



REUSE

Creating community-based brownfield redevelopment strategies



American Planning Association
Making Great Communities Happen

Cover art: Royal Mills complex before it was redeveloped into a mixed use destination and riverwalk in West Warwick, Rhode Island. Photo courtesy of the U.S. Environmental Protection Agency.

The Office of Brownfields and Land Revitalization at the U.S. Environmental Protection Agency funded the development of this guide, which was produced in 2010.

This guide was designed by Emily Rice.

PROJECT BACKGROUND

About the American Planning Association

The American Planning Association (APA) is an independent, nonprofit educational organization that provides leadership in the development of vital communities. APA and its professional institute, the American Institute of Certified Planners, advance the art and science of planning to meet the needs of people and society. APA represents 43,000 practicing planners, officials, and citizens involved in planning at all levels of government.

APA's National Centers for Planning engage in policy-relevant research and education involving community health, natural and man-made hazards, and green communities. A component of the National Center for Planning, the Planning and Community Health Research Center is dedicated to integrating community health issues into local and regional planning practices by advancing a program of policy, applied research, outreach, and education. Working with a global network of research fellows and partner institutions, the Planning and Community Health Research Center conducts collaborative, multidisciplinary research and practical work aimed at addressing today's pressing health issues through city and regional planning, whether it be increasing physical activity and access to healthy food and health services, planning for aging populations and people with disabilities, creating schools that are centers of their communities, promoting environmental justice and social equity, or developing a future workforce with an understanding of health and planning issues.

About Bethel New Life, Inc.

Bethel New Life, Inc. (BNL) is a faith-based nonprofit community development corporation founded in 1979. Located in and serving Chicago's West Garfield Park neighborhood, BNL is nationally known for its pioneering community development initiatives, especially in the arenas of sustainable urban community, smart growth in an urban context, and brownfields redevelopment. BNL has been a part of the cleanup and redevelopment of seven brownfields sites in Chicago. These projects have provided major economic stimuli to their low-income community. As a result of this experience, BNL staff led workshops at U.S. Environmental Protection Agency (USEPA), sustainable community conferences and with community groups and municipalities across the U.S, and contributed to the environmental curriculum of the University of Delaware. Many staff at BNL were involved in the development of this guide. Among them include current and former employees Holly Denniston, Stacey Flint, Steven McCullough, Mary Nelson, and Mildred Wiley.

About the Center for Public Environmental Oversight

The Center for Public Environmental Oversight (CPEO) is an organization that promotes and facilitates public participation in the oversight of environmental activities, including but not limited to the remediation of federal facilities, private Superfund sites, and brownfields. It was formed in 1992 as CAREER/PRO (the California Economic Recovery and Environmental Restoration Project) by the San Francisco Urban Institute in response to the large number of military base closures in the San Francisco Bay Area. CPEO draws upon the nearly three decades of work led by Executive Director Lenny Siegel at the Pacific Studies Center, a nonprofit public interest information center in nearby Mountain View, California. Robert Hersh, associate at CPEO, is an author of this guide.



American Planning Association

Making Great Communities Happen



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COMMONLY USED ACRONYMS

AAI	All Appropriate Inquiry
APA	American Planning Association
BEDI	Brownfields Economic Development Initiative
BID	Business Improvement District
BNL	Bethel New Life, Inc.
CBO	Community-Based Organization
CDBG	Community Development Block Grant
CDC	Community Development Corporation
CDLF	Community Development Loan Funds
CLT	Community Land Trusts
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, & Liability Information System
COC	Certificate of Completion
CRA	Community Reinvestment Act
DEQ	Department of Environmental Quality (federal agency)
DOI	Department of the Interior (federal agency)
DOT	Department of Transportation (federal agency)
EC	Engineering Control
ECHO	Enforcement and Compliance History Online
EDA	Economic Development Administration (federal agency)
EZ	Empowerment Zone
GIS	Geographic Information System
HUD	Housing and Urban Development (federal agency)
IC	Institutional Controls
LUST	Leaking Underground Storage Tanks
MOU	Memorandum of Understanding
MSA	Metropolitan Statistical Area
NEPA	National Environmental Policy Act
NFA	No Further Action letter
NFRAP	No Further Remedial Action Planned
NPL	National Priorities List
PCBs	Polychlorinated Biphenyls
PRP	Potentially Responsible Parties
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
REIT	Real Estate Investment Trust Fund
RFP	Request for Proposals
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SARA	Superfund Amendments and Reauthorization Act
SIR	Self-Insured Retention
SRI	Superfund Redevelopment Initiative
SWOT analysis	Strengths, Weaknesses, Opportunities, and Treats
TAB	Technical Assistance for Brownfields Program
TAG	Technical Assistance Grants (federal resource)
TBA	Targeted Brownfield Assessment
TIF	Tax Increment Financing
USEPA	U.S. Environmental Protection Agency (federal agency)
UST	Underground Storage Tanks
VCP	Voluntary Cleanup Program (state-run programs)

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INTRODUCTION



DISPLAY AT THE INTERNATIONAL GLASS MUSEUM IN TACOMA, WASHINGTON. THE MUSEUM WAS BUILT ON THE SITE OF AN ABANDONED COASTAL PORT.

PURPOSE OF THE GUIDE

The Government Accountability Office estimates that there are between 450,000 and one million brownfield sites in the U.S. (GAO-05-94). In many brownfield redevelopment projects, community-based organizations (CBOs) are frequently left out of the process. However, CBOs represent the main constituency burdened by the negative impact of vacant and abandoned brownfield sites. The purpose of this guide is twofold: first, it is designed to help CBOs recognize that brownfields are opportunities for neighborhood revitalization, and, second, it provides critical information to help local CBOs participate more effectively in the complicated process of brownfields cleanup and redevelopment.

OVERVIEW

Brownfields are sites that have, or are perceived to have, contamination. They range in size from a single lot to a multiacre postindustrial site. Brownfields can be found in almost every community in the U.S. Though often thought of as eyesores that plague a community and stall its progress, this guide encourages communities to think of brownfields as community assets.

Brownfields impact communities in a variety of ways. Abandoned or dilapidated buildings on brownfield sites signal neglect even in an otherwise well-maintained neighborhood. Contaminants found on brownfield sites can pollute soil, air, and water resources on- and off-site. This poses environmental and public health threats. Safety is another issue as neglected sites are a breeding ground for illegal activities, such as dumping. Finally, brownfields are a drain on the local economy and take a serious toll on community morale, especially in low-income neighborhoods that suffer from a disproportionate number of brownfield sites.



RAU FASTNER MILL COMPLEX WAS REDEVELOPED INTO AFFORDABLE LOFT APARTMENTS IN PROVIDENCE, RHODE ISLAND

U.S. ENVIRONMENTAL PROTECTION AGENCY

Despite these negative impacts, brownfields present an opportunity to communities. Redevelopment efforts across the country have transformed former gas stations, contaminated industrial sites, dilapidated hospitals, and run-down, asbestos-laden schools into affordable housing, parkland and open space, community centers, housing for elderly, mixed-use developments, and even community gardens and other forms of urban agriculture (see page 33 for more information on agriculture-related uses on remediated brownfields). Brownfields are often found in prime locations—central to business districts, bordering or within neighborhoods, along popular commercial corridors, and on high-traffic transportation routes, and provide opportunities for economic development in historically disinvested communities. Brownfields offer developable land in otherwise built-out communities. The redevelopment of even a single brownfield site can spur economic development and opportunities throughout an entire district.



U.S. ENVIRONMENTAL PROTECTION AGENCY

BOWSER PUMP SITE TRANSFORMED INTO PHOENIX PLACE RESIDENTIAL DEVELOPMENT IN FORT WAYNE, INDIANA

Each and every brownfield site is different. Physical characteristics, site history, community dynamics, location, contaminants, ownership, and financing all play a role in the how a site is redeveloped. Notwithstanding, this guide presents a basic redevelopment process that can be molded to fit almost any effort to remediate and redevelop a brownfield site. Because this guide was developed for CBOs that often have limited capacity, the reader should assume that the information in this guide pertains to site-specific redevelopment.

The basic steps in the brownfield redevelopment process include:

- Step 1: Develop a Community Vision
- Step 2: Identify Brownfield Sites
- Step 3: Assess Level of Contamination
- Step 4: Determine Reuse Options
- Step 5: Evaluate Cleanup Options
- Step 6: Implement a Redevelopment Plan

Community visioning is a participatory, collaborative, and consensus-building process that helps bring together public, private, and community interests. A transparent visioning process can bring new ideas to the table regarding how to clean and redevelop a brownfield according to the community's needs. Furthermore, a redevelopment plan that incorporates the community's vision will likely garner greater community and political support for the project.

Identifying a site to redevelop requires tenacity and patience. Though public data is available, it does not necessarily have the most up-to-date and comprehensive information. Developing a list of sites requires a combination of community knowledge and public data.

Once a site (or group of sites) is selected, state regulatory agencies require environmental site assessments are required to determine if and how much contamination is present on the site. The results of these assessments will help the CBO determine if the project is financially feasible to continue on the selected site.

Naturally, cleanup and financing are major concerns for any person or organization considering taking on a brownfield redevelopment project. Banks are leery of investing in projects where contamination complicates the redevelopment process. Public funding often comes with strict timelines and bureaucratic processes that can be frustrating and confusing. However, liability protection can help ease the financial frustration by offering investors reasonable assurance that they will be clear of liability. (The three most commonly used liability protections are the **no further action letter (NFA)**, **covenant not to sue**, and a **certification of completion (COC)**. These are discussed in greater detail in Section 4.)



NEW DIRECTION JOB TRAINING PROGRAM IN NEW BEDFORD, MASSACHUSETTS



GRAND OPENING OF A REMEDIATED BROWNFIELD IN BRIDGEPORT, CONNECTICUT

U.S. ENVIRONMENTAL PROTECTION AGENCY

THE ROLE OF COMMUNITY-BASED ORGANIZATIONS

Over the past 30 years, federal and state level policies and regulations began responding to the needs of communities by providing volunteer developers with liability protections, funding for cleanup, and technical assistance. In response to these policies, communities across America started transforming these long abandoned or under-utilized sites into community resources. CBOs play a key role in these efforts.

CBOs have diverse missions that address a variety of issues typically relating to health, equity, poverty, and education. Though the mission, size, and structure of CBOs differ depending on the community and purpose, a CBO is generally more effective at tackling local needs because its staff and volunteers, as residents or business owners, have a direct stake in the community.

The CBO's Role in the Brownfield Redevelopment Process

Due to the volunteer nature of many CBOs, these groups are often limited in their capacity to garner funding, take on wide-scale projects, or implement comprehensive programs. While CBOs are not necessarily incorporated nonprofits, community development corporations (CDC) usually fall into a tax-exempt IRS designation. CDCs typically evolve out of a CBO's desire to implement a program or economic development project that requires procurement of funding from public and private entities. This guide does not differentiate between a CBO and a CDC. These terms are often used interchangeably.

For the purposes of this guide, there are three roles that CBOs and/or CDCs may assume in brownfield revitalization projects:

1. Community Advocate: residents and CBOs
2. Collaborator: CBOs/ CDCs seeking development partners
3. Primary Developer: CDCs developing a specific site

A CBO, and even an individual, can determine what type of stakeholder it is by considering what it is able to bring to the brownfields table—whether it be community support, skills such as organizing, outreach, and education, financial support, or, perhaps most importantly, whether or not the group owns or is seeking to obtain ownership of a brownfields property. These roles are described below.

Community Advocate

Community advocates are stakeholders that are willing to play a role in brownfield revitalization but are not able to or willing to own a brownfield property because of the financial risk involved. These advocates play other important roles, such as convincing the property owner to put the property on the market, or getting local residents to testify before city council to push for a community-sanctioned end use of the property and for any necessary infrastructure improvements to help make the project more feasible.

In a number of neighborhoods, CBOs are able to advocate for brownfields redevelopment as part of a larger community plan. They build broad-based support with local partners including local government, which can in turn acquire brownfield parcels or abandoned lots and transform them into playgrounds and open space. As advocates, a CBO can bring organized and informed input from neighborhood residents to identify and prioritize brownfields sites for cleanup, and insist that goals for brownfields revitalization should be developed within a community planning framework.

COMMUNITY ADVOCATE



This guide is particularly useful to CBOs that have never been involved in a brownfield redevelopment project. Since community advocates play a variety of important roles, each section in this guide offers critical information that will help the CBO become a more influential partner in the development process.

Collaborator

Stakeholders assume the role of **collaborator** when they own a brownfield or are planning to acquire a brownfield site by purchase or through a tax foreclosure process but do not have the skills or capacity to redevelop the site. In this case, the CBO or CDC can choose to work with an experienced private or nonprofit developer to help redevelop the site. A collaborator can help:

- identify the site,
- find funding through state or federal grants to conduct a site assessment,
- take the lead on community planning and visioning, and
- promote specific end uses that meet the needs of local residents.

As collaborators, CBOs and CDCs will benefit from the information in this guide in a number of ways. As development partners, collaborators should be keenly aware of all the steps in the redevelopment process (discussed in Section 2) and depending on the role the CBO outlines with the primary developer, the visioning, cleanup, and financing sections will be useful.

Primary Developer

By contrast, some CBOs take on the primary financial stake and liability in a brownfield revitalization project by acting as the **primary developer**. In this case, the CBO should have already gained some experience in housing or business development and will want to consider incorporating into a CDC, if it has not already done so. This step is important because a CDC, as a nonprofit entity, has the legal authority to acquire land, assemble parcels, and obtain government grants and other funding to lead redevelopment efforts. Several research studies indicate that in the poorest neighborhoods, CDCs may well be the only developer trying to remediate and redevelop brownfields as part of a larger community development strategy.

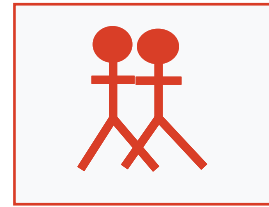
Forming a CDC involves:

- developing a set of by-laws,
- defining a mission and vision,
- assembling a board of directors,
- filing for incorporation with state government, and
- applying to the federal Internal Revenue Service (IRS) for designation as a tax exempt nonprofit organization.

IRS designation is necessary in order for the organization to obtain grants and gifts from any government, corporate, foundation sources or from individuals. Groups interested in forming a CDC should solicit the advice of other CDCs in the area, obtain copies of incorporation materials, and look for workshops on how to become a nonprofit.

Community land trusts (CLT) often play the role of primary developer in a number of brownfield projects. CLTs typically act as mediating institutions in urban neighborhoods. As owners, the trust acquires land, redevelops it, and holds it for neighborhood residents. In the case of brownfields, these trusts can act as a bridge to help communities, private investors, and the public sector negotiate new relationships about property and ownership. See the Vermont Transit Bus Barn case study on page 42 to read about a successful brownfield redevelopment led by a CLT.

COLLABORATOR



PRIMARY DEVELOPER



First time primary developers can use this guide to become acquainted with the issues and regulations surrounding brownfields, the basic steps in the redevelopment process, cleanup strategies, and funding opportunities. The case studies, sprinkled throughout the guide, may be particularly useful as they illustrate examples of successful redevelopment projects as well as lessons learned and best practices.



WHITNEY SCREW SITE REDEVELOPED INTO MIXED USE DEVELOPMENT, NASHUA, NEW HAMPSHIRE

U.S. ENVIRONMENTAL PROTECTION AGENCY

HOW TO USE THIS GUIDE



BETHEL NEW LIFE, INC.

SOLAR PANELS ON THE ROOF OF **BETHEL CENTER**, A TRANSIT-ORIENTED DEVELOPMENT BUILT ON A REMEDIATE BROWNFIELD, CHICAGO, ILLINOIS

This guide presents the basic information community-based organizations (CBOs) need in order to become effective advocates, partners, or leaders in the often complicated process of cleaning and redeveloping brownfields. Though much of the information in this guide is generalized, sections and subsections offer specific information that will assist CBOs in becoming more effective in whichever role they take on.

SECTION OVERVIEW

Since community-based organizations (CBOs) and residents will come to the table with varying degrees of knowledge about brownfields and the redevelopment process, this guide covers both very basic information (e.g. Section 1, Brownfields Basics) and more complex issues (e.g. Section 4, Brownfields Cleanup). The range of information covered in this guide therefore is applicable to a beginner to intermediate user. The sections of the guide are outlined below.

1: Brownfield Basics

This section provides readers with an overview of brownfields, including a comprehensive definition and an explanation of the laws and regulations shaping brownfield cleanup and redevelopment. In addition, this section discusses the problems and opportunities presented by brownfields. Any individual or organization seeking to become involved in a brownfield redevelopment project would benefit from reading this section, especially if the reader has limited information about brownfields and the redevelopment process.

2: The Brownfield Redevelopment Process

There are six steps to the brownfield redevelopment process. These include:

- Step 1: Develop a Community Vision
- Step 2: Identify Brownfield Sites
- Step 3: Assess Level of Contamination
- Step 4: Determine Reuse Options
- Step 5: Evaluate Cleanup Options
- Step 6: Implement a Redevelopment Plan



VEGETABLES GROWING WHERE A DILAPIDATED ROW HOUSE ONCE STOOD, PHILADELPHIA

KIMBERLEY HODGSON



SITE TOUR OF THE COMMUNITY AS PART OF A CHARRETTE AT THE 2009 NATIONAL PLANNING CONFERENCE IN MINNEAPOLIS

JOHN REINHARDT

Information in this section is particularly important for community organizations that are considering the role of primary developer. Because collaborators typically assist in the early phases of the redevelopment process, CBOs playing that role should become familiar with the redevelopment process as to more effectively assist in redevelopment efforts.

3: Community Visioning

The community visioning process is a consensus-driven, public participation process that results in a cohesive vision for a targeted area. Section 3 describes the community visioning process, who has a role in the process, and why it matters in brownfields redevelopment. It provides:

- a definition and explanation of the different stakeholders;
- a definition and explanation of the community vision and visioning process;
- an overview of how to build public support for a brownfields redevelopment project and maintain momentum over the long-term; and
- details strategies for how to influence the development of community-friendly brownfields policies.

Though primary developers and collaborators are encouraged to read, understand, and incorporate the contents of this section into their projects, this section is especially helpful to CBOs playing the role of community advocate.

4: Brownfields Cleanup

Environmental cleanup of brownfields is governed by complex and often overlapping federal, state, local, and tribal laws. Since the regulatory framework associated with remediating brownfields can be complicated, this section provides a broad overview of cleanup and legal issues that often arise during the redevelopment of brownfield sites. This section also outlines many of the critical brownfields cleanup issues, including:

- how to determine cleanup liability and understanding options for liability protection;
- cleanup options, the technology and costs;
- determining the level of cleanup necessary for the intended use;
- how to involve the community in cleanup decisions; and
- advice on selecting a technical consultant and environmental lawyer.

Information in this section is useful for any individual or organization involved in brownfields redevelopment, no matter the role being played. While primary developers carry the biggest financial burden, community residents and business owners are affected in a variety of ways (see discussion in Section 1). CBOs playing the role of a community advocate should keep a tab on the decisions being made with respect to cleanup making sure that the well-being of the community at large is represented.

5: Brownfields Finance 101

Remediating and redeveloping a brownfield site can be complicated and costly. Private investment, coupled with public funding, makes community-based redevelopment efforts possible. This section focuses on the pertinent information involved in financing brownfield cleanup and redevelopment by describing the:

- various sources of public and private funding available for site assessment, cleanup, and redevelopment; and
- contractual approaches and insurance products that can be used to reduce and control cleanup costs.

Collaborators and primary developers will benefit the most from the content presented in this section as these roles are responsible for garnering the funding that will transform a vision into reality.

ADDITIONAL RESOURCES

The U.S. Environmental Protection Agency's (USEPA) Office of Brownfields and Land Revitalization is a clearinghouse of information related to brownfields and the redevelopment process. It is supported by 10 regional offices. Web addresses and contact information for each of these office is provided in the Additional Resources section of this guide.

In addition to the USEPA, there are numerous nonprofit and public resources that offer technical and financial support to community-based brownfield redevelopment projects. Links to these resources are also found in the Additional Resources section beginning on page 84.

GLOSSARY

The language used in brownfield redevelopment projects is often technical and complicated to follow. This section provides a comprehensive overview of the terms discussed in this guide as well as other commonly used terms. Throughout the guide, terms that appear in the Glossary are **bolded** the first time they are used in the guide. The Glossary is found on page 90.

CASE STUDIES

Case studies are dispersed throughout the guide. They illustrate examples of successful community led or supported brownfield projects. These case studies represent a diverse array of projects from around the country. Visit <http://epa.gov/brownfields/success/sslocat.htm> to read success stories in locations throughout the country. Below is a brief description of each.

Bethel Center (page 26)

Chicago, Illinois

Bethel New Life (BNL), a large CDC located on Chicago's West Side, redeveloped a former gas station site into a community center that houses a computer lab, day care facility, and employment services, among others. This case study describes BNL's struggle to find and secure funding from public and private sectors.

Mexicantown International Welcome Center and Mercado (page 93)

Detroit, Michigan

The Mexicantown Community Development Corporation (MCDC) partnered with the Michigan Department of Transportation to transform several abandoned parcels at the base of the Ambassador Bridge into a welcome center for visitors from Ontario. Since its opening in 2006, the project has spurred other economic development projects throughout Southwest Detroit. This case study highlights MCDC's role as *primary developer*.

Mill Creek Development (page 59)

Cleveland, Ohio

Slavic Village Development (SVD) transformed a dilapidated mental health hospital campus into a housing development and open space amenity for residents of the

Slavic Village Neighborhood. This case study describes SVD's role as *primary developer*.

Starlight Park (page 76)

Bronx, New York

For nearly 20 years, Youth Ministries for Peace and Justice (YMPJ) has been the primary community advocate behind the efforts to renovate Starlight Park, an under-used and run-down park located between the Bronx River and the Sheridan Expressway. The new state-of-the-art park is scheduled to re-open in 2012. This case study describes YMPJ's role as *community advocate* throughout the redevelopment and cleanup negotiation process.

The Watershed at Hillsdale (page 66)

Portland, Oregon

Community Partners for Affordable Housing worked with the Housing Development Center to convert a long-time under-used yet centrally located parcel into a mixed-use affordable housing project for seniors in Portland's Hillsdale neighborhood. This case study highlights the importance of developing a cohesive *community vision*.

Urban Oaks Organic Farm (page 82)

New Britain, Connecticut

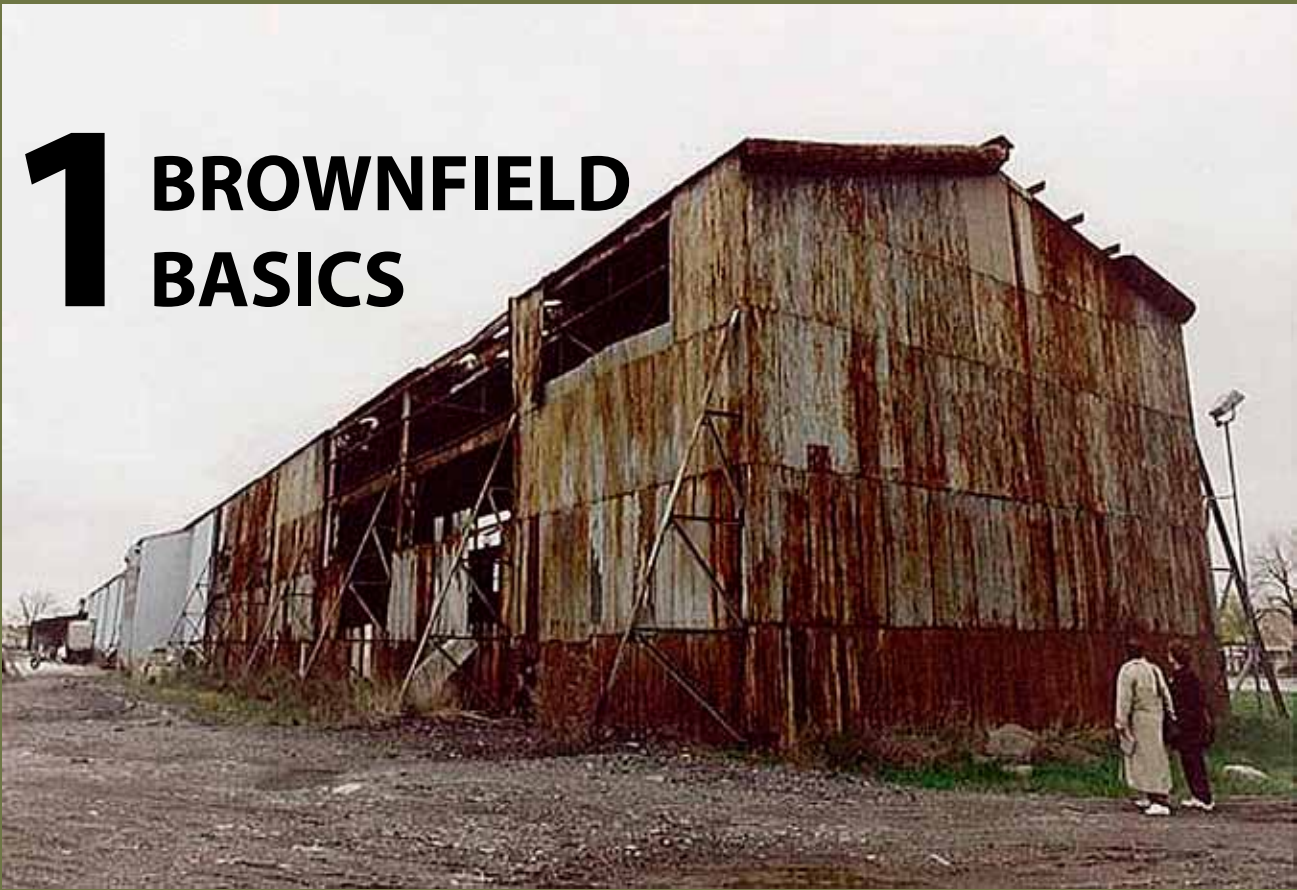
The city of New Britain worked with the U.S. Department of Housing and Urban Development to clean and redevelop the site of Sandelli Greenhouses, Inc. Now home to Urban Oaks Organic Farm, the parcels have been restored to their original use — agricultural production and distribution. This case study tells the story of the *public-private partnership* between the city of New Britain, two local farmers, and community residents.

Vermont Transit Bus Barn (page 49)

Burlington, Vermont

The Champlain Housing Trust successfully transformed a site, which was in continuous use as a transportation center since 1885, into 25 rental housing units and commercial space. This development project is an excellent example of the CLT model for redeveloping brownfields.

1 BROWNFIELD BASICS



MCCULLOUGH-UNIS SCHOOL ON SITE OF ABANDONED SHARON STEELE PROPERTY IN DEARBORN, MICHIGAN

For many, derelict factory buildings and abandoned gas stations look like eyesores. Such sites, known as **brownfields**, can scar communities, making them undesirable to investors and new residents. Though some communities are burdened by a disproportionate number of brownfields, their presence does not have to be considered the community's downfall. Rather, brownfields, which are often found near city centers and well-established transportation corridors, could be thought of as opportunities—sites for community centers, affordable housing, commercial developments, playgrounds, and even urban agriculture. With new laws protecting voluntary developers from liability and public funding to assist in cleanup costs, there is no better time for community-based organizations (CBOs) to become involved in brownfield redevelopment.

SECTION PREVIEW

This section provides:

- An overview of brownfields, including a comprehensive definition and an explanation of the laws and regulations shaping brownfield cleanup and redevelopment
- An explanation of the problems and opportunities presented by brownfields

The content in this section is particularly useful to any person or organization that wants to become involved in brownfield redevelopment for the first time.

WHAT IS A BROWNFIELD?

The blanket term “brownfields” is used to describe all abandoned, underused sites, or real property where redevelopment or reuse is complicated by the presence (based on actual site testing) or perceived presence (based on information related to past use) of contamination—as defined by different environmental laws. Contamination may include substances such as gasoline, diesel fuel, asbestos, heavy metals, solvents, lubricants, acids, polychlorinated biphenyls (PCBs), and a range of other hazardous materials. For many, the term conjures images of large-scale industrial properties, but in reality, brownfields come in all shapes and sizes — from an abandoned mining operation covering several square miles to an abandoned gas station with a leaking underground tank (UST).

The **Small Business Liability Relief and Brownfields Revitalization Act (Public Law 107-118)**, signed into law by President George W. Bush in 2002, broadened the definition of brownfields to include lands contaminated with petroleum or controlled substances (e.g. meth labs) as well as mine scarred lands. It provides funding for the assessment and **cleanup** of brownfields, job training as well as research, training, and technical assistance. Notably, brownfields are not listed on the USEPA's **National Priorities List (NPL)** of severely contaminated sites. Brownfields are typically less contaminated than CERCLA or **Superfund** sites. Brownfields, by law, do not include Superfund sites, federal facilities, or sites undergoing USEPA enforcement actions. In addition to USEPA grants outlined above, the Brownfield amendment to CERCLA outlines four elements of a state or tribal response or voluntary cleanup program and authorizes grants for states and tribes meeting or ‘establishing’ and ‘enhancing’ those elements.

Why Do Brownfields Exist?

Starting in the mid-20th century, the industrial sector in the U.S. began shrinking. As manufacturers consolidated facilities or moved operations out of traditional industrial

centers in the Northeast and Midwest, they often left behind obsolete and contaminated properties. While the U.S. transitioned from a manufacturing to a service-driven economy, the number of vacant, surplus properties multiplied. Compounding this situation was the concurrent trend toward off-shoring production, which meant many remaining U.S. manufacturers vacated existing production facilities in favor of new sites in other countries with lower wages or more favorable tax structures.



HOPE RUBBER PARKING LOT AND INDUSTRIAL WASTE SITE TRANSFORMED INTO A LUSH RIVERFRONT PARK IN FITCHBURG, MASSACHUSETTS

U.S. ENVIRONMENTAL PROTECTION AGENCY

The mid-20th century also saw the start of population loss in older central cities as residents moved into new homes on the urban fringe or relocated to newer population centers in the Southeast and West. As these population shifts accelerated in the 1970s and 1980s, many cities were left with obsolete or surplus institutional and commercial properties.

While deindustrialization and suburbanization help explain why U.S. communities have brownfield sites, the strict liability provisions of the first federal cleanup laws for contaminated properties help explain why many of these properties remain today. In the 1970s and 1980s, the federal government passed a number of important pieces of legislation to address contamination from former industrial sites. The two acts that appear most often in discussions of brownfields are the **Resource Conservation and Recovery Act (RCRA, Pub. L. 94-580)** of 1976 and the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)** of 1980. These laws made it possible to hold past, present, and future owners liable for cleanup, causing many owners to abandon properties or declare bankruptcy to avoid taking on the costs of site remediation. Meanwhile, new investors were hesitant to take on the risk.

Cleanup standards, which often required sites to be restored to pre-development levels of contamination, magnified this problem. For many potential brownfield developers, this meant that it was easier and cheaper to locate on greenfield sites than to remediate a contaminated site.

Since these first federal attempts to address **hazardous substances**, 47 states have created state **Voluntary Cleanup Programs (VCPs)** to encourage owners to remediate brownfield sites. These programs often provide a streamlined cleanup process and cap future liability in an effort to attract redevelopment. In addition, the USEPA, through memoranda of agreement with individual states, has given states primacy over brownfields cleanup.

Despite the recent proliferation of federal and state administrative programs to encourage brownfield redevelopment, many brownfield properties remain vacant. The

truth is, for many private developers, the economics of brownfield redevelopment simply does not work.

What Do Brownfields Look Like?

Because brownfields are so closely associated with contamination, in many people's minds the term evokes images of obvious polluters, such as heavy industrial uses. However, in reality, brownfields can be as small as a single lot or as large as an entire watershed. While it is true that abandoned factories are brownfields, the majority of brownfields are small properties such as dry cleaners and gas stations instead of large-scale industrial facilities.

Where Are Brownfields Located?

Although brownfields are usually thought of as an urban problem, nearly every town, city, and county in the U.S. has contaminated properties or properties that might be contaminated. Given the reasons why brownfields exist, it is not surprising that urban areas developed prior to the late twentieth century often have a high concentration of brownfields, especially in neighborhoods that have experienced disinvestment. Lower income communities often have a disproportionate share of brownfield properties because urban industrial facilities were, historically, surrounded by workforce housing. As distribution modes shifted and production technology changed, many manufacturers in older neighborhoods shut down or relocated to new sites on the urban fringe. This industrial exodus left behind dilapidated factories and also triggered an outmigration of many residents and dependent commercial establishments.

BROWNFIELDS MATTER!

Though this guide encourages communities to think of brownfields as assets, it is important to understand their impacts if left unchecked. This section describes why brownfields matter and how communities can benefit from their redevelopment.

Community Impacts

The community impacts of brownfields vary based on the property's size, location, and level of contamination. Brownfields located within a dense urban community often have long-term economic effects on a neighborhood. Health impacts on residents are also a concern. More isolated brownfields have less of a human impact and more of an environmental one.

Blight

When owners abandon or defer maintenance on brownfield sites, these properties deteriorate and often become eyesores. The impressions left by boarded-up buildings and overgrown, trash-strewn lots can signal neglect even in an otherwise well-maintained neighborhood.

Pollution

Brownfields contamination can pollute soil, air, and water resources both on- and off-site. Harmful substances may be present as the result of past industrial and commercial activities or wastes dumped illegally on a neighboring site. These materials can then migrate through the air and through groundwater to the site in consideration. For example, underground storage tanks at abandoned gas stations and chemical effluents from industrial and chemical processes can leak into the soil, and if left unchecked,

may percolate down to the groundwater level. Once contaminants reach the water table, they can easily spread to neighboring properties and eventually to drinking water sources.

Safety

Abandoned buildings and overgrown lots can pose safety threats to the surrounding community. These neglected spaces are often the site of illegal and dangerous activities receiving unwanted attention from drug dealers, unauthorized salvagers, arsonists, and illegal trash dumpers. Such sites can also be “attractive” nuisances. Children exploring such sites are likely to encounter broken glass, sharp and rusting metals, unsafe structures, and leftover toxic materials.

Public Health

Exposure to soil, air, and water pollution stemming from contaminated sites can, under some circumstances, have serious negative effects on the health of nearby residents. For example, exposure to high levels of lead in the soil of empty lots where industries, such as smelters, were once located has been linked to impaired mental function. Re-use options, such as agriculture and housing, should be careful to consider the type and extent of contamination.

Economic

Brownfields are a drain on the local economy. Nuisances, hazards, and criminal activity on vacant properties require local police, fire, building, and health department resources. Abandoned sites generate no tax revenue, and vacant buildings and lots can have negative effects on surrounding property values. Additionally, the uncertainty surrounding if and to what extent a brownfield is contaminated acts as a major disincentive for investment in low-income communities. The threat of costs associated with required environmental assessments and cleanup deter private investors.

Community Morale

The aesthetic, environmental, public health and safety, and economic effects of brownfield sites can all take a serious toll on community morale. It can be hard to take pride or feel invested in a community filled with rundown or contaminated properties. Compounded with historic disinvestment and a lack of reinvestment due to the presence of contaminated sites, brownfields have a way of diminishing community spirit.

Opportunities for Transformation

Brownfields are often overlooked when communities are considering their assets and are instead viewed as a negative physical characteristic of a community. If identified, remediated, and redeveloped, brownfields can play a critical role in community transformation. *One of the key purposes of this guide is to help CBOs and other community leaders recognize that brownfields represent opportunities for revitalization and transformation.*

In many communities, brownfields often have locational advantages over other sites. Brownfields are often found near city centers and established transportation corridors—making them well positioned to take advantage of demand for new housing and employment opportunities in established neighborhoods. This is often referred to as **infill development**. In the urban context, infill refers to the reuse of un- or underutilized land to help redefine a blighted neighborhood or help a city achieve growth management and smart growth goals. In a suburb, infill development typically refers to densification to help the community reduce its dependence on automobiles. The availability of existing infrastructure such as water, sewer, and other utilities often means that developers pay less for service provision.

Since brownfields are often undervalued, CDCs can leverage their investment in these sites to bring much-needed jobs, housing, or greenspace to lower income communities. For CBOs, brownfield projects can become a rallying point for residents eager for revitalization.

Cleaning and reusing brownfield sites provides many economic, environmental, and community benefits. The effects of these benefits can extend from the immediate environs of the site to the broader neighborhood.

Public Health and the Environment

Redeveloping a contaminated property can improve natural systems and remove a threat to public health.

Aesthetic Improvement and Community Morale

Brownfield redevelopments can transform eyesores into points of pride.

Job Creation

Beyond the employment opportunities created once a brownfield has been restored to productive use, brownfield projects can also create jobs at earlier stages related to site investigation and cleanup.

Property Values and Community Services

Successful brownfield redevelopment might increase the value of property in a community. Increased land values can result in more money for schools, parks, transit, and other community services and amenities.

Community Transformation

As demonstrated by the diversity of brownfield projects across the country, recycled brownfields can transcend their prior uses. Former industrial properties, properly remediated, can become new housing, business incubators, or even productive greenspace such as community gardens or urban farms.

Though CBOs are developed for different reasons, many adopt a mission that involves increasing the economic and social opportunities in their service area. Those that take on this responsibility can become involved in brownfield redevelopment to help fulfill that promise to their community.

Many brownfields remain neglected because for-profit developers are not willing to deal with the potential liability and marketability issues of vacant or contaminated properties in lower income areas. Over the last 30 years, the public sector, responding to its responsibility to the community it serves, has gradually expanded its role in brownfields redevelopment through technical assistance and funding opportunities.

At the same time, community organizations and other place-based nonprofits have formed to address quality of life issues. By taking a stake in the redevelopment process (as community advocates, collaborators, or primary developers), CBOs and CDCs positively influence the physical, economic, and environmental factors that define a community. Furthermore, these groups have the localized knowledge to make a brownfield redevelopment a true community project, thereby ensuring that community priorities and goals are represented by any new use.

COMMON MISCONCEPTIONS ABOUT BROWNFIELDS

<i>MYTH</i>	<i>FACT</i>
Brownfields are all large, former industrial or manufacturing sites.	While some brownfields are large former industrial sites, the majority of the estimated 500,000 to 1 million brownfields in the United States are small properties like dry cleaners, vacant lots, or gas stations.
A site must actually be contaminated to be considered a brownfield.	The perception that a property may be contaminated can be just as great a barrier to redevelopment as actual contamination. Therefore, sites where contamination is merely perceived, and site conditions are unknown, are still considered brownfields. One third of the brownfield sites that have been assessed with EPA brownfields funding have turned out to be free from significant contamination.
Superfund sites are brownfields, or brownfields are Superfund sites.	Under the statutory definition, brownfields do not include Superfund sites on the National Priorities List (NPL). A small number of Superfund sites, approximately 1,200, have been designated NPL sites and are managed under a more elaborate process than most brownfield sites.
Brownfields are only an urban problem.	Contaminated properties affect nearly every town, large and small. Small and rural communities are impacted not only by former industrial sites, but by closed gas stations, dry cleaners, old dumps, contaminated rail yards, mine-scarred lands, agricultural wastes such as pesticides, and many other challenges. Many EPA brownfield grants have been awarded to communities with less than 25,000 people.
Brownfields are an environment-only issue, or an EPA-only problem.	While brownfields by definition involve real or perceived environmental contamination, the solutions to brownfields problems almost always involve much broader issues including economic reuse, neighborhood improvement, infrastructure and transportation capacity, job creation, tax incentives, crime prevention, and many other approaches. Successful brownfield reuse generally occurs when economic and community development issues are addressed along with contamination concerns. The multidisciplinary nature of brownfields is one reason that more than 20 federal agencies, and a broad range of state, local, private and nonprofit entities, are now involved in brownfields revitalization.

Source: National Association of Local Government Environmental Professionals. Available at <http://www.resourcesaver.com/file/toolmanager/Custom-093C337F65023.pdf>.

SECTION SUMMARY

- While not all brownfield sites are contaminated, the potential for contamination can present a barrier to private-market redevelopment.
- Brownfields come in all shapes and sizes.
- Brownfields can have negative effects on public health, the environment, the local economy, and community morale.
- Brownfields can be important community assets due to their location and their access to existing infrastructure and community services.
- The potential benefits of brownfields redevelopment include a cleaner environment, new jobs, and community revitalization.

CASE STUDY

Bethel Center, a project of Bethel New Life, Inc. Chicago

On May 19, 2005, Bethel New Life (BNL), a large CDC on Chicago's West Side, held a dedication ceremony for Bethel Center, a 23,000-square-foot commercial facility located at the intersection of Lake Street and Pulaski Road. Home to an employment resource center, a community building department, a community technology center, and a day care center, Bethel Center is truly a community asset. In addition to providing services to residents of the neighborhood, Bethel Center demonstrates BNL's commitment to sustainable development. In fact, its sustainable design components, which include access to public transit, a green roof that reduces stormwater runoff, photovoltaic cells that produce solar energy, and specialized high efficiency heating, led to the building's LEED Gold certification by the U.S. Green Building Council. This exemplary development also landed Bethel Center a 2010 Urban Land Institute Award for Excellence, one of 11 developments awarded in the Americas.

Today, Bethel Center serves as a building block for economic development in the low-income neighborhood in which it resides. The project began in 1995 when BNL and the community responded to a plan that called for decommissioning the Green Line Transit system. Partnering with FARR Associates, a local architecture firm, BNL helped develop a land-use plan focused on stabilizing the neighborhood. This plan is now known as the Lake Pulaski Transit Village Plan, and it calls for affordable, energy-efficient housing, multi-modal transportation improvements, commercial development, and brownfield redevelopment throughout the area. This final piece is noteworthy given that Bethel Center was constructed on a remediated brownfield site. The following case study tells the story of BNL's long struggle to find and secure funding for Bethel Center.



ARTWORK ON BETHEL CENTER'S FACADE ENLIVENES THE STREETScape

BETHEL NEW LIFE, INC.

Financing Bethel Center

Though technology is a critical component of a successful brownfield cleanup, BNL learned that there is a complex financial side to the redevelopment of brownfields as well. Even for nonprofit developers, time matters. Borrowed money accrues interest, lost opportunities add other costs, and the longer tasks take to get done, the more expensive they become. Delays in obtaining grants or in winning approval of environmental assessments can wreak havoc with a project's budget and undermine assumptions about the project's feasibility.

At the outset of the project, BNL approached three different banks in search of financing. Banks are famously risk-averse institutions, especially where liability for environmental contamination poses a threat. With respect to the Bethel Center site, the risk factor was driven by the fact that the site had once hosted a gasoline station which had underground storage tanks that leaked into the surrounding groundwater and soils. Because of this, BNL was unable to find any bank willing to shoulder the entire risk of the project. Furthermore, none of the banks were willing to step forward and be the first to put money at risk.

Without a bank loan, BNL went after and was awarded city and state grants to underwrite most of the costs associated with the project. With public funding in place, BNL was able to find a bank willing to sign on as a lender for one-fourth of the overall cost; however, this bank did not sign on without conditions. One such condition was that three of the six commercial spaces being developed on the site had to have firm long-term leases to underwrite the stability of the venture. In most cases, that means getting existing for-profit businesses with capital and a proven income flow. Franchises and chain stores fit this bill best. Another condition required BNL to find a co-developer with significant retail building and management experience to fill the gap in BNL's experience. With this new requirement and the time involved in pursuing each new application, the project's cost continued to rise.

As with many brownfields projects, unexpected expenses arose and those initial funds proved inadequate to address the additional costs of cleanup that BNL encountered when leaking underground storage tanks (USTs) were discovered. Since no bank was willing to cover those additional costs, BNL turned to the city of Chicago, applying to the local Empowerment Zone (EZ) to support the expense of removing the USTs and the contamination that had leaked from them into surrounding groundwater and soil. BNL succeeded in bringing the local alderman on board in support of the EZ application, an essential project ally. At the same time, BNL pursued financing from the state of Illinois.

Once the EZ and the state committed to funding the project, several private foundations and corporations followed, including Commonwealth Edison and the Illinois Clean Energy Community Foundation, which paid for installing the expensive solar panels and a few other environmental upgrades.

Throughout this entire process, BNL still had no commitment from its private sector partner, the bank. So BNL decided to switch gears and look for another bank to invest in the project. After significant discussion and analysis, U.S. Bank agreed to fund the project, so long as it would be the last source to invest in the project. U.S. Bank did not require BNL to have a co-developer, but the co-developer remained involved in the project because the agreements with BNL were already signed.

With the funding sources identified, BNL and its architect launched the bidding process to find a general contractor. BNL received numerous bids, but all of them were significantly above the projected cost for construction. BNL and the architect finally had to revise the project design, material selections, and other costs to meet the budget (also known as value engineering). As the contractor and architect completed this project, BNL focused its energy on actually receiving some of the grant funding for which it had contracts. This proved to be difficult. Because it was the end of the fiscal year, the state did not have the cash to fund fully its grant. Furthermore, the local EZ funding was entangled in the political and bureaucratic approval process. BNL had already invested about \$400,000 of its own cash to cover some of the "soft costs" (e.g. interest charges, taxes, and legal, architectural, or engineering fees) at the front end of the project. Some of the funds came from a pre-development grant from the U.S. Office of Community Services. Finally, the state gave BNL some of the grant amount. Once the contractor and architect completed the value engineering, construction began in the fall of 2003.



During construction, BNL ran into myriad issues along the way. Excavation and removal revealed a second tank that had not previously been identified in the environmental assessments. Construction was placed on hold until BNL could identify funds for removing this second tank. After much delay, the EZ finally agreed to provide \$200,000 more to cover this cost.

Since construction began a full two years after BNL had selected its general contractor, raw material, labor, and other costs had risen significantly. At first, BNL thought the large contingency fund it had included in its pro forma would cover these higher rates, but as the project progressed, this assumption was proven wrong.

BETHEL NEW LIFE, INC.

GREEN ROOF AND SOLAR PANELS ON THE ROOF OF BETHEL CENTER, A TRANSIT-ORIENTED DEVELOPMENT

At the same time that the Bethel Center was under construction, BNL applied for New Market Tax Credits from the U.S. Department of the Treasury. BNL was awarded these credits in 2004 and successfully identified investors by the end of that year. These investors saw the vital importance of Bethel Center and its economic value and agreed to provide financing in the form of an interest-only loan to cover the cost overrun on the project, which totaled approximately \$300,000, as well as the take-out financing of a \$1 million bank loan. New Markets Tax Credits allowed for more favorable terms. If these investors did not provide this resource, BNL would have had to delay the project again in order to identify additional grants or loans. That, in turn, would have resulted in even more cost increases.

The table below presents a breakdown of the sources of funding that contributed to the development of Bethel Center.

It is equally important to understand where the financing comes from as it is to know how money is used once it is raised. Most money typically goes into construction once the cleanup is completed, but the proportions can vary depending on the cleanup

SOURCE	AMOUNT
Empowerment Zone	\$1,680,000
Illinois-DCEO Initiatives	\$1,100,000
Illinois Clean Energy Community Foundation	\$200,000
Chicago Dept. of Environment	\$400,000
Commonwealth Edison	\$400,000
U.S. Bank/New Markets Tax Credits	\$1,000,000
Other	\$106,860
Total	\$4,886,860

costs. The table below summarizes the overall distribution of the money at the Bethel Center site.

This case study tells the story of a persistent and well-connected CDC. Though BNL had been a long-time staple in the community, Bethel Center was its first redevelopment project of this kind. BNL leveraged community support and political alliances to acquire

USE	COST
Construction	\$3,265,000
Roof/Photovoltaic cells (solar energy)	\$500,000
Architect	\$300,000
Land	\$110,000
Environmental	\$200,000
Developer fees	\$150,000
Other	\$251,860
Total	\$4,886,860

the funds to make Bethel Center a reality, and learned many lessons from the road blocks that continued to stall the project. One very important lesson has to do with how timing influences a project's budget. In BNL's case, the discovery of a second UST meant a drastic increase in costs and delay in construction, which resulted in higher construction costs. When planning a project's timeline, it is important to add a cushion that accounts for the possibility of additional contamination or USTs, in the case of BNL, being found. In some cases, depending on the results of the environmental site assessments, it may be smart to double the project timeline. Along those lines, it is also good to consider the potential for budget swelling. CBOs can abscond delays due to insufficient budgets by planning for additional budget items upfront.

2 THE REDEVELOPMENT PROCESS



GRAND OPENING CELEBRATION OF A THEATER BUILT ON A FORMER PARKING LOT BROWNFIELD IN READING, PENNSYLVANIA

The process of redeveloping a brownfield site can be complicated and time consuming. Depending on the project and the site, the process might require the expertise of environmental consultants and engineers, lawyers, and planners. As discussed in the introduction to this guide, community-based organizations (CBOs) can play one of three roles in the redevelopment process—community advocate, collaborator, or primary developer. No matter the role, understanding the brownfield redevelopment process in advance can save CBOs time and money. In addition, this knowledge may make such organizations a more viable candidate for brownfield cleanup grants and low- or no-interest loans. This section contains useful information for any individual or group that is involved in brownfields redevelopment, regardless of the role.

SECTION PREVIEW

This section outlines the six basic stages of any brownfield redevelopment process:



Any organization or individual participating in brownfield redevelopment should have a basic understanding of brownfields and the process involved in their redevelopment. While some of the information is more pertinent to primary developers, collaborators and community advocates will benefit from this knowledge.

STEP 1: DEVELOP A COMMUNITY VISION

Community visioning is an integral part of the brownfield redevelopment process. A community vision is a collective understanding among community residents and other stakeholders that leads to a broad agreement about a preferred future. This, in turn, leads to implementation strategies involving changes in public policy and actions. A community visioning process is a participatory planning process that seeks to negotiate an agreed-upon desired future for a community. To do this, citizens and other stakeholders are engaged in discussions and exercises about alternative futures. Most community visioning processes revolve around four questions:



- Where are we now? (i.e. What are the current conditions in the community? What types and how many brownfields currently exist?)
- Where are we going? (i.e. What are market trends in the community? Are property values increasing? Is the population fluctuating?)
- Where do we want to be? (i.e. What goals does the community seek to implement? More affordable housing? More neighborhood businesses?)
- How do we get there? (i.e. What strategies can we implement to realize our vision?)

CBOs playing the role of community advocate may decide to take the lead on the community visioning process. The community visioning process is discussed in greater detail in Section 3.

STEP 2: IDENTIFY BROWNFIELD SITES

Primary developers will likely begin the redevelopment process by identifying potential sites for redevelopment. Though it may seem easy, compiling a complete list of brownfield sites has proven to be difficult for many CBOs. The reality is that owners of brownfield sites fear having their properties stigmatized by the brownfields label, and local governments often lack the resources or motivation to catalog vacant or contaminated sites.



This means that CBOs interested in redeveloping brownfields must be resourceful and persistent when looking for redevelopment opportunities. Without information about how a property was used in the past or if wastes were disposed there, it is difficult to know with any real certainty the extent to which cleanup is required. Below is a step-by-step process for identifying brownfields and uncovering their history.

(A) Gather Public Data

Local, state, and federal authorities across the country compile lists of known brownfields. To avoid unnecessary effort and to get a better sense of the general scope of contamination in a target area, CBOs should consult these lists before conducting detailed investigations of their own.

Local, County, and Regional Lists

Public agencies, including local planning or redevelopment agencies, have made efforts to inventory brownfields; however, it is important to note that local inventories are often incomplete as some sites are assessed or cleaned while other businesses close or new brownfields are added to the list. Few local agencies have the resources to conduct detailed investigations of all potential brownfield sites; therefore, CDCs looking to redevelop a brownfield site should also look to state and federal resources described below.

State Lists

Many state brownfield authorities have their own lists of contaminated properties. These lists typically include sites with known underground storage tanks (USTs), solid waste facilities, and hazardous waste sites. In most states, the lists of solid waste facilities and hazardous waste sites overlap with **Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)**, but the UST list contains many properties not otherwise tracked. Despite the potential for contamination from leaking underground storage tanks (LUSTs), many of these sites are former gas stations located at important intersections, making them good candidates for redevelopment. It is also important to keep in mind that many of the properties on these lists are businesses with non-leaking USTs and that being listed does not automatically mean contamination is present.

Federal Lists

The USEPA uses a three-tiered database known as the CERCLIS to track contaminated properties. The most polluted sites in the country wind up on the National Priorities List (NPL) and are referred to as Superfund sites, in reference to the trust fund established by CERCLA to help pay for cleanup. Currently, there are approximately 1,500 Superfund sites.



U.S. ENVIRONMENTAL PROTECTION AGENCY

TOUR OF ABANDONED TEXTILE MILL BEFORE REDEVELOPMENT, WEST WARWICK, RHODE ISLAND

Apart from the confirmed contaminated sites on the NPL, CERCLIS also contains a much larger pool of properties currently under investigation by the USEPA. Depending on the outcome of these investigations, each site will either be bumped up to Superfund status or delisted with the designation **no further remedial action planned (NFRAP)**. Although many of these NFRAP sites are large, the fact that the USEPA has ruled out severe contamination means that some of these properties may be ripe for redevelopment.

(B) Generate a Neighborhood Specific Inventory

Public lists of contaminated properties are an important resource for any CDC interested in brownfield redevelopment; however, these lists are not comprehensive. Each neighborhood or service area may contain many brownfields not previously identified by local, state, or federal authorities. This is where neighborhood expertise proves resourceful.

Creating a neighborhood-specific inventory of potential redevelopment sites is the final step in identifying brownfield sites. An inventory should include properties listed on all available public lists as well as other vacant or underutilized sites that have not caught the attention of regulatory authorities. Although there is no standard methodology for creating a brownfield inventory, there are a number of common sources of information to understand a property's history. These sources include the public lists referenced above, property titles, aerial photographs, and fire insurance maps, known as **Sanborn maps**.

A title search on a vacant or underutilized property will show previous owners and often gives insight into how the property owner or tenant used the site. In some communities, title records are available online, but in many places, this will require a trip to the local hall of records. For example, the city of Milwaukee has put together brownfields registers that assist in the process of identifying properties. (See <http://www.mkedcd.org/brownfields/bfhowpurch.html> and <http://www.mkedcd.org/environmental/dna.asp>.)

When a title search does not paint a complete picture of previous use, aerial photographs taken when a property was still in active use can fill in some gaps. Aerial photographs are available at many public libraries and, in some cases, online.

Sanborn maps, named after the company that produced them, offer an additional layer of information about a site's history. From 1867 to 1970, Sanborn developed these maps to assess property value for fire insurance purposes. Planners, historians, environmentalists, and architects consider these maps to be an excellent historic record of site-specific land use and continue to use them as a historical reference today. Sanborn maps are available at public and academic libraries.

In addition to these common sources, institutional knowledge of the neighborhood is an important resource to utilize. It is often the case that members of a community have personal experiences with the vacant and underutilized sites in their area. There is often no substitute for interviews with owners, residents, and people who worked on a site to understand what activities have happened there over time.

Having such an inventory will help prioritize and match the CDC's goals with the redevelopment opportunities in a target area or neighborhood. For example, if a CDC's mission is to provide affordable housing for the elderly, an industrial site located at the intersection of two freeways would not be the best fit. When the list of potential sites is mapped, the organization will be able to quickly identify the potential liabilities and assets of a given site.

STEP 3: ASSESS LEVEL OF CONTAMINATION

One of the biggest barriers for any brownfield redevelopment project is the threat of liability for contamination. In order to receive protection from this liability, developers of brownfields must conduct an investigation into the property's background. This formal investigation consists of a two-part **environmental site assessment**. The first part, known as a Phase I environmental site assessment, is an investigation of the potential for contamination based on the historic use of a property. If this assessment reveals a high probability of contamination, a Phase II environmental site assessment is necessary to confirm and evaluate the extent of contamination.



(A) Phase I Environmental Site Assessment

Once a CDC identifies a brownfield it would like to redevelop, the next stage in the redevelopment process is to determine whether or not the site is contaminated, and if so, whether it poses a significant enough threat that it requires a response. If the brownfield was formerly a commercial site or a property that had a mix of uses, the process begins with what is commonly known as a Phase I Environmental Site Assessment.

A Phase I assessment is typically required by any lender involved in a real estate transaction on commercial property. It can also be required by a regulatory agency that suspects a site to be contaminated. This assessment should be conducted in compliance with USEPA's "**all appropriate inquiry**" (AAI) standard (ASTM E1527-05). AAI refers to the requirements for assessing the environmental conditions of a property prior to its acquisition. (The AAI standard also applies to property donations, which is an important point for CBOs.) This is a crucial point. By demonstrating AAI, a potential owner may be able to claim protection from liability even if the property turns out to be contaminated. Thus, if the site turns out to be contaminated after the Phase I site assessment concludes it is not, the new property owner may be able to qualify as an "innocent landowner" or "bona fide prospective purchaser" under federal and state law.

A Phase I assessment is typically conducted by a consultant (see page 68 for advice on how to select an environmental consultant) on behalf of the prospective developer, public or private. At the outset, the consultant will review historical property maps, agency files, business documents, building department records, chain of title documents, and land-use records to get a clearer picture of the property's past uses and activities. To meet the USEPA's AAI standard, Phase I must also include an interview with the property's current owner or occupant, and a visual inspection of the property and adjoining properties. When a brownfield is not publicly owned, it can be difficult to obtain access to the site to determine if and to what extent the property is contaminated. In those cases where access to the property cannot be obtained, the consultant is required to visually inspect the property by walking along the property line or using aerial imagery.

The information collected should be used to answer the following questions:

- How has the property been used?
- What substances were used on the property?
- Were wastes managed or disposed there?
- What cleanup has been conducted?
- Are there any **engineering controls**, such as landfill soil caps, impermeable liners, or fences in place?
- Are there any **institutional controls**, such as soil excavation prohibitions, zoning restrictions, or deed restrictions, in place?
- Has contamination from nearby properties migrated onto the property?

If the consultant is able to answer all of the questions reliably, then it is not necessary to continue the research. On the other hand, if the review is not able to answer each of these questions, the consultant is required to find other sources to provide the necessary information. For example, the consultant must conduct additional interviews with past owners or operators of the property as well as with neighbors of nearby properties where there is evidence of potential unauthorized uses or uncontrolled access. If data gaps still remain, the consultant is required to search for any recorded environmental cleanup liens that indicate past environmental response actions, and a review of local, state, and federal government records.

After all the information is gathered and analyzed—typically a process that takes two to three weeks—the consultant provides a summary of findings to the developer. This report will include details of any on-site and off-site environmental concerns, identify potential environmental liabilities, and offer recommendations for next steps.



U.S. ENVIRONMENTAL PROTECTION AGENCY

SOIL TESTING ON-SITE



U.S. ENVIRONMENTAL PROTECTION AGENCY

BROWNFIELD REMEDIATION JOB TRAINING THROUGH BOSTON'S JOBS FOR YOUTH PROGRAM

For the fortunate developer, the report will conclude that the assessment revealed no evidence of any recognized environmental conditions, and there is no reason to believe the property is contaminated. For the less fortunate, the site assessment will suggest that there is a strong possibility of contamination. In some cases, the result may be inconclusive. Without any sampling data to rely on, some consultants hedge their bets and say only that there is a moderate possibility of on-site contamination. Where does this leave the CBO?

Since the Phase I assessment costs \$1,500 to \$3,000, the CBO will need to make a decision as to whether there is still enough interest and resources to continue investigating the environmental condition of the site in a Phase II site assessment. This assessment is more costly, as it involves hiring an environmental consultant to take soil and water samples on-site. It also requires that the current owner be willing to provide access to the site. These samples will determine if, and to what extent, the property is contaminated. Because this site investigation is a big financial step, a CBO may conclude that the property is not a feasible location for the development project and end involvement. CBOs acting as community advocates can, at this point, encourage public agencies or other developers to take action on this site, which is too complicated or costly for a nonprofit developer.



(B) Phase II Environmental Site Assessment

If the CBO decides to continue investigating the contamination level of the site and is able to gain access to the property, a Phase II environmental site assessment is the next step in the redevelopment process. For this assessment, the CBO will need to hire an environmental consultant to conduct a more rigorous investigation that may include collecting samples through drill borings, test pits, and taking groundwater and sediment samples.

The goal of a Phase II assessment is to find out as much as possible about the suspected contamination on the site. If the initial sampling confirms that there is contamination on-site, additional testing is required to determine the types of contaminants, the concentration levels, and the boundaries of the pollution. Developers use this information to estimate cleanup costs, which will likely determine whether to proceed with the real estate transaction.

Some states require that interested developers submit a site investigation plan for review and report in at regular intervals during the investigation's progress. State agencies typically require notification within 15 days of the detection of excessive levels of contamination, which are set by the state. In most cases, as a voluntary party, a developer will not be held liable for cleaning up the contamination unless the investigation somehow increased the problem.

A Phase II assessment can be an expensive proposition. The costs of a more extensive site assessment that includes sampling are considerably higher. Costs are quite variable depending on the size and complexity of the site, but a rough estimate ranges between \$10,000 and \$100,000. In most cases, however, the value of a property will increase once it has been investigated and cleaned. If this change in value is greater than the cleanup costs, then the site could be considered a good candidate for redevelopment. *Note: this assumes that cost is the most important variable to consider. Some CDCs may wish to proceed with a project even if the cleanup cost does not affect the value of the property because the project offers the community benefits that cannot be folded into the value of the property.*

CBOs acting as a community advocates or collaborators will likely find themselves interpreting and disseminating results of the environmental site assessments to the

greater community. This will add transparency and provide the CBO with leverage if a battle over cleanup technology or standards ensues. See the Starlight Park Case Study on page 64 for an example of a CBO acting as a community advocate in the brownfields redevelopment process.

A more detailed discussion of cleanup options, including information on cleanup technology and costs, can be found in Section 4.

STEP 4: DETERMINE REUSE OPTIONS

Before investing in site cleanup, a CBO will want to perform a reuse, also known as end use, assessment to see which redevelopment scenarios may be compatible with a given brownfield property. This assessment can help determine the constraints and opportunities presented by a specific site. Typically, reuse assessments consider a number of factors that influence the redevelopment potential of a brownfield. These factors include market conditions, community needs, opportunities for collaboration or funding, and implementation challenges.



(A) Define Allowed Uses

Local zoning regulations specify what uses are allowed for a given parcel of land. For example, if a brownfield is currently zoned for commercial or industrial use, redevelopment options may be greater, from an economic perspective, than if the site is zoned exclusively for residential use. Zoning also controls the potential intensity of use by limiting the size and placement of structures or activities. If a site is not being used as intensely as permitted under current zoning, the future monetary value may be higher than if the site has already been developed to its maximum potential. City planning agencies develop plans and zoning maps that define the boundaries and uses allowed in each of the city's zones. In some cases, zoning amendments (also known as variances or exceptions) are allowed for a given property.

(B) Determine Market Conditions

Though profit is not necessarily the main criteria in a community-driven redevelopment project, determining the **"highest and best use"** for a property can be helpful to understand the economics of a particular site. This process requires looking at a number of variables that influence the market for a particular brownfield site. These variables include:

- the value of the property before and after cleanup,
- the physical dimensions of the site,
- the condition of any structures on the property,
- how the site is currently zoned, and
- the proximity of the brownfield to local amenities and transportation networks.

Local real estate agents and assessors can assist in determining the demand for various types of traditional uses (e.g. commercial, industrial, and residential) in an area. The physical dimensions of a site can have a significant effect on its highest and best use. If the site is too small, irregularly shaped, or has topographical challenges, traditional reuse options are limited. In general, future monetary value is tied to how intensely a site can be used. Similarly, if existing structures are in disrepair or are functionally obsolete, this may complicate reuse; however, if existing structures are sound, this may decrease redevelopment costs and influence future reuse options.

The proximity of local amenities, such as schools, retail, and entertainment opportunities, can have a positive effect on the future monetary value of a brownfield site. This

same principle also applies to the site's access to primary transportation routes in the area. Locations near public transportation routes or along major transportation corridors generally have higher values than those with poor access to transportation.

That said, more and more communities are challenging "highest and best use" because so many brownfield sites are not profitable to traditional developers. Untraditional uses, or those that generate little or no profit, can benefit communities in a variety of ways. Such uses include playgrounds, agriculture-related uses, and green infrastructure (e.g. stormwater features or renewable energy generators).

(C) Assess the Community's Needs

Once the CBO determines the allowed uses under the zoning code, identifies goals and strategies in the city's comprehensive plan, and assesses the suitable traditional and non-traditional uses for the city, it should consider how well these uses match the community's needs. The goal of this step in the reuse analysis is to determine what uses would improve the quality of life in the target area. For example, the neighborhood may lack affordable housing, employment opportunities, retail and dining options, open space, or access to healthy and affordable food. In addition, various reuse options may affect surrounding property values differently and so uses that match community needs may or may not be the use with the highest future monetary value.

(D) Analyze the Options and Determine an Appropriate End Use

The three previous steps will generate a list of possible reuse options. This final step involves measuring these options against the opportunities for collaboration and funding to help achieve a specific end use. It is important to keep in mind brownfield funding availability when determining the redevelopment potential of a given brownfield. If the intended reuse is harmonious with local comprehensive or neighborhood plans, partnering with the local government or with other private entities to redevelop the site is a viable option. In addition, the local or state brownfield authority may have a site assessment or cleanup grant program that could offset some of the costs of redevelopment.

The final step in this analysis of reuse options is looking at what implementation challenges may complicate redevelopment. This requires evaluating how well present conditions match each reuse option. For example, can existing structures be reused, or will they need to be demolished and replaced with new construction? Does the current zoning match the intended reuse, or will a zoning amendment be required in order to proceed?

Prospective developers should be ready to make a reasonable assessment about whether or not to proceed with redevelopment once they consider the regulatory climate, market conditions, and community needs outlined above. The last step before implementing a redevelopment plan is an evaluation of cleanup options for the site.

STEP 5: EVALUATE CLEANUP OPTIONS

Depending on the results of the environmental investigations and intended reuse analysis, the CBO may have a range of cleanup options from which to choose. Choosing the appropriate option involves an analysis of legal liability, available financing, and compatibility with the end use of the property. The steps below offer some basic considerations when evaluating cleanup options. Sections 4 and 5 of this guide include more detailed information to help in this analysis.



(A) Determine Suitable Cleanup Technology

At the conclusion of the Phase II assessments, the environmental consultant will present the investigation's findings in a report to the CBO. In addition, the consultant will prepare a cleanup plan to address areas of the site that are contaminated. The plan should:

- consider feasible cleanup goals, given the intended use;
- describe alternative cleanup strategies (e.g. removal, treatment, or containment of the contamination);
- provide a tentative schedule for remedial activities; and
- estimate the costs of the various alternatives to the extent possible.

(B) Consider Cleanup Costs & Research Sources of Funding

Different cleanup options will, of course, affect costs. For example, a cleanup that relies on placing a clay cap on contaminated soil is likely to be much less expensive than one that involves hauling the contamination away to a landfill. This is particularly true when a CBO does not factor in the longer term costs of monitoring the clay cap, making sure it remains intact and protective by removing potential exposures to waste in place. The longer term costs of engineering controls (i.e. physical barriers) and institutional controls (i.e. land use restrictions, deed notices) need to be factored into this decision-making process and included in community decisionmaking. But costs, while important, may be only one factor among many in evaluating cleanup options.



RAIL YARD AND DUMP SITE WAS CLEANED AND REDEVELOPED INTO A

More generally, it is important for the developer to identify the cleanup option that can help realize the vision for the property. To do this, the CBO should consider the following questions:

- How will the cleanup option hinder or facilitate the intended reuse of the property?
- What cleanup goals should be considered in order to ensure that local residents and other stakeholders are satisfied with the outcome of the cleanup?
- Are the cleanup options compatible with the redevelopment plans for the neighborhood?
- How will contamination left on-site be managed over the long term?
- Will the use of institutional controls, such as deed restrictions, limit what can be done on the property?
- How will adjacent property owners and others in the neighborhood be impacted by the cleanup?

The Redevelopment Process continues on page 43.



RAISED BEDS WHERE A DILAPIDATED HOUSE ONCE STOOD, NEW ORLEANS



ANCHO PEPPERS GROWING IN A RAISED BED ON THE SITE OF A REMEDIATED BROWNFIELD, TORONTO

KIMBERLEY HODGSON

AGRICULTURE ON REMEDIATED BROWNFIELDS

Across the country, brownfields are being transformed into housing, commercial buildings, mixed use developments, and parks. Though there are myriad reuse options for brownfield sites, agriculture-related uses present exciting alternatives to traditional redevelopment.

Community gardens and farmers markets are some of the most visible agriculture uses in cities around the U.S. Philadelphia, Cleveland, and other cities that suffer from high rates of residential and industrial abandonment, health disparities, and food access challenges make urban agriculture a popular and viable redevelopment option. As discussed in Section 4, heavy contamination can constrain reuse options, but other agriculture-related uses such as small-scale food manufacturing, processing, and distribution centers and composting facilities prove to be feasible options on challenging sites.

Depending on the needs of the community, the developer's intentions (e.g. profit, community benefit), and the physical characteristics of the site, agriculture-related uses can provide the community and developer with many benefits. Locally grown food can address economic, environmental, and social challenges by creating jobs, lowering transportation costs associated with conventionally farmed foods, and providing low-income populations with access to healthy, fresh foods. Other potential benefits of remediating brownfields for agriculture purposes include:

ECONOMIC

- Provide income for farmers as well as landowners
- Strengthen the local economy
- Create employment opportunities
- Decrease public land maintenance costs
- Increase local employment opportunities and generates income
- Capitalize on underused resources (e.g. rooftops, roadsides, utility right of ways, vacant property)
- Increase property values

ENVIRONMENTAL

- Improve urban biodiversity and species preservation (e.g. microorganisms, insects, birds, reptiles and animals)
- Contribute to urban environmental management
- Decrease and convert waste into a productive agricultural resource or input (e.g. composting of edible and inedible plants, irrigation of treated wastewater, graywater reuse)
- Offer additional open space to residents of urban areas
- Reduce heat island affect in urban areas
- Reduce amount of impervious surfaces in urban areas (e.g. stormwater management)
- Improve the health of natural systems

SOCIAL

- Increase access to fruits and vegetables, especially in low-income areas that have poor access to affordable, healthful foods
- Provide opportunities for nutrition education and other public health programming to improve nutrition knowledge, attitudes, and dietary intake
- Provide opportunities for experiential learning of how to grow, prepare, and eat fruits and vegetables
- Foster community building and increased social interaction
- Reduce human contact with contamination, thereby improving public health

Due to the complex economic, environmental, and social issues surrounding brownfield redevelopment, there are several important factors that must be considered. These are described below.

CONTAMINATION

Soil contamination is a significant, and often limiting, factor for the reuse of residential, commercial, or industrial sites for agricultural purposes in urban environments, particularly with respect to affects on human health. Such contamination can negatively impact plant growth and pose serious human health problems through contact with contaminated water and soil and consumption of contaminated foods.

When soil is contaminated, it poses a variety of challenges for agricultural uses:

- Soil contamination can percolate into the groundwater and disperse the contaminants throughout the soil and to neighboring parcels of land. When people garden or farm, or when children play in the soil, they can come into direct contact with the contaminated soil or water. Because children, particularly those under six years of age, are constantly exploring their environments through touch, smell, sound, and taste, they are at greatest risk for exposure to potential contaminants, particularly in community and school garden settings.
- Plants grown in contaminated soil can absorb the pollutants. When a person then consumes that plant, the harmful affects of the contaminant may be transferred. This is called **bioaccumulation**.
- Soil type, contaminants, and type of plant are all factors that affect how much a contaminant is absorbed by plants grown in compromised soil. These factors play a role in where the contaminant is stored – whether it remains in the roots or progresses to the shoots or fruits of the plant. This, in turn, determines if the contaminant will be passed on to people consuming the products.

REMEDICATION STANDARDS

As discussed in Section 4, a property's intended reuse plan determine the site's remediation standards (e.g. a housing development will have more stringent cleanup standards than a commercial development). Regulatory agencies typically use risk-based standards to determine cleanup of a brownfield site when a site is being redeveloped for residential, commercial, and industrial use. However, these standards have not been tailored for agriculture reuse, which poses a problem considering that many local governments do not require environmental site assessments; do not provide standards for safe and effective contained systems; and do not have standards for ensuring that imported soil and growing mediums, such as "clean fill", are safe and contaminant free.

REMEDICATION TECHNIQUES

There are two broad remediation technology categories: physical and biological. Physical remediation techniques seek to remove, cap, wash, or extract contaminants from soil. Biological techniques include phytoremediation, fungal remediation, compost remediation, and microbial remediation. Remediation technologies are discussed in greater detail in *Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening* (available at http://cepm.louisville.edu/Pubs_WPapers/practiceguides/PG25.pdf).



URBAN AGRICULTURE IN NEW ORLEANS



KIMBERLEY HODGSON

INNOVATIVE GROWING TECHNIQUES

If contamination proves to be an issue that is too cost-prohibitive to remedy for agricultural purposes, contained systems can be used to bypass exposure. These include the combination of soil covers and contained food production methods—such as raised beds, hydroponic or aquaponic systems, and vertical or container-based gardening systems. Together, soil covers and contained food production methods reduce plant and human contact (within and around food production areas) with contaminated soil. Such technologies are widely used throughout the U.S. and, depending on the system, can be low-cost and low-maintenance. Cornell Waste Management Institute's *Soil Contaminants and Best Practices for Healthy Gardens* goes into greater detail on how to work around soil contamination (available at <http://cwmi.css.cornell.edu/soil%20contaminants.pdf>).

FINANCIAL INCENTIVES

Different localities offer different incentives for agriculture-related brownfield redevelopment projects. Lower tax rates, reduced utility rates for water and other utilities, and grants and low-interest loans specific to agriculture businesses may make an agricultural reuse more economically attractive. Developers interested in taking advantage of these financial incentives should visit <http://www.epa.gov/brownfields/urbanag/>.

AGRICULTURE AS AN INTERIM USE

Interim uses of brownfields properties help meet the needs of local residents when a project or property is not ripe for redevelopment. Depending on the type of use and level of contamination on-site, temporary use of brownfields can provide several benefits to a community and a property owner. Urban agriculture can help:

- increase exposure and interest in the site;
- demonstrate that the site is viable for reuse;
- develop a positive relationship between the property owner, local government, and the community at large; and
- generate revenue, in some cases.

However, there are drawbacks with agriculture as an interim use. Land tenure, and the duration of time the land is available, plays a role in whether agriculture is a good interim use. For example, if the land is only available for a short time frame, a farmer will likely decide not to use the land for growing purposes. Rather, the property may be a better fit for a start-up farmers' market or temporary distribution center.

QUESTIONS CBOS SHOULD ASK WHEN CONSIDERING AGRICULTURE REUSE OF BROWNFIELDS

Depending on the extent of the contamination, state and local regulations, and other site-specific challenges, agriculture-related uses may not be technically or economically feasible. CBOs can use the following questions to start the process of identifying if agriculture uses are right for the site under investigation. The Cornell Waste Management Institute (<http://cwmi.css.cornell.edu/soilquality.htm#soil>) provides additional guidance on the topics of soil testing and remediation technologies.

REGULATIONS

- Does the municipal zoning code allow agriculture uses on the specific site? If so, what types of uses are allowed (e.g. community gardens, commercial farming, chicken and bee keeping activities, farmer's markets)?
- Is there an existing inventory of brownfield sites? If so, are any suitable for agriculture reuse?
- Currently, there are few communities that have regulations with respect to agriculture reuse. Have you checked with your brownfield regulatory authority to see if there are any regulations related to agriculture reuse of brownfields?

SITE ASSESSMENT

- What were the previous uses of the site?
- Has the site been tested for contamination? If so, in what areas of the site did the tests take place (i.e. On a portion of the site? The entire site? Were soil and groundwater tested?)?
- If contamination was found during the site assessment, what methods does the regulatory authority recommend you use to clean the site?

SITE USAGE

- How is the site going to be used (e.g. community garden, school garden, commercial farming, chicken and bee keeping activities, farmer's markets)?
- Is the community supportive of the site reuse plan?
- Who will have access to the site (e.g. children, the entire community, workers)?
- Will the site be used for commercial (e.g. farmer's market, composting or distribution center) or non-commercial activities (e.g. education)?



KIMBERLY HODGSON

LOCALLY GROWN TOMATOES FOR SALE AT A FARMERS' MARKET, TORONTO

CLEANUP

- What methods does the regulatory agency recommend you use to minimize risk to users of the site?
- If capping the soil is recommended, what standards will you follow to minimize the risk to the end users?
- If using contained systems:
 - How deep will the raised bed need to be to minimize risks to end users?
 - What type of root barriers will you use (e.g. bark chips, fabric)?
 - What will you use to cap pathways (i.e. areas between raised beds) to minimize risks to end users?

SITE MAINTENANCE

- As an operating agricultural site, how will you minimize public health and environmental impacts of operations to neighbors?
- How will you ensure that capped or contained contamination remains contained?

ADDITIONAL RESOURCES

Shayler, Hannah, Murray McBride, and Ellen Harrison. 2009. "Soil Contaminants and Best Practices for Healthy Gardens." Cornell Waste Management Institute: Ithaca, N.Y. Available at <http://cwmi.css.cornell.edu/soil%20contaminants.pdf>.

Turner, Allison H. 2009. "Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening." Louisville, Ky.: University of Louisville Center for Environmental Policy and Management. Available at http://cepm.louisville.edu/Pubs_WPapers/practiceguides/Pg25.pdf.

"Urban Soil Contamination and Remediation." 2009 *BioCycle* October. Available at http://www.jgpress.com/images/art/0910/bc0910_24_30.pdf.

U.S. Environmental Protection Agency. 2009. "How Does Your Garden Grow?" EPA-560-F-09-024. Washington, D.C. Available at http://www.epa.gov/brownfields/success/local_ag.pdf.

U.S. Environmental Protection Agency. Office of Brownfields and Land Revitalization, Urban Agriculture webpage. 2010a. Washington, D.C. Available at <http://www.epa.gov/brownfields/urbanag/>.

"Vacant Lots Sprout Urban Farms." 2009 *BioCycle* October. Available at http://www.jgpress.com/images/art/0910/bc0910_24_30.pdf.

At this point, the CBO should consult with the state’s regulatory agency to ensure that cleanup requirements are met in the proposed cleanup plan. It is important to note that cleanup standards vary for different end uses. Higher standards are typically required for uses that may affect human health (e.g. residential, agriculture, playgrounds). Furthermore, some uses, including agriculture-related uses, are emerging, and cleanup standards are not yet available. In this case, the CBO should work closely with the regulatory agency to determine an appropriate cleanup plan.

With the standards in mind, the CBO will need to submit a detailed cleanup plan that sets out the methods to be used to remove, treat, or otherwise limit exposure to contamination. The plan will also need to explain how the CBO intends to prevent exposure to workers and residents during the cleanup, as well as present a contingency plan to address the discovery of additional contamination during cleanup. Since many states have public participation requirements, the CBO may be required to hold public hearings or meetings about the cleanup and reuse of the property.

The state agency will review this cleanup plan and may ask for modifications. After the cleanup plan has been approved by the regulatory agency and public comments addressed, the CBO can begin the cleanup of the property.

The time it takes to remediate a site will vary depending on the cleanup standards that apply to the site and the amount and type of contamination. It also can be influenced by factors outside the control of the CBO, such as unusually bad weather or the availability of technical consultants hired to perform various tasks on the cleanup. One additional unknown is the time required by the state agency to review and approve completed cleanups. Many state agencies streamline this effort, and some required review of cleanup documents within a given time period, typically a month from submission.

The final step of the cleanup process is often the most satisfying. Once the regulatory agency approves the cleanup job, the agency will issue a no further action (NFA) or a certificate of completion letter. This document is valuable because it serves as proof to potential lenders, developers, and others that the developer remediated the site to the satisfaction of the regulator. CBOs should contact their state or local brownfield program to learn which agency has jurisdiction to regulate brownfields.



VANDALIZED GAS STATION IN SAN DIEGO, CALIFORNIA



CLOSED STRIP MALL IN DAYTON, OHIO

JOSEPH SCHILLING

STEP 6: IMPLEMENT A REDEVELOPMENT PLAN

Steps 1 through 5 outlines the predevelopment work necessary to determine if a given brownfield site is ripe for redevelopment based on a variety of criteria. The predevelopment work discussed thus far is often described as conducting **due diligence**. Once a CBO completes its due diligence, it is ready to select and implement a redevelopment plan. This redevelopment plan will typically consist of two separate but interdependent components: the preferred reuse option and the preferred cleanup option.



When selecting a redevelopment plan, the developer should try to identify the reuse and cleanup option that best satisfies its community's needs given the market potential of the site and the opportunities and challenges discussed in the preceding steps.



JOSEPH SCHILLING

DESERTED SUPERMARKET IN ERIE, PENNSYLVANIA

Assuming the CBO has been in close communication with community stakeholders throughout the predevelopment stages (discussed in more detail in Section 3), it probably already has a preferred redevelopment plan that also fits the community's expectations. Before moving forward with implementing this plan, the CBO should take one last look at alternatives for redevelopment by weighing alternatives and assessing community need. The questions below will help CBOs determine whether or not their redevelopment plan is still applicable. If a CBO can answer *yes* to these questions, the plan is ready for implementation:

- Does the preferred plan meet an important community need?
- Are market conditions right for this redevelopment?
- Is the cleanup option well suited to the end use?

Implementing the plan involves a number of sequential steps including identifying financing, securing development approvals, finalizing the real estate transaction, cleanup, and construction.

(A) Identify Financing

Most brownfield projects require multiple sources of financing to complete cleanup and construction. The first step in implementation is identifying and securing private and public sources of money. Depending on the site's location and the nature of the project, the CBO may be eligible for local, state, or federal financing to pay some of the costs of redevelopment. There may also be opportunities to partner with local businesses or other organizations in the area to share the financial risks. Section 5 discusses techniques for financing brownfields redevelopment in more detail.

(B) Secure Development Approvals

Once a CBO identifies financing for cleanup and construction, it can begin the process of securing development approvals from the local government. In most cases, local planning agencies suggest that CBOs set up a preliminary review meeting to see how the redevelopment plan matches with the development regulations for the site. (Although the CBO should have already investigated the local planning restrictions on the site in Step 3A, the planning agency will provide assurance that the proposed end use is acceptable or provide realistic expectations about whether a variance or exception to the zoning code will be approved.)

The redevelopment plan will need to include enough detail in order for the local planners to see if the project is in compliance with adopted plans and development regulations. During this initial meeting, the developer must communicate any contamination issues along with the strategy for cleanup. If the property is appropriately zoned for the proposal, the local planners will explain the steps that need to be taken to obtain a building permit.

If the property is not currently zoned for the proposed end use, securing approval will be more difficult. Sometimes, a development proposal is consistent with the vision for the parcel or neighborhood presented in the local comprehensive or neighborhood plan but not with the current zoning. In these cases, the local planning agency may help the CBO apply for a rezoning or a special use permit. If the end use does not match the vision presented in local plans, the CBO may need to rethink the redevelopment plan.

(C) Finalize Pending Real Estate Transactions

After the CBO secures the necessary land-use approvals, the next step is to finalize any pending real estate transactions. This means closing on any property sales and agreeing to final terms on any financing arrangements for cleanup or construction. This is the time to agree in writing what responsibilities (liability) the buyer and seller will take during the cleanup phase. Liability is discussed in more detail in Section 4.

(D) Cleanup and Construction

The final step in implementing the redevelopment plan is doing the actual site work. This includes both cleanup and construction. Depending on the nature of the cleanup plan and the entities actually doing the work, cleanup and construction may either be sequential or integrated. Section 4 contains more detail on common cleanup scenarios and options. Once cleanup is complete, the regulatory authority overseeing the site will send the new property owner a statement of “no further action” (NFA). In an NFA letter, the regulatory agency provides assurances that, based on current information about the site, the agency will not demand any further cleanup. Typically, an NFA letter grants liability protection to the voluntary party but not to future owners of the property. In short, the letter demonstrates that the site ready for reuse. *Note: not all states issue NFA letters. CBOs should contact their regulatory agency for more details.*

The brownfield redevelopment process is considered to be successfully concluded after construction is complete and the property is operating as its planned end use. Depending on the scale of the project and the type of use, some projects commemorate completion with a ribbon-cutting ceremony or another public event that brings together the organizations and individuals that made redevelopment possible.



THE LOFTS AT ALBUQUERQUE HIGH SCHOOL IN NEW MEXICO

WHEN REDEVELOPMENT IS NOT POSSIBLE

Not all brownfield sites are ripe for development, particularly clusters of brownfields in distressed neighborhoods. Ownership of these properties may be fragmented among private owners and burdened by liens, bankruptcy considerations, and other hindrances that make them an unwieldy and time-consuming challenge for prospective developers. For low-income and minority communities, the costs of these policy failures are steep. Not only are residents potentially exposed to contaminants from multiple sites, but the collective underinvestment in small brownfield properties perpetuates economic inequities. When redevelopment of brownfield sites in a community is not possible in the near term, what can CBOs do?



U.S. ENVIRONMENTAL PROTECTION AGENCY

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At the site level, CBOs can push for interim uses of brownfields properties to meet the needs of local residents. Depending on the type of use and level of contamination on-site, temporary use of brownfields can provide several benefits to a community and a property owner by:

- increasing interest in the site;
- demonstrating that the site is viable for reuse;
- developing a positive relationship between the property owner, local government, and the greater community; and
- generating revenue (in some cases).

Interim uses can be anything from a one-time festival, an outdoor summer movie series, a pocket park, a short-term “green” technology demonstration project, or a temporary home to a farmers’ market; however, interim uses are not always a good idea. Many factors determine whether or not a site is suitable for interim uses—including the local zoning ordinance, degree of contamination, past uses, overall condition of the site, and the time and effort required to get the interim use up and running. In addition, communities can become attached to a particular interim use, such as a farmers’ market or community garden, and resist development plans that will take that use away.

In other instances, the CBO may want to gain ownership or management rights to a brownfield site that has little immediate development potential. To do so, a CBO can:

- identify potential brownfields sites in the target neighborhood by conducting a field investigation of sites in the community;
- investigate the tax status and any title problems with city officials;
- review regulatory files and, if need be, search for any historical documentation of the sites and produce a database of potential properties that meet criteria specified by the community; and
- identify available funding mechanisms to support pre-development work (i.e. dealing with site control issues, paying for site assessments, etc).

10 FACTORS THAT MAKE A BROWNFIELD REDEVELOPMENT SUCCESSFUL

Assemble a Strong Brownfields Team with Leadership from the Top

Brownfields success is about people. Localities most successful in brownfields revitalization have set up brownfields teams that include prominent local leaders, a brownfields staff champion, a cross-sector team of public and private supporters, and a citizens stakeholder advisory group.

Connect Brownfields with Community Revitalization Priorities

Communities will succeed in brownfields revitalization when they consider these properties as community and economic opportunities that happen to have an environmental challenge, and connect brownfields initiatives to their broader community vision and revitalization priorities.

Begin with the End in Mind

Brownfields projects have much greater success when the local community first identifies the potential reuse of the idled, contaminated property.

Involve Citizens from the Start

Community involvement and consensus are two of the most important ingredients for a successful brownfield project.

Engage the Private Sector and Reduce Its Risk

Most brownfield properties will be revitalized by the private sector with the support of private finance. Thus, local communities must understand private sector needs, help reduce private sector risk, and facilitate private sector strategies.

Make Cleanups Work for You

Brownfields successes ultimately involve overcoming environmental cleanup challenges at contaminated sites. Communities and brownfields redevelopers are using new strategies and new technologies to avoid making environmental costs the brownfields “deal-breaker.”

Leverage the Funding

Funding is essential for turning a community’s brownfields vision into real results. However, because there is usually no single source of money to complete the many facets of a brownfields project, the most successful communities will help leverage a variety of public and private sources for brownfields revitalization.

Join Forces with the State or Local Brownfield Program

Now more than ever, the success of local brownfields initiatives will depend upon the strength and capacity of state brownfields programs, and the ability of localities to partner with their states.

Partner with Key Federal Agencies

Brownfields revitalization is enhanced by the strong partnership that emerged between local communities and the “federal family” of key agencies that targeted resources to the brownfields problem. These agencies continue to be a valuable resource for local communities, and a key to local brownfields success is to take advantage of these federal resources and assistance.

Nothing Succeeds Like Success

To achieve its brownfields vision, a local community must make small steps toward progress, to give confidence to the community and brownfields stakeholders.

Source: *Unlocking Brownfields: Keys to Community Revitalization*. National Association of Local Government Environmental Professionals. Available at <http://www.resourcesaver.com/file/toolmanager/CustomO93C337F65023.pdf>.

SECTION SUMMARY

- Each CBO is likely to have a vision of how its redevelopment project could transform the neighborhