

Environmental Transactions and Brownfields Committee Newsletter

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MESSAGE FROM THE CHAIR

Gene Schmittgens, Esq.

“If you want to keep on getting what you’re getting, keep on doing what you’re doing.” — Les Brown

Sometimes I think we tend to do things in a certain way because we have always done them that way. We find something that works, and we repeat it over and over again because it works; at least most of the time. Usually though, the results tend to diminish over time. It is at this point that we need to remember that if the results are diminishing, then we need to innovate.

Merriam Webster defines innovation as “the introduction of something new; a new idea, method, or device.” In business, we often hear the theme “innovate or die.” Therefore, change is inevitable and necessary just to keep up. As a result, we look for better ways of getting the results we originally were seeking.

Brownfields redevelopment is a lot like the cycle described above. All sites were originally treated the same under the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA). We got results in that some sites were cleaned, but the process was slow and cumbersome. EPA then initiated its Brownfields program which streamlined the process. We also were introduced to concepts such as risk-based corrective action, state voluntary remediation

programs and incentive programs, which allowed some streamlining of the remediation process as well.

Problems remained, and we saw Congress attempt to further streamline the process with the *Small Business Liability Relief and Brownfields Revitalization Act*. While these statutory changes helped streamline the process further and added potential relief from CERCLA’s liability regimen, the redevelopment of contaminated sites remains stagnant. Unfortunately, there are limits to what government can do to innovate. There are constraints on how flexible the state and federal governments can be when it comes to directing the remediation of Brownfield sites. Many states have tried various innovation programs to encourage redevelopment of problem sites. This has resulted in a mish-mash of strategies, financing and remediation targets.

Just like the development of a due diligence process for real estate transactions, the private sector has taken the lead in finding new and better ways of addressing contamination. This issue of our newsletter is dedicated to discussing some of the ways innovation has occurred in the Brownfields redevelopment process, as well as what might be done to provide further innovation in the process.

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Brownfields Committee Newsletter
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Thomas R. Doyle, Robert R. Gelblum, and
Lindsay P. Howard, Editors

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May 18-19, 2017
2017 Petroleum Marketing Attorneys' Meeting
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Washington, DC

June 15, 2017
**A Legal Review of State Incentives for Nuclear
Power & FERC's Response**
Washington, DC
Primary Sponsor: Energy Bar Association

October 18-21, 2017
25th Fall Conference
Baltimore Waterfront Marriott
Baltimore, MD

April 16-18, 2018
36th Water Law Conference
Hilton Bonnet Creek
Orlando, FL

April 18 - 20, 2018
47th Spring Conference
Hilton Bonnet Creek
Orlando, FL

October 17- 20, 2018
26th Fall Conference
Marriott Marquis San Diego Marina
San Diego, CA

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The first two articles discuss whether the new Administration will be a catalyst for new innovations to spur Brownfields redevelopment, as well as some suggestions for changes to further encourage redevelopment. The third article discusses remediation strategies at three contaminated sites that involved new technologies. Finally, the fourth article discusses innovations in two states designed to help with the development of Brownfields sites.

It is our hope that this issue of ETAB's newsletter will encourage further discussion on how to better work toward the development of innovative ways to address Brownfields properties. This will require input from all the principals: the federal, state and local governments, developers, and communities affected by the sites, as well as the legal and technical communities. We hope you find this newsletter interesting. As always, feel free to reach out to me with any questions or comments.

Gene Schmittgens is a partner at Douthitt Frets Rouse Gentile & Rhodes and is chair of the Environmental Transactions and Brownfields Committee.

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COULD TRUMP BE CATALYTIC FOR BROWNFIELD REDEVELOPMENT?

Todd S. Davis, Esq.

Hemisphere Development LLC
Bedford, Ohio

“Crazy EPA Tree Huggers Need to Slash Red Tape, Encourage Job Creation and Clean-up Properties Faster! I Could Do 1,000 Times the Projects Myself in My Sleep!”

OK. Think long and hard. Is this a real tweet from President Donald Trump or merely fabricated by an imposter? Hard to tell—right? Before disclosing the truth about this tweet, one message is absolutely clear: President Trump currently is no fan of U.S. EPA, its state counterparts or the “crushing” environmental regulations imposed on business. To put it mildly, many environmental regulators and stakeholders are frightfully concerned what a new Trump administration will do to the agency that candidate Trump vowed to dismantle. In response, if I needed to identify one environmental program the new Trump administration not only should embrace but also find support for from across the aisle, it would be Brownfield redevelopment.

Why Brownfields?

Do I even need to explain why real estate developer Donald Trump would support Brownfield redevelopment? Just in case, I’ll take a quick stab at the rationale:

1. **Regulatory Reform:** Trump ran on an agenda of regulatory reform. Incentivizing private parties to tackle many of the nation’s most challenging urban infill sites to spur job creation and community revitalization is completely consistent with his campaign rhetoric and policy reform agenda.
2. **Infrastructure Investment:** As many Brownfield practitioners understand, Brownfield redevelopment can easily be viewed as a sustainable investment in urban infrastructure. In fact, the best Brownfield projects leverage existing infrastructure investments and combat

urban sprawl. Certainly, Mr. Trump’s candidacy was premised on significant new infrastructure investments—and Brownfields check that box.

3. **Tax Reform:** Trump understands leverage. Trump understands incentives. Adopting a comprehensive tax credit program modeled after the wildly successful low-income housing tax program would jump-start a wave of Brownfield redevelopment, while at the same time meaningfully remediate significantly blighted properties plaguing our communities.

I can go on and on. The main point is that for environmental regulators looking for a way to ingratiate themselves on a substantive policy initiative the new boss will favor—Brownfields are the ticket!

