standards and Practices for All Appropriate Inquiries (AAI); Final Rule (40CFR Part 312).

On May 10, 2010, an Existing Conditions Report was completed by Tighe & Bond on some of the remaining Uniroyal buildings. Further, a Report for Asbestos-Containing Building Materials, Lead-Based Paint, Polychlorinated Biphenyls and Mercury Containing Components in Uniroyal Building 26 was completed by Smith & Wessel Associates, Inc. on November 19, 2012.

Environmental sampling of rail bed soils has been conducted by MNA and BETA, on behalf of the City. Surface soil sampling conducted along the subject rail bed has concluded that residual contamination consists of heavy metals (particularly arsenic and lead); polynuclear aromatic hydrocarbons (PAHs); and pesticides/herbicides. In addition, sampling of rail bed soils by MNA identified residual concentrations of PCBs along the line passing between former Uniroyal Buildings #28S and #42.

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 Uniroyal 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 to the City. The primary environmental regulations governing cleanup of the Site include the Massachusetts Contingency Plan (MCP), the Wetlands Protection Act (WPA), 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 is 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. The primary regulations dealing with residual rail bed contamination and associated environmental releases and debris are the MCP, RCRA, TSCA and the MassDEP Solid Waste Regulations. Cleanup of the rail bed will likely 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, polynuclear aromatic hydrocarbons (PAHs) pesticides and herbicides, 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.

- Polychlorinated Biphenyls (PCBs) are primarily regulated under TSCA, with USEPA 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. In accordance with TSCA Guidance issued by EPA, along with provisions under the MCP, alternative compliance options provide for various cleanup standards. Under certain circumstances, a risk based cleanup may justify leaving levels under 100 ppm in place, with appropriate capping and implementation of an Activity and Use Limitation (AUL).
- Certain contaminated residuals and byproducts present in rail beds are mostly regulated under the Federal Insecticide and Rodenticide Act (FIFRA), the Resource Conservation and Recovery Act (RCRA) and associated provisions under the MassDEP Hazardous Waste regulations at 310 CMR 30.0000. The exemption provisions under FIFRA will not apply, since we are changing the use of the rail bed. We will look to establish whether any such heavy metal wastes and/or residual pesticides/herbicides demonstrate “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. In other cases, since the materials are mostly inert and largely non-leaching, they may be managed on site under the provisions of the MCP.

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 abatement 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 on Parcel #147-10. 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 (rails, contaminated soil); all hazardous and special wastes (including rail ties); 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.

For the portion of the rail bed soils between the Uniroyal Site and Grape Street, the implementation of Best Management Practices (policy issued by MassDEP) will be required. That policy provides for capping of rail bed soils on “rails to trails” projects, such as that currently being undertaken by the City.

Clean-up Alternative C – Excavation & Off-Site Management of All Rails, Ties and Rail Bed Soils

This alternative would provide for the delineation, characterization and off-site management of all rails, ties and contaminated rail bed soil, consistent with applicable regulations. Typical activities would include segregation and off-site recycling of recyclable materials (rails) at appropriately licensed off-site recycling facilities; characterization and off-site re-use of contaminated soil (i.e. asphalt batching); 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.

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 rail bed soils on Parcel #147-10 would range from approximately **\$350,000 to \$450,000**, depending upon the nature and extent of subsurface contamination and debris encountered during redevelopment. The actual cleanup will be dependent upon the re-use plan for the Site, including considerations for subsurface utilities, storm water management, the degree of fill materials to be placed on the Site, and several other factors to be defined once the final re-use plan is developed.

Clean-up Alternative C – Excavation and Off-Site Management of all Rails Ties and Contaminated Rail Bed Soil

To excavate, characterize and manage all rails, ties and contaminated rail bed soils from the Site, including rail bed soils along the rail-to-trails project, we estimate the costs to be on the order of **\$1.9 Million**. This estimate is based upon recent remediation work performed on the adjacent site, assuming similar subsurface conditions and residual rail bed soil contamination is 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. That alternative will allow for cost-effective management of residual rail bed contamination, using risk characterization and capping strategies, consistent with Best Management Practices developed by MassDEP and other 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.