Analysis of Brownfields Cleanup Alternatives

Former Uniroyal Tire Complex – Building #28 North
City of Chicopee, Massachusetts

Introduction and Background

Site Location: Former Uniroyal Tire Complex – Building #28 North
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 closed the facility 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 shop, office, storage and health care facilities. Currently, eleven (11) vacant buildings, encompassing approximately one million square feet, remain standing at the Site.

Building #28 North encompasses a footprint of 48,000 square feet (1.1 acres) of the Uniroyal property with 240,000 square feet of vacant industrial space on five (5) floors, not including the basement level. A hazardous building materials survey of the structure has confirmed the presence of hazardous materials including asbestos, polychlorinated biphenyl (PCBS), lead and others that are the focus of this cleanup project. Building #28 North is connected to Building #28 South and Building #28 North Extension, for which, separate ABCAs have been developed.

Former manufacturing operations entailed the use of approximately 22 underground storage tanks (USTs) and five (5) aboveground storage tanks for the storage of various petroleum products and solvents. Twenty-five (25) pad and/or wall mounted transformers were used to distribute electrical power for site operations. Of these, twenty-three (23) contained PCB based dielectric fluids. Also, former Boston and Maine Railroad tracks bisect the Site. Railcars historically delivered carbon black to the complex for use in tire manufacturing.

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 (<10ppm) on the Site and has initiated construction of a temporary cap under applicable Toxic Substance Control Act (TSCA) regulations.

Currently known residual site contamination includes PCBs, heavy metals, extractable petroleum hydrocarbons (EPH), semi-volatile organic compounds (SVOCs) & volatile organic compounds (VOCs) in soil and EPH & VOCs in groundwater. PCBs have also been identified in accumulated sediment in on-site storm water drainage systems and in the toe drain system for the flood control levees along the westerly boundary of the Site. MNA cleaned many of the stormwater and toe drain systems during 2011 and 2014, under an U.S. EPA-approved TSCA Work Plan.

The City is working in cooperation with MNA to prioritize and advance site cleanup activities, but unknown subsurface conditions remain under existing buildings and related structures. Additional sampling of sediments in the Chicopee River has also been required by Massachusetts Department of Environmental Protection (MassDEP). As additional buildings are demolished at the Site, MNA is implementing supplemental subsurface investigations. During 2014, subsurface investigations were conducted at the footprints of former Uniroyal Buildings #7, #33 and #43. It is important to note that MNA's obligation for response actions will not fully achieve redevelopment requirements and that additional environmental cleanup will likely be required.

MNA's responsibilities as a PRP at the Uniroyal property are primarily related to the assessment and remediation of existing environmental contamination under Massachusetts General Laws Chapter 21E, the Massachusetts Contingency Plan (MCP) and TSCA regulations. The assessment and abatement of hazardous building materials within the on-site buildings, along with actual demolition of most of the buildings, are the City's responsibility and are separately funded from MNA's efforts. To date, the City has demolished eleven (11) buildings, leaving eleven (11) structures to be abated and demolished to allow redevelopment plans to move forward.

A structural condition assessment report of the Uniroyal buildings was prepared by Tighe & Bond in May 2011 that documents the very poor structural condition of nine (9) of eleven (11) buildings on the former Uniroyal property. Subsequently, structural evaluations by BETA Group, Inc. (BETA) have identified additional buildings for demolition. More recently, BETA re-inspected the buildings and determined that conventional asbestos abatement can only be performed in the basement of Building #28N and that a Non-Traditional Work Plan (NTWP) involving the commingling of asbestos containing building materials with construction demolition debris will be required.

Reference is made to the section of this application entitled "***Summary of Phase I & II Assessment Reports and Other Environmental Investigation"*** for a discussion of the hazardous materials inspection reports completed to date.

Project Goals: The former Uniroyal 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 one of the Commonwealth's largest Brownfields redevelopment projects and the largest such project in Chicopee's history.

The RiverMills Vision Plan was completed in December 2010. Extensive community outreach resulted in a plan that reflects community desires and endorsed by the City as the official redevelopment guide for the former Uniroyal and neighboring Facemate properties. 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 which opened in September 2014 and a proposed Community Recreation Center. Estimates indicate that this scheme will leverage an estimated $100,000,000 in private investment when full build out is achieved while supporting 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 will include complementary uses that directly and indirectly enhance the area as a place to live, work, shop, dine, visit and connect with recreational and environmental amenities. Schemes should provide for high quality improvements 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, honoring 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 Canal & RiverWalk 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 plans to pursue Leadership in Energy and Environmental Design (LEED) certification for the City's new Senior Center. 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.

- Effective Public-Private Partnership: With City, state and federal agency investments of nearly twenty 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: Numerous environmental site investigations related to the release of oil and other hazardous materials have been performed at the Uniroyal property over the past several years by Gannett Fleming and GZA GeoEnvironmental, Inc. (GZA), on behalf of MNA, the company who acquired the assets of the former Uniroyal Company. With respect to hazardous building materials, several assessments have been performed at the subject buildings and supplemental hazardous materials inspections will be conducted, as required, to supplement inspections conducted to date. Non-traditional asbestos abatement work plans were prepared and implemented at former Uniroyal Buildings #7 and #33 over the course of 2014. Additional non-traditional work plans were implemented for Uniroyal Buildings #8 and #14. The following assessments have been used in preparing the proposed cleanup project for Uniroyal Building #28 North:

- GZA provided a preliminary hazardous materials inspection letter report of all buildings for the City of Chicopee in 2007;
- Smith & Wessel Associates, Inc. (Smith & Wessel), under subcontract to BETA, completed a more detailed inspection and sampling program of Buildings 28S, 28N, 28N Extension and 33 in June 2011;
- CDW Associates, Inc. (CDW), using U.S. EPA grant funds, administered through MassDEP, conducted a supplemental hazardous materials inspections of many of the remaining Uniroyal buildings in late 2011 and early 2012, where deteriorated building conditions did not prevent safe access;
- In July 2018, Tighe & Bond, Inc (Tighe & Bond) completed supplemental testing for PCBs of other "suspect" PCB-containing materials, including depth-specific sampling for PCBs in substrates associated with known PCB-impacted caulking, mastics, expansion joints, adhesives, paints and other such building materials. Reference is made to the Tighe & Bond.
- Supplemental sampling and analyses of regulated building materials has also been performed by BETA and Smith & Wessel to support waste management decisions and a beneficial use determination (BUD) under the Commonwealth's solid waste program. This determination has the potential to greatly reduce off-site management costs and it would result in significant benefits to the environment by reducing diesel fuel emissions by more than 40%.
- A structural conditions assessment of all of the Uniroyal Middle Tier buildings was recently performed by BETA, as summarized in a January 31, 2018 letter to the City. The conclusion is that conventional asbestos abatement can only be performed in the basements of the Middle Tier Buildings due to deteriorated structural conditions. A Non-Traditional Asbestos Abatement Work Plan (NTWP) will be required, involving commingling of asbestos containing building materials with general demolition debris.

Applicable Regulations and Cleanup

Cleanup Oversight Responsibility: The Commonwealth requires property owners to hire a Licensed Site Professional (LSP) when 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 (RFP) for (LSP) Services for the Uniroyal Site. The City followed all federal procurement requirements under Title 40 of the Code of Federal Regulations Part 31.36 (40 CFR 31.36) and state public procurement guidelines during the process and has retained BETA of Chicopee, 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 LSP License #2152, serves as the lead BETA representative to the City. The primary environmental regulations governing cleanup of the Site include the MCP, the Massachusetts Wetlands Protection Act (WPA), the Resource Conservation and Recovery Act (RCRA) and TSCA.

BETA reports directly to the City's Office of Community Development and the Department of Planning & Development. BETA's services related to subsurface contamination are funded through the MassDevelopment Brownfields Priority Project Fund and through City funds appropriated by the Chicopee City Council. Services related to building inspections, demolition and other related services are separately funded, when possible, through other funding sources. If additional funding is appropriated under U.S. EPA's Cleanup Grants program, BETA would continue to provide LSP and oversight services. Any additional services needed to perform the proposed cleanup projects will be retained following all applicable federal and state public procurement regulations and guidelines.

Cleanup Standards for Major Contaminants and Planned Reuse: The various regulated building materials subject to pre-demolition abatement for this project include:

- Asbestos containing building materials (ACBM), including both friable (easily crumbled, crushed or pulverized by hand) and non-friable suspect ACBM within buildings, including the following types of materials:
    - Thermal system insulation, such as pipe, boiler, tank and duct insulation;
    - Surfacing materials, such as fireproofing, acoustical and decorative plasters, or other coatings applied by spray or trowel; and
    - Miscellaneous materials, such as floor and ceiling tiles, mastics, roofing materials and blown-in insulation.

  The applicable federal and state standards require segregation and off-site disposal of asbestos waste containing greater than 1% asbestos on a weight basis. In this case, as was the case with the lower tier buildings, segregation is only possible in the basement of Building #28N. Through the MassDEP, we will obtain approval of a Non-Traditional Asbestos Abatement Work Plan (NTWP) to commingle asbestos

containing building materials (ACBM) where pre-demolition segregation of such materials is cost prohibitive or technically infeasible.

Releases of asbestos containing materials to the environment are also regulated by MassDEP air regulations and the MCP.

- Lead based painted surfaces pose a potential risk to the environment due to leaching of lead from wastes placed in a landfill. The primary cleanup standard that drives decision making for lead paint is RCRA which regulates hazardous waste management.

  In the case of lead paint, the leachate standard is 5 mg/l for the Toxicity Characteristic Leaching Procedure (TCLP) that simulates an acidic environment of a landfill in the laboratory.

  The regulations require that representative sampling and testing be performed on demolition debris that is to be disposed. In certain cases, exemptions apply when such materials are to be re-used or recycled such as scrap metal. Surfaces with greater than 5% lead content that cannot be properly recycled will be segregated and disposed as RCRA hazardous waste. The threshold value may vary, depending upon the nature and volume of the lead painted materials with respect to the total volume to be disposed or recycled.

- PCBs releases are primarily regulated under TSCA, with U.S. EPA maintaining jurisdiction over all PCB releases from sources containing greater than 50 parts per million (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 MCP. Releases to the environment from sources containing less than 50 ppm may be regulated under the MCP.

- PCBs in concentrations greater than one ppm in building materials are also regulated under TSCA. Examples are window caulking, mastics, surface coatings and their respective substrates, including wood, brick, cinder block, concrete, etc. The off-site management of these materials as PCB bulk product waste is anticipated under the proposed abatement project.

Laws & Regulations Applicable to the Cleanup: There are three (3) primary federal regulations that govern the pre-demolition abatement and disposal of regulated building materials:

- RCRA;
- 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 is determined and the manner in which they are removed, handled and disposed. 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, MassDEP has jurisdiction over most activities involving the abatement and off-site management of regulated building materials. 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 under the Secretary of State's Code of Massachusetts Regulations (CMR) that govern pre-demolition abatement, off-site recycling 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);
- MCP at 310 CMR 40.0000; and
- Massachusetts Hazardous Waste Regulations at 310 CMR 30.0000.

There are numerous policy and guidance documents that also regulate the handling, transportation and management of regulated building materials.

Sampling protocols for the inspection and assessment of asbestos containing building materials are based upon the following U.S. EPA guidance documents:

- The Asbestos Hazard Emergency Response Act, 40 CFR Part 763;
- Asbestos in Buildings: A Simplified Sampling Scheme for Friable Surfacing Materials, (EPA Document 560/5-85-030a, October, 1985);
- Asbestos Exposure Assessment in Buildings, Inspection Manual (Yellow Book); and
- Guidance for Controlling Asbestos-Containing Materials in Buildings (EPA Document 560/5-85-024).

Evaluation of Cleanup Alternatives

Cleanup Alternative A – No Action

The 'no action' alternative is not feasible, since abatement of regulated building materials is required before building demolition can commence. Therefore, no further consideration of this alternative will be made.

Impacts on Regional Climate Change Projections: As the 'no action' alternative is not feasible, a discussion of the impacts of climate change is not applicable.

Cleanup Alternative B – Conventional Abatement

As discussed previously, abatement measures and off-site management requirements for all regulated building materials, including the handling, transportation, disposal and documentation requirements are very prescriptive and there are few opportunities to deviate from those requirements. This alternative includes complete compliance with all regulatory requirements.

While a few situations exist (i.e. the basement and first floor of Building 28 North and possibly of other select areas and floors of the building) where some degree of conventional abatement can be performed, the vast majority of the building will require demolition to establish a safe working environment. This approach would require an inordinate amount of work to create a safe working environment for conventional abatement and off-site disposal of segregated ACBM at appropriately licensed disposal facilities. While the approach would be effective and is implementable, it could only be accomplished at great expense. Consequently, only a small amount of abatement work could be accomplished with available funding. Due to the huge expense to address unsafe building conditions and transporting wastes to receiving facilities, plus adverse impacts to the environment due to emissions from transport vehicles, conventional abatement will have limited application on this project.

Impacts from Regional Climate Change Projections: The Northeast Region is projected to see increased temperatures in addition to an increase in the magnitude and frequency of heavy precipitation events should changes to regional climate characteristics continue. An increase in heavy precipitation events increases the potential for flooding. For Conventional Abatement, regional climate change impacts would not be expected to have any influence over the successful completion of the proposed work. As this project encompasses the abatement and off-site management of regulated building materials, all such materials would be removed and disposed of at appropriate facilities – no hazardous materials to be managed as part of the proposed project will be managed on-site.

Cleanup Alternative C – Non-Traditional Asbestos Abatement Work Plan

As a Brownfield Support Team (BST) site, there has been significant discussion and a willingness on the part of MassDEP to relax certain abatement requirements, given the magnitude of the project and site-specific circumstances that enable abatement to proceed without many of the work zone set-up and monitoring requirements. That is primarily due to the quantities of asbestos containing building materials, the poor structural condition of much of the building to be demolished and, with the exception of asbestos workers, there are no sensitive receptors in the immediate vicinity of the work. In this case, the attached documentation shows the subject building has deteriorated to the point that conventional asbestos abatement can only be implemented in the basement. In addition, the City will seek a Non-Traditional Asbestos Abatement Work Plan similar to what has been obtained for past abatement and demolition projects (former Uniroyal Buildings #7, #8, #14 & #33) where conventional abatement was determined to be cost prohibitive or technically infeasible. Under this alternative, permission to relax work zone preparations and to wash and recycle non-porous materials (i.e. metals) and re-use certain semi-porous materials (i.e. asphalt, brick and concrete) on-site will be sought under a Non-Traditional Asbestos Abatement Work Plan.

A similar initiative, a Beneficial Use Determination (BUD) for the re-use of building materials (primarily including coated asphalt, brick and concrete) onsite, will be submitted to MassDEP for review and approval. Re-use of these materials, on-site as backfill, will result in significant project cost savings. Assuming the waste characterization data for the Uniroyal Buildings support on-site re-use of coated ABC materials, it is anticipated that a BUD approval through the MassDEP Solid Waste Section will be granted. While there will be site-specific conditions issued with such approval, significant savings would be realized and any such re-use will be implemented in a manner that is protective of human health and the environment. Furthermore, significant benefits to the environment would be realized, since there would be limited off-site trucking (lower fuel consumption and lower emissions) and much less need to consume valuable landfill space.

Impacts from Regional Climate Change Projections: The Northeast Region is projected to see increased temperatures in addition to increase in the magnitude and frequency of heavy precipitation events should changes to regional climate characteristics continue. An increase in heavy precipitation events increases the potential for flooding. For Alternative Work Practices, regional climate change impacts would not be expected to have any influence over the successful completion of the proposed work. As this project encompasses the abatement and off-site management of regulated building materials, all such materials would be removed and disposed of at appropriate facilities – no hazardous materials are to be managed as part of the proposed project would be expected to be managed on-site. Design for on-site reuse of coated ABC, if any, under a BUD, would need to ensure that it is placed above seasonal high groundwater levels, minimizing any risk of groundwater impacts during a future flooding event.

Cost Estimates for Each Alternative

Cleanup Alternative A – No Action
Not Applicable

Cleanup Alternative B - Conventional Abatement
Conventional abatement of asbestos and other regulated building materials is only feasible for the basement of Building #28 North. The estimate of probable pre-demolition abatement costs for the regulated building materials related to all of the remaining buildings located within the Uniroyal Complex is well over $4 million. For the project contemplated under this ABCA, pre-demolition abatement, using conventional methods (including building stabilization and a 20% contingency) is estimated to cost over $600,000.

The abatement methods to be involved are routinely provided on similar projects and there is little concern that these methods would not be effective. The vast majority of the building will require some degree of stabilization and/or sequential demolition to establish a safe working environment.

Cleanup Alternative C – Non-Traditional Asbestos Abatement Work Plan
Using the Non-Traditional Asbestos Abatement Work Plan approach for this project would include the following:

- Preparation, submittal and approval of a NTWP, under MassDEP's Air Quality regulations;
- Relaxation of the pre-abatement work zone preparation requirements and construction of critical barriers at only windows, doors and other means of access and egress;
- Preparation, submittal and approval of a beneficial reuse determination (BUD) application to MassDEP, under its Solid Waste Program;
- Segregation and on-site washing and off-site recycling of non-porous materials (i.e. metals);
- Segregation and on-site washing and re-use of semi-porous coated and uncoated materials (i.e. asphalt, brick and concrete);
- Off-site management of commingled ACBM and building demolition debris; and
- Any other conditions that may be identified in MassDEP's approval of the NTWP.

The estimate of probable costs for implementation of a MassDEP approved Non-Traditional Abatement Work Plan, including BUD compliance activities is $340,000, taking into account that the associated abatement costs are partially reflected in the demolition costs for off-site management of commingled ACBM and demolition debris.

Recommended Cleanup Alternative

It is recommended that Alternative C – Non-Traditional Asbestos Abatement Work Plan be the selected cleanup alternative.

ENGINEERING SUCCESS **TOGETHER**

January 31, 2018

Mr. Lee Pouliot, AICP, ASLA, Director
Department of Planning & Redevelopment
274 Front Street, Fourth Floor
Chicopee, Massachusetts 01013

Re: **Structural Condition of Middle Tier Uniroyal Buildings**
Buildings #28S, #28N and #28N-Extension

Dear Mr. Pouliot:

As discussed, the current structural condition of the subject Middle Tier Buildings at the Uniroyal Site will limit conventional asbestos abatement to the basements of the buildings. The remainder of the hazardous materials abatement work will need to be done under a non-traditional work plan (NTWP), similar to the approach employed on the lower tier buildings. Conventional hazmat abatement was first used in the basements, the windows and PCB-impacted substrate were removed from the exterior of the buildings using man-lifts, and the building demolition proceeded with the commingling of hazardous materials with demolition debris. Under a MassDEP-approved NTWP, the structural steel and other metals were segregated, washed, inspected and recycled off-site. The other non-porous and semi-porous materials (mostly consisting of bricks and concrete) followed a similar protocol and was eventually crushed and placed back onto the Site. Any similar "coated" semi-porous materials were also covered under a MassDEP-approved Beneficial Use Determination (BUD).

Over the past several years, BETA representatives have observed hazardous materials and related structural conditions throughout the subject buildings. More recently, we have conducted supplemental sampling and analyses for PCBs in substrates. During that activity, we noted that the buildings have experienced significant deterioration due to water intrusion from the roofs and the exterior building envelope, particularly at the southern end of Building #28S where exposure to the elements has resulted in an acceleration of that deterioration. Most of the interior wooden floor areas are now considered very unsafe, as there are gaping holes in the wooden floor and rot conditions throughout the building. This condition is further exacerbated by the fact that the asbestos containing materials are primarily related to insulation on piping systems that has fallen to and become intermingled with the wet and rotted floor boards. This widespread condition, along with the fact that workers cannot safely access the asbestos impacted areas, including the roof, makes conventional asbestos abatement methods infeasible.

Please call either of the undersigned with any questions.

Very truly yours,
BETA GROUP, INC.

Mark Gershman, P.E.
Vice President

Alan D. Hanscom, LSP
Vice President

Attachments

- Photo Logs for Buildings #28S, #28N and #28N-Extensions

BETA GROUP, INC.
1 Springfield Street, Suite 4, Chicopee, MA 01013
P: 413.331.5326 | F: 413.331.5327 | W: www.BETA-Inc.com

City of Chicopee

Former Uniroyal Facility

Buildings 28 North, 28 North Extension, 28 North East Extension and 28 North Addition

Structural Issues Photo Log

January 2018

BETA GROUP, INC.
1 Springfield Street, Suite 4, Chicopee, MA 01013
P: 413.331.5326 | F: 413.331.5327 | W: www.BETA-Inc.com

Photo 1: Uniroyal Bldg. 28N 1st Floor – Deteriorating Floor (West Side).
1/22/2018

Photo 2: Uniroyal Bldg. 28N Ext. 1st Floor – Hole through floor and foundation wall (Northwest corner).
1/22/2018

Photo 3: Uniroyal Bldg. 28N 1st Floor – Hole in wall to 28N East Ext. (Northeast Area). 1/22/2018

Photo 4: Uniroyal Bldg. 28N 1st Floor – Steel plates on floor collapsing (Center Area). 1/22/2018

Photo 5: Uniroyal Bldg. 28N 1st Floor – Hole in floor partly covered with steel plate (West Side).
1/22/2018

Photo 6: Uniroyal Bldg. 28N 1st Floor – Crack in exterior support column (Center of exterior west wall).
1/22/2018

Photo 7: Uniroyal Bldg. 28N 1st Floor –Floor collapsing (Center Area).
1/22/2018

Photo 8: Uniroyal Bldg. 28N East Ext. Roof – Windows missing from raised glass area, open to structure below.
1/22/2018

Photo 9: Uniroyal Bldg. 28N Addition 2nd Floor – Holes in Roof.
1/22/2018

Photo 10: Uniroyal Bldg. 28N 4th Floor – Ceiling collapsing (Center Area).
1/22/2018

Photo 11: Uniroyal Bldg. 28N Ext. 4th floor - Heavy water damage to floor (Northwest corner).
1/22/2018

Photo 12: Uniroyal Bldg. 28S wall with Bldg. 28N - Inaccessible from stairwell due to heavy floor damage (Northwest corner of 28S near door to 28N).
1/22/2018

Photo 13: Uniroyal Bldg. 28S 5th floor – Hole in floor near door to 28N.
(Northwest area of 28S near stairwell).
1/22/2018

Photo 14: Uniroyal Bldg. 28N Ext. - Heavy loss of brick (Under exterior lintel North Side).
1/22/2018