The Art of the Brownfields Deal

Great. Now that you are completely convinced Brownfields are due for a major uptick, query: How should a Trump EPA structure its new emphasis on Brownfield redevelopment? From my perspective, a quick review of the main takeaways from Mr. Trump’s 1987 best seller, *The Art of the Deal*, tells you all you need to know.¹

1. **Think Big:**

“I like thinking big. I always have. To me it’s very simple: if you’re going to be thinking any way, you might as well think big.”

It’s hard to argue with that sentiment. Therefore, a Trumpian Brownfields program should move way beyond small grants, strategically and politically doled out to communities and a conference every 18 months, to encompass a comprehensive program with two simple elements:

A.. **One Cleanup Program:** Really—it’s possible. Federal programs can be modified to clearly allow deferral to state voluntary cleanup programs. No lawyer worth his/her salt could explain why all contaminated sites cannot or should not move through state voluntary cleanup programs. The benefits would be astonishing,

including lower transaction costs, leveraging private investments and much faster remedy implementation.

B. Meaningful Tax Credits: U.S. EPA should adopt a national program of tax credits modeled after the low-income housing tax program to provide truly meaningful incentives to spur Brownfield redevelopments. The current mish-mash of state incentives has done little to move the needle to encourage significant capital inflows to these challenging projects. A true tax credit program would encourage enormous capital flows to this sector.

2. Consider All the Options:

“I never get too attached to one deal or one approach . . . I keep a lot of balls in the air, because most deals fall out, no matter how promising they seem at first.”

U.S. EPA should encourage all types of contaminated sites to participate in the Brownfield redevelopment program. Even large sites with limited redevelopment options would benefit from a voluntary cleanup approach instead of a “top-down” command and control model.

3. Create the Best Deal:

“Perhaps the most misunderstood concept in all of real estate is that the key to success is location, location, location . . . First of all, you don’t necessarily need the best location. What you need is the best deal.”

This statement is merely a Trump corollary to the previous point. Lowering the financial risks to Brownfield projects would not only encourage investment in well-located sites, but also spur investments in “great deals.” Remember, a great deal from the perspective of a Brownfield owner is the ability to reduce risk and reduce cost. Large companies threatened with the “choice” of a faster, more predictable, less expensive Brownfield-type voluntary cleanup would find tremendous benefit in avoiding a prescriptive CERCLA or RCRA enforcement action, which ultimately would result

in the same cleanup—albeit slower, more complex and vastly more expensive.

4. Have Fun:

“Money was never a big motivation for me, except as a way to keep score. The real excitement is playing the game.”

For many practitioners and regulators alike, having the opportunity to participate in a successful Brownfield deal is both rewarding and fun. At the risk of providing too much personal information, the most fun I have ever had as a professional involved dirty, dirty property! Increased focus on a transaction-based national policy encouraging voluntary cleanup will yield better results and be more rewarding for all stakeholders.

Making Brownfields Great Again!

Admittedly, my message was delivered with just a bit of whimsy. As for the truth behind the tweet—you’ll need to do your own research to find the answer. In all seriousness, the objective facts portend a dramatic shift to more aggressive support for Brownfield redevelopment and voluntary cleanup programs. Both federal and state regulators can leverage their positions and resources by overseeing these programs instead of bogging down the pace of cleanups through currently rigid regulatory approaches. Without a signature issue that the new Administration, as well as the Democratic minority, actually could support, it will be a very long four or eight years at U.S. EPA. Time to take a good program and make it great again!

Todd S. Davis, Esq., is the CEO of Hemisphere Development LLC, a nationally recognized Brownfield development firm and primary author of the ABA’s best selling treatise *Brownfields: A Comprehensive Guide to Redeveloping Contaminated Property* (3rd ed. 2010 ABA).

Endnote

¹ See <http://brandongaille.com/24-noteworthy-quotes-from-the-art-of-the-deal>.

MAKING BROWNFIELDS GREAT AGAIN: AN EXECUTIVE BRANCH STRATEGY TO REVITALIZE “RUSTED-OUT FACTORIES” AND SUPPORT COMMUNITY REDEVELOPMENT

Scott A. Sherman, Esq.
Houston, Texas

In his Inaugural Address, President Trump gave voice to the collective demands of Americans in search of “great schools for their children, safe neighborhoods for their families and good jobs for themselves.”¹ As the President readily recognized, however, “a different reality exists” in many communities, with “rusted-out factories scattered like tombstones across the landscape of our nation.”² To address this sad legacy of a prior era and rebuild infrastructure that “has fallen into disrepair and decay,”³ President Trump called for sweeping changes to the way the federal government operates and made clear his intent to address institutional failure.

While the political pundits and bloggers largely criticized the President’s speech as dark, bleak and raw,⁴ Brownfields practitioners will readily recognize the America that he described. The direct line drawn by the President connecting abandoned factories with underperforming schools, unsafe neighborhoods, and the lack of meaningful jobs mirrors the narrative embraced by long-time supporters of the cleanup and redevelopment of Brownfield sites. One need only scan the list of sessions from the array of EPA Brownfield conferences and events over the past decade to find these themes repeated again and again.

Yet, 15 years after amending CERCLA and adopting EPA reforms to address the core environmental barriers to the remediation and reuse of these sites,⁵ it is time to take stock of our efforts and consider whether a more visible, interdisciplinary and deal-oriented approach is merited.

The environmental bar and related stakeholders engaged early, making clear that we no longer were content to let well-positioned and otherwise

valuable properties linger underutilized and contaminated. Working contemporaneously with trends in urban infill and adaptive reuse, we have been able to reform statutes and regulations, establish tax and financial incentive programs, and support local leaders, impacted communities, real estate developers, and planners. EPA—through its Office of Land and Emergency Management⁶ and related enforcement program—has done its job well, promulgating the All Appropriate Inquiries regulation, exercising enforcement discretion that limits the scope of liability for new owners, awarding grants for community “visioning activities” and “charrettes,” and planning conferences.

Unfortunately, technical and programmatic environmental reforms—by their very nature—can only go so far in fulfilling the promise of securing Brownfields redevelopment. Certainly we can have success at well-located sites with financially feasible remedial requirements in high demand areas, and the Superfund program is the appropriate vehicle to address the most threatening facilities, particularly in the absence of viable, liable parties. However, these approaches only address sites at the far ends of the redevelopment spectrum and will not be sufficient to reach all of the properties and communities described by the President or to foster their reuse as part of a rebuilt and robust country.

The decision, for example, to repurpose a cellophane wrap manufacturing facility in Cleveland for an HVAC assembly plant presents decision makers with concerns well beyond implementing readily definable CERCLA and state voluntary cleanup program requirements. In a landmark study, the environmental engineering and design consultancy Arcadis looked closely at corporate America’s attitudes toward and success with putting their surplus properties back into productive use.⁷ In its survey, Arcadis found the divestiture of surplus property to be a “passive activity,” with companies disposing of properties “one by one, as and when the opportunity occurs.”⁸ What is missing, according to the consultancy, is the “consideration or knowledge of how to present

property assets to potential investors in a way that maximizes their appeal and value.”⁹ Add to that the weight of Sarbanes-Oxley, SEC Staff Accounting Bulletins, and FASB statements and interpretations regarding asset retirement obligations, and it is no wonder that corporate surplus property portfolios remain locked up, and “rusted out factories” litter the urban landscape described by the President.¹⁰

Fortunately, marketing real property assets and designing complex financing mechanisms would appear to align with the President’s business background and the articulated economic goals of his administration. In his statement appointing former Goldman Sachs executive Gary Cohn to lead the National Economic Council, President Trump stated that Cohn “will help craft economic policies that will grow wages for our workers, stop the exodus of jobs overseas and create many new opportunities for Americans who have been struggling.”¹¹ Perhaps Mr. Cohn will soon add a Brownfields component to the President’s directive.

A renewed and newly focused Brownfields strategy should be at the center of this mandate, one that fosters financial structures and market forces that will encourage companies to open up their surplus property portfolios and prompt equity investors to take a long-term view of these opportunities. To help spur this initiative, the White House could consider the appointment of a Brownfields Maven¹² to pull together an interdisciplinary team of stakeholders from both the private sector and the Executive Branch. The private sector would appear to be more than willing to offer expertise, given the responsiveness of Ford, Carrier, Boeing and others to the President’s direct engagement since his election. Career managers at the General Services Administration, the Securities and Exchange Commission, Housing and Urban Development, and the Department of Commerce must be involved as well, given their struggles with the challenges of repurposing contaminated sites, with EPA providing technical support. Their colleagues at the Department of Defense and the Department of Energy likewise have unique

insights into revitalization concerns from their decades of work under their specific statutory programs.

The Brownfields Maven should challenge the team to examine what it will take to make Brownfield sites available for new manufacturing facilities, the expansion of existing operations, the rebuilding of urban communities, and siting energy facilities in an “all of the above” strategy. In doing so, the team should take a deep dive into the business drivers leading companies to hold onto contaminated or deteriorating assets and, accordingly, the “holding costs, compliance and reputational risks” of doing so, as described by Arcadis.¹³

Topics and issues for consideration could include:

- whether Sarbanes-Oxley, FASB Statement 143, and FIN 47 effectuate a mischaracterization of corporate surplus properties, hindering their potential reuse;
- the viability of Brownfield-focused debt funds to provide mezzanine-like capital to support property repositioning;
- the creation of hybrid private equity-pension fund special purpose entities that can bring together the risk appetite of Wall Street with the long-term patience of institutional investors;
- matching large sites with designated critical infrastructure needs;
- providing marketing assistance to small businesses to help them favorably position their mothballed properties for redevelopment;
- building on the RE-Powering America’s Land initiative (an EPA-DOE collaboration) to encompass and support all energy sources;
- expanding the urban and environment focused programs of financial institutions to specifically encompass Brownfield sites¹⁴; and
- launching a new, national nonprofit concentrated on transforming lightly impacted properties into housing, schools and health-care clinics in urban areas.

Taken together, these deal-oriented areas of inquiry can build upon the earlier successes of the environmental reforms undertaken by EPA in the 2002–2008 time frame. Since that time, and with most cherry-picking complete, the President’s call for sweeping change holds the most promise for reaching corporate decision makers and their surplus Brownfield properties. As I previously have written in the urban rivers context, we need not look any further than post-Katrina New Orleans, the Superstorm Sandy-battered Northeast and bankrupt Detroit to see how the political will for problem solving can emerge and deliver real results when our urban areas are hurting and traditional solutions will not work.¹⁵

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Endnotes

¹ President Donald J. Trump, Inaugural Address (Jan. 20, 2017), available at <https://www.whitehouse.gov/inaugural-address>.

² Id.

³ Id.

⁴ See, e.g., T.A. Frank, “Trump’s Dark, Raw Inauguration Speech Shocks Washington,” VANITY FAIR, Jan. 20, 2017; WGBH News, Trump’s Inauguration Speech Painted a “Dark, Bleak Picture of America” (Jan. 23, 2017) (quoting Charlie Sennott, Director, Ground Truth); see also Emily Zanotti, *Media Agrees: Donald Trump’s Inauguration Speech Was “Dark,”* HEATSTREET, Jan. 20, 2017 (citing a collection of “left-

leaning outlets”).

⁵ Small Business Liability Relief and Brownfields Revitalization Act (SBLRBRA), Pub. L. No. 107-118 (Jan. 2002); Standards and Practices for All Appropriate Inquiries, 70 Fed. Reg. 66,069 (Nov. 1, 2005). See also, EPA, Brownfields Policies and Guidance (implementing SBLRBRA), available at <https://cfpub.epa.gov/compliance/resources/policies/cleanup/brownfields/>.

⁶ Formerly the Office of Solid Waste and Emergency Response, which includes the Office of Brownfields and Land Revitalization, the Federal Facilities Restoration and Reuse Office, the Superfund Redevelopment Initiative, and the RCRA Corrective Action program.

⁷ Arcadis, SURPLUS PROPERTY: ASSET OR LIABILITY? (2014) (“Arcadis”).

⁸ Id. at 5.

⁹ Ibid.

¹⁰ For a foundational discussion of the relationship between environmental disclosure requirements and Brownfields, see C. Gregory Rogers, “Environmental Financial Disclosure Rules and Their Impact on Brownfields Transactions” (American Bar Association, Section of Environment, Energy, and Resources, 2008).

¹¹ *Trump to Appoint Goldman Sachs President Gary Cohn as “Top Economic Adviser,”* WASH. POST, Dec. 12, 2016.

¹² Yiddish for an expert or authority. Y. Emmes, DREK!: THE REAL YIDDISH YOUR BUBBE NEVER TAUGHT YOU (Plume 1998). “Makher” (big shot or someone with the power to make things happen) is another option. The Russian title “Czar,” as in “Drug Czar” and “Car Czar,” should be avoided following the 2016 election for obvious reasons.

¹³ Arcadis at 2.

¹⁴ Examples of engagement by financial institutions in urban and environmental projects include Goldman Sachs’s Urban Investment Group, Citi’s Environmental Finance Initiative, and JPMorgan Chase & Co.’s Sustainable Finance.

¹⁵ S. Sherman, *Superfund Money Not a Good Fit for San Jac*, HOUSTON CHRON., July 29, 2016, at A19.



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INNOVATIVE REMEDIATION STRATEGIES AT REDEVELOPMENT SITES

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Brownfield sites with complex physical settings, such as weathered or fractured bedrock and deep contaminants, complicated chemical and physical composition of contaminants, and operating or redevelopment complications, can pose problems for the effective use of traditional remedies. The conditions at these sites make it difficult to reach end-point remedial goals. In addition, unique source distribution of multiple contaminants often leads to ineffective or inefficient use of traditional remedies. These challenging sites require innovative remedial technologies and creative thinking to reach remediation goals and allow redevelopment to occur on schedule and on budget. Of course, proper characterization and delineation of contamination are essential for the successful use of innovative remedies, just as they are for traditional cleanup approaches.

Traditional remediation strategies for treating volatile organic compounds (VOCs) have greatly evolved over the last 20 years. Newer treatments focus on contaminant destruction, rather than reduction by such traditional remedies as pump and treat or soil vapor extraction. Innovative contaminant destruction, along with chemical and biological manipulation techniques, are creatively designed to successfully achieve best-value outcomes (regulatory closure) for responsible parties. Treatability and design pilot testing is performed in order to help develop, screen, and provide detailed feasibility evaluations of innovative remedial solutions for impacted sites. Full-scale remedial strategies often incorporate multiple technologies for achieving source reduction and plume migration control

objectives and are combined with appropriate risk and engineering controls to prevent potential contaminant exposure under the intended redeveloped or future use scenario for a site. This article examines three Brownfield projects and how treatment of VOCs required creative remedial approaches to conquer the challenges posed at each of the sites and allow redevelopment to proceed.¹

Demonstration Projects

CVOC Combined Remedy in a Fractured Bedrock Setting—Missouri

This 330-acre site was used for telecommunications manufacturing since the 1950s and had numerous areas of solvent and cutting oils storage, handling and disposal across the one-million-square-foot building interior. The scale and size of the multiple source areas and their proximity to off-site receptors posed significant challenges to the cleanup design. In addition, the site was in the process of being redeveloped into a corporate/university office center and was occupied and being converted during the cleanup. Thus, the remedial actions had to be coordinated with redevelopment actions and use of the building. The geology of the site consists of weathered bedrock near the surface that becomes less weathered (i.e., more competent) at depth added complexity, but also was integral to the success of the final remedial design.

Both traditional remedial strategies (soil vapor extraction, soil excavation and disposal, groundwater use restrictions and institutional controls) and an innovative engineered funnel and gate (F&G) permeable reactive barrier (PRB) were implemented to control or eliminate exposure to chlorinated volatile organic compounds (CVOCs). Use of institutional controls, an engineered barrier, focused soil excavation and disposal, and the F&G PRB (engineering control) was selected based on its ability to prevent and/or eliminate exposure to CVOCs via soil leaching to groundwater, groundwater ingestion, dermal contact and inhalation exposure pathways, and the groundwater ingestion exposure pathway at multiple source areas.

An F&G is essentially the installation of impermeable “wings”—slurry wall funnels that direct groundwater to the treatment “gate” located at the leading edge of a groundwater plume. The gate is where a chemical reducing agent (in this case, zero valent iron) is applied that reductively dechlorinates the CVOCs to innocuous by-products. A key to this design is a hard, geologic bottom “key-in” layer for F&G construction preventing the contaminants from flowing across and not migrating vertically. In this case, an F&G PRB trench, consisting of a 950-foot-long main funnel and gate system, and 50-foot-long upgradient pilot performance trench, were installed in a fractured bedrock aquifer. Trench construction involved installation of an 8-foot-deep excavation bench cut in the soil overburden to facilitate a stable work platform for trenching the underlying bedrock. An 18-inch-wide trench cut was installed in the remaining shale/limestone bedrock in order to key the PRB into the underlying crystalline limestone. PRB construction and site restoration were completed over a six-month period, followed by a three-year PRB performance groundwater monitoring period with monitoring wells installed in the pretreatment area, the treatment area (the gate) and the downgradient, post-treatment area. Performance monitoring results indicated greater than 99 percent (%) reduction of CVOC within the PRB and prevention of off-property plume migration. Following the performance monitoring period, the site received a Certificate of Completion from the Missouri Department of Natural Resources.

In-Situ Chemical Reduction via Soil Blending and Direct Injection - Kansas

CVOC contamination was identified at a rail car cleaning facility in Kansas based on historical process water management activities. Spent chlorinated solvents (mainly 1,1,2-trichloroethane (TCA)) from rail car cleaning operations were historically stored in surface impoundments, resulting in soil and groundwater contamination beneath a former “Dirty Pond” source area. Free-phase dense non-aqueous phase liquid (DNAPL) was indicative based on 1,1,2-TCA groundwater

concentrations greater than 1 million parts per billion (ppb). This extremely high concentration of contamination is very hard to address with conventional remedial systems, which have limited capacity to achieve regulatory objectives. The high levels of TCA and DNAPL combined with complex geology, consisting of 20 feet of unconsolidated soil and a weathered bedrock barrier sitting on top of competent bedrock, were the significant variables leading to an innovative remedial design.

Greater than 135,000 pounds of *in situ* chemical reducing (ISCR) “cocktail” were applied to the source area to dechlorinate the TCA parent compound. Unlike the treatment application in the gate described in the F&G remedy above, the ISCR agent was blended with contaminated media because the source area was an open area without operational or building constraints. ISCR remediation success is predicated on being a “contact sport.” Blending of the impacted aquifer materials aggressively increases the contact of the ISCR agent with the contaminants. In this case, the contractor used specially-built, proprietary soil blending equipment attached to a track backhoe excavator. The ISCR agent selected for this application consisted of lactates, fatty acids, alcohols, a phosphate buffer, and zero valent iron (i.e., Redox Tech’s ABC®+ product) and was designed to enhance reductive dechlorination of TCA and its breakdown products. *In situ* blending ensured even agent distribution and contact with the impacted aquifer media down to underlying bedrock. An additional 24,280 pounds of ISCR agent were applied through 147 Geoprobe® injection points immediately downgradient of the soil blending (former Dirty Pond) source area to help control migration of the dissolved plume area. Approximately 18 months after remedy implementation, concentrations of key CVOCs had been reduced by greater than 99.9% in the source area monitoring wells. The reuse transaction for the site closed and the new tenant’s operations were able to proceed during the remediation and performance monitoring process.

Combining Multi-Source Area Removal and ISCR at a Former Chemical Distribution Facility - Indiana

This site was a former chemical manufacturing facility that was the anchor parcel for an industrial park redevelopment project. A series of subsurface (soil and groundwater) investigations at the site indicated that the shallow soil and groundwater contained VOCs at six (6) source area releases. The VOCs at the site consisted primarily of chlorinated solvents, including trichloroethylene (TCE), TCA, tetrachloroethylene (PCE), and the associated daughter breakdown compounds, such as cis-1,2-dichloroethylene (cis-1,2-DCE) and vinyl chloride. However, given the various historic operations at the site, chemical distribution was difficult to clearly delineate and generally assumed to be spread across the site. Given the clay geology, making extraction of fluids and vapors with traditional methods difficult, excavation was determined to be the most effective remedy. The use of a site-wide grid for soil sampling combined with innovative ex-situ treatment to reduce concentrations to non-hazardous disposal criteria led to a very cost-effective and timely remediation.²

A 10-foot-square site sampling grid and an on-site mobile analytical laboratory were utilized to collect and analyze over 900 soil and groundwater samples in real time in order to delineate six CVOC source areas and facilitate *in situ* waste characterization of soils. Based upon the remedial pilot test results, feasibility analysis, and remedial objectives for the site, a combined strategy of source removal via soil excavation, limited *ex situ* ISCO treatment of characteristically hazardous soils, ISCR treatment of groundwater and institutional controls was selected and implemented to achieve approved regulatory closure in a practical and cost-effective manner. Excavation of over 15,900 tons of CVOC-impacted soils was completed in six remediation areas of concern. The risk-based soil Remedial Objectives (RO) for TCE for subsurface and surface soils were 36 mg/kg and 24 mg/kg, respectively. Greater than 1100 tons of soil were determined to be characteristically hazardous, and were therefore treated *ex situ*, utilizing chemical oxidation for disposal as a nonhazardous, special waste. This allowed for a disposal cost savings of

approximately \$300,000. Over 12,300 gallons of ISCR amendment (Anaerobic BioChem® with zero valent iron) were injected at 42 locations within the former excavation areas and along downgradient property boundaries. Greater than 85 percent of the contaminant mass was estimated to be removed based on the RO and remediation implementation. The site has been remediated and sold as the anchor parcel in a 62-acre industrial park redevelopment.

Conclusion

The above-described projects illustrate the importance of integrating available technologies with creative design and redevelopment goals, so that innovative solutions achieve best results for the project. Cost and time savings can be achieved with creative thinking and holistic planning by consultants, lawyers and clients for successful project completion.

Anne E. Viner is a partner with Corporate Law Partners and also serves as General Counsel for WCD Group, LLC. She has practiced environmental law in Chicago for 23 years and has worked on Brownfield redevelopment projects nationwide.

Timothy Adams is a principal hydrogeologist with Roux Associates, Inc. and works out of its Oak Brook, Illinois, office. Mr. Adams has over 28 years of experience involving the design-build of innovative remedial solutions at over 200 sites impacted by chlorinated VOC and other recalcitrant contaminants in both unconsolidated and bedrock environments.

Endnotes

¹ USEPA's *Innovative Remediation Technologies: Field-Scale Demonstration Projects in North America, 2nd Edition*, 542-B-00-004, 2000, provides a cumulative collection of projects where best practices of innovative technologies were used and a holistic look at the evolution of remediation technologies in real world settings.

² Other remedial approaches, such as thermal/steam extraction, were determined to be 2.5 times more expensive than the gridding, excavation and *ex situ* treatment option chosen for the site.

THE MASSACHUSETTS AND NEW YORK STATE BROWNFIELDS TAX CREDIT PROGRAMS: WHAT WORKS AND WHAT DOESN'T

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Massachusetts and New York State (NYS) have created two of the most prominent, occasionally controversial, and frequently successful Brownfields programs in the country, in part by offering tax incentives to their private and nonprofit developers to take on the risk of remediating and redeveloping Brownfields to bring these properties back into productive use. The purpose of this article is to summarize the similarities and differences between both programs to highlight successful Brownfields program elements that may be replicated in other states, which might also be useful for federal tax policy and the EPA Brownfields Program.

1. General Background on the Programs and Tax Credits

Massachusetts

Massachusetts first created a Brownfields tax credit (the “Massachusetts Brownfields Tax Credit”) in 1998 to encourage the redevelopment of Brownfields sites. The tax credit can be up to 50% of the net cost of the work. The statute concerning these tax credits has been amended five times since it was originally enacted, in most instances in order to extend the life of the program.

There are several criteria that must be satisfied in order for Massachusetts Brownfields Tax Credits to be available for a particular project.

The taxpayer must “commence and diligently pursue” the relevant environmental response action(s) on or before August 5, 2018. This language is fairly self-explanatory. However, the

term “taxpayer” may cause issues in light of the complicated ownership structures often associated with significant real estate projects. The party performing the relevant response actions (i.e., the party entitled to the credits) must also be the party paying for the work, and should also have Massachusetts income tax liability against which the credits may be offset. Entities that are disregarded for tax purposes are also important to consider here.

A Permanent Solution¹ or Remedy Operation Status² for the site must be achieved and maintained in compliance with the Massachusetts Contingency Plan, 310 CMR 40.0000 (the MCP), the Massachusetts regulations that govern the cleanup of contaminated sites. Simply put, the cleanup must, for the most part, be completed before the tax credits are available.

If an Activity and Use Limitation, a title document to restrict future use of the subject property, is used to close out a site under the MCP, then a credit of 25% of the net response and removal costs is permitted.³ If no Activity and Use Limitation is used, then the credit increases to 50% of the net response and removal costs. This distinction reflects a clear decision by the legislature to create an incentive to clean up more rather than less.

The net response and removal costs must be incurred between August 1, 1998 and January 1, 2019. These dates are clear, but in some cases the question of what are “net response and removal costs” that have been “incurred” can be challenging. This is particularly so when trying to separate out the significant environmental and non-environmental excavation, transportation, disposal, and support of excavation costs associated with subsurface parking garages, which are frequently an important component of urban redevelopment projects.

The relevant property must be owned or leased by the taxpayer for business purposes, and the property must be located within an “economically distressed area.”⁴

The net response and removal costs must be no less than 15% of the assessed value of the property prior to “response action on or before remediation.” Meeting this criterion sounds easy, but often it is not. First, be sure to know the assessed value of the property prior to response action/remediation, and be sure to know when the response action/remediation began. A second critical factor is the question of what the term “property” means. Often, the relevant tax parcel is not the same as the relevant MCP site. As a result, interesting valuation questions arise, particularly when small portions of large, valuable tax parcels are the site of the environmental work.

The taxpayer must be an Eligible Person, as defined by Chapter 21E (the Massachusetts Superfund statute).⁵ Basically, only innocent owners or tenants of the site can qualify for the Massachusetts Brownfields Tax Credit, and those parties must not have owned or operated the site at the time the relevant contamination was released.

New York State

The NYS Brownfield Cleanup Program (BCP) was originally adopted in 2005 (BCP 1.0), and was amended in 2008 (BCP 2.0) and 2015 (BCP 3.0).⁶ The amendments have gradually limited the scope of the tax credits to properties the legislature has determined would not be remediated without an incentive. This article focuses on BCP 3.0, which includes sites entering the program after July 1, 2015 through December 2022, with remediation completed by March 2026.

Once remediation is complete, the NYS Department of Environmental Conservation (NYSDEC) issues a Certificate of Completion (COC) that entitles the BCP Volunteer⁷ to two key incentives: a state liability limitation (with standard reservations), and the right to claim Brownfield tax credits.⁸ Generally, the tax credits will be based on the cleanup level met, and whether the end use is unrestricted, residential restricted, commercial, or industrial.

The NYS Brownfield Redevelopment Tax Credit is the sum of three components: site preparation costs, tangible property costs, and on-site groundwater remediation costs.⁹ The site preparation component includes all costs incurred related to the site’s investigation, remediation, or qualification for a COC to prepare the site for development. A developer can receive between 22% and 50% of its remediation costs in the form of a refundable tax credit.

The tangible property costs are calculated from the capital costs incurred when constructing a new building or renovating an existing building on the site. The tangible property component is the lesser of (a) three times the site preparation costs and on-site groundwater remediation components, or (b) 10% percent of tangible property capital costs plus eligible site-specific bump-ups up to 24%; non-manufacturing sites are subject to a \$35-million-dollar cap, and manufacturing sites are subject to a \$45-million-dollar cap. The bump-ups are as follows:

1. Affordable housing end use – 5%;¹⁰
2. Site located in an En-Zone – 5%;¹¹
3. Site within a Brownfield Opportunity Area – 5%;¹²
4. Manufacturing end use – 5%;
5. Track 1 cleanup met – 5%.¹³

Since New York City (NYC) real estate is so desirable, NYC Brownfield sites must meet one of the following four criteria to be eligible for the tangible property credit component:

1. The property is 75% upside down, meaning that the cleanup cost is 75% of the hypothetical clean property value;
2. 50% of the site is in an En-Zone based on a five-year census survey;
3. The developer builds affordable housing as part of its end use;¹⁴ or
4. The site is underutilized.¹⁵

Finally, the groundwater remediation component is equal to the applicable percentage of the on-

site groundwater remediation costs (to the extent that such groundwater remediation costs are not included in the determination of the site preparation credit or the cost or other basis included in the determination of the tangible property credit).

2. What Is a Brownfield?

Massachusetts

There is no defined term per se for a Brownfield under the Massachusetts Brownfields Tax Credit program. However, the criteria that must be met in order for a site to qualify for the program effectively provide an operational definition: the subject property must be a site at which contamination that must be reported under the MCP has been identified; the property has to be owned or leased by the taxpayer for business purposes; the property must be located within an Economically Distressed Area; and the net response and removal costs have to be no less than 15% of the assessed value of the subject property prior to beginning the work.

New York State

Prior to BCP 3.0, the definition of a Brownfield mirrored the federal definition. BCP 3.0, however, requires that an applicant provide confirmation that a contaminant is present at levels exceeding state environmental or health-based standards for the site to be deemed a “Brownfield.” A developer will not receive tax credits for any remedial work conducted prior to acceptance into the program. Therefore, certain initial reports will not be eligible for tax credits. In BCP 3.0, eligibility for sites has been expanded to include Class 2 NYS Superfund sites without viable responsible parties, and RCRA sites.

3. Are the Credits Transferable?

In Massachusetts, yes; that has turned out to be very helpful. Nonprofit entities, which may obtain the credits but would otherwise have little use for them, may sell them in what has been a fairly vibrant market since the credits were first created. Similarly, private parties who do not have enough

Massachusetts income tax liability to make use of the credits they have earned may also sell their credits.

The transfer process is fairly simple. Once the Massachusetts Department of Revenue (the “MADOR”) has reviewed and approved an application, the MADOR will issue a Brownfields Credit Certificate (a Form BCC) to the applicant for all or part of the credits that were sought in the application. Once that Certificate is in hand and the recipient has identified the proposed transferee, the applicant can submit its Certificate along with a Brownfields Credit Transfer Application (a Form BCTA) to the MADOR. In response, following what has been a fairly quick review period, the MADOR will issue a Brownfields Credit Transfer Certificate (a Form BCTC), which effectively transfers the relevant credits from the initial applicant to the transferee. Once the transferee has the Form BCTC in hand, the transferee can then use those credits.

In the NYS BCP, however, tax credits are not transferable. But, the COC may be transferred to a successor to a real property interest in all or a part of the Brownfield site, so long as the transferee is not a responsible party. Therefore, the party that remediates the site may receive tax credits for that portion of the project, and then transfer the COC to the party that wishes to redevelop the Brownfield. This party may receive the tangible property component. If the party wishes to be eligible for the site preparation component, it must be added to the Brownfield Cleanup Agreement before the COC is issued.

4. Tax Credit Eligibility

In both states, parties are eligible for the tax credits when remediation is complete. In Massachusetts, a party is required to own or lease the relevant property and to pay for expenses, the total amount of which is then used in calculating the amount of credits that are available. In NYS, however, a party to the BCP is not required to own or lease the site to receive credits for the remediation; the

party just needs to obtain a site access agreement and to pay the relevant costs. Note, though, the party must own the building or asset to receive the redevelopment portion of the tax credit. The tangible property component is not permitted when (a) contamination is solely from an off-site property, or (b) the site was previously remediated in another NYS program and may be developed for its then intended use.

5. Oversight Costs

In Massachusetts, applicants do not have to pay for Massachusetts Department of Environmental Protection (MADEP) oversight costs, although there are certain fees (including annual fees) that are associated with moving a site through the MCP. There are no MADOR application fees or oversight costs that need to be paid. In NYS, Volunteers do not need to pay for NYSDEC oversight costs, but Participants do.

6. Deadlines

In Massachusetts, a party must “commence and diligently pursue” the relevant environmental response action on or before August 5, 2018, and the relevant costs must be incurred by January 1, 2019. Bills have recently been filed with the Massachusetts legislature to extend the 2019 cutoff date; however, while it appears the Massachusetts legislature likes this program, we would not pretend to be sufficiently well informed to predict what the Massachusetts legislature will do. In NYS, the entire remediation for BCP 3.0 projects must be complete by March 2026.¹⁶ Therefore, while in Massachusetts a party theoretically could obtain “partial credit” for work done up through the 2019 cutoff date, in NYS, if a party does not finish the entire remediation by the 2026 deadline, the party receives no tax credits.

7. Notice

Under the MCP, public notices are provided to the municipality in which the subject property is located as work progresses, but ordinarily there is

no public comment period unless a special request is filed by ten citizens, and there is no public notice or comment period associated with the MADOR application and review process.

In comparison, NYS requires three public comment periods throughout the remedial process, including public comment periods when the BCP application is complete and before the Remedial Investigation Work Plan is finalized; and a 45-day public comment period before the Remedial Action Work Plan is finalized.¹⁷ Additionally, fact sheets are sent 1) to describe the Remedial Investigation Report, 2) to give notice that construction will begin, 3) upon approval of the Final Environmental Report, and 4) within 10 days of the issuance of the certificate of completion.

8. Time to Complete the Program

A party attempting to close out a site under the MCP has a total of six years to do so after first notifying the MADEP concerning the site. The privatized MCP program, however, also allows a private party to move as quickly as it is able to satisfy the relevant regulatory standards, and so most sites are closed out in fewer than six years, the schedule at Brownfields sites often being coordinated closely with the relevant redevelopment project. As far as review of an application for the tax credits by the MADOR, there is no set time frame. Currently, as a result of an increase in applications and staffing reorganizations from budget concerns, it is not unusual for the review of an application to take between six and nine months, and sometimes longer.

Prior to BCP 3.0 and as of April 2016, NYSDEC has issued 244 Certificates of Completion (COCs) for Brownfield Cleanup Program sites since the program was established.¹⁸ The average time for these 244 sites to receive a COC was 3.87 years, with a median of 2.82 years, and a mean absolute deviation of 1.89 years. In BCP 3.0, NYSDEC has 30 days to review a BCP Application, work must be implemented within the schedule submitted to the

NYSDEC with every report, and an easement must be filed within 180 days of work commencement or three months prior to the date of the anticipated issuance of the COC. These amendments were implemented to hold projects accountable for deadlines.

9. How Well Has It Worked?

Both programs have been quite a success from the private sector's perspective. The funds that are provided by these programs can make a real difference in a developer's pro forma, and they are especially valuable for smaller nonprofits, which generally have tighter margins. In addition, these credits effectively provide a limited form of environmental insurance if surprises are encountered as the project proceeds. From the public sector's perspective, we believe the conclusion is similarly favorable. The credits have helped achieve the goal of redeveloping contaminated properties and returning them to productive reuse. This conclusion is supported by the fact that Massachusetts has previously renewed the cutoff date for these credits five separate times, and NYS has extended the program as well.

10. Recommendations for the Federal Government

- The federal government should reinstate the federal tax deduction previously found at Tax Code 198(c)(3), which allowed a tax deduction for Brownfields remediation expenses to encourage private parties to pay for the remediation costs.
- The federal government should continue to offer energy incentives to individuals who redevelop Brownfields and create an end use that creates energy. Currently, EPA's Re-Powering America's Land Initiative incents siting renewable energy on contaminated properties, including Brownfields.
- Currently, municipalities are the only entity that may take advantage of the EPA Brownfield grants. While it is unclear how

the EPA program will change under the new administration, the most important suggestion to the new administration is to expand the incentives to private developers who are volunteering to take on risk to clean up and remediate properties that most developers will not touch due to the risk. Currently under most environmental schemes, as soon as a developer takes ownership of a contaminated property, it can be held liable for remediation costs. Therefore, it makes sense to incent people to purchase these properties with tax credits and liability releases.

11. Recommendations for Other States

Perhaps the most useful recommendation for other states to consider in evaluating these programs is the old cliché "KISS"—keep it simple, stupid. That is because these programs involve the intersection of both complicated environmental regulations and state and federal tax programs. By focusing on basic questions like which sites should be eligible, which costs should be eligible, and should there be any deadlines, other states can create programs that effectively fit their own rules and objectives.

After comparing the Massachusetts and New York State Brownfields programs, we believe the best practices include:

1. tailoring a concrete definition of "Brownfield" for eligibility like NYS, but defining it like BCP 1.0 and 2.0 to match the federal definition so more sites may enter the program prior to investing in environmental work;
2. promulgating a sunset date for entry into the program, rather than completion of remediation, so that at least initially, a state can try these programs to evaluate how they work without necessarily committing to a permanent tax expenditure. Conversely, the sunset date in NYS was based on the date of remediation. Therefore, before BCP 3.0 was issued, numerous projects stopped in

- their tracks as the sunset date approached since developers were unsure if they would finish the cleanup by that date;
3. incentivizing both volunteers and parties responsible for releases causing the contamination, but limiting the scope of the benefits made available to the responsible parties. However, responsible parties should be provided a liability release if they remediate the property.
 4. allowing the transfer of credits, like in Massachusetts;
 5. having eligibility for tax credits ripen when remediation is complete, as is the case in both states;
 6. allowing non-owners to remediate Brownfields sites to incent owners to enter deals with non-owners who were previously unable to invest in remediation, like in NYS;
 7. incentivizing the remediation of sites in low income areas, and providing greater credits for remediating to higher end uses; and
 8. including deadlines for state agencies to review and process applications, and ensuring that the relevant state agencies are adequately funded and staffed so that applications and reports can be reviewed and processed in a timely manner.

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Endnotes

- ¹ See 310 CMR 40.1000, *et seq.*
- ² See 310 CMR 40.0893.
- ³ See 310 CMR 40.1074.
- ⁴ A list of these areas is available at <http://www.mass.gov/dep/cleanup/eda.htm>.
- ⁵ See M.G.L. c. 21E, s.2.
- ⁶ New York Environmental Conservation Law (“N.Y. ECL”) §§ 27-1401-1437; 6 N.Y.C.R.R. §§ 375-1; 375-3, 375-6.
- ⁷ 6 N.Y.C.R.R. § 375-3.2(c)(2).

⁸ A “Participant,” as defined in 6 N.Y.C.R.R. § 375-3.2(c)(2), is a responsible party that may also receive a liability release and tax credits. Participants, but not Volunteers, are responsible to remediate off-site migration.

⁹ N.Y. Tax Law § 21-23.

¹⁰ 6 N.Y.C.R.R. § 375-3.2(a).

¹¹ N.Y. Tax Law § 22(a)(5). In simple terms, an En-Zone is an officially designated zone with high poverty and unemployment.

¹² N.Y. General Municipal Law § 970-r. Brownfield Opportunity Area (BOA) is a program that addresses entire neighborhoods and the clusters of Brownfields within environmental justice neighborhoods.

¹³ N.Y. ECL § 27-1415(4). Track 1 is a cleanup that will allow unrestricted use without reliance on institutional and engineering controls.

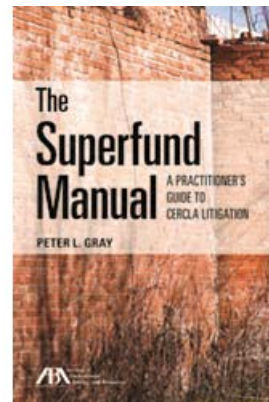
¹⁴ N.Y.C.R.R. § 375-3.2(a).

¹⁵ N.Y.C.R.R. § 375-3.2(I).

¹⁶ The 2015 amendments added new deadlines for BCP 1.0 and BCP 2.0.

¹⁷ <http://www.dec.ny.gov/chemical/100819.html>.

¹⁸ <http://www.dec.ny.gov/chemical/30360.html>.



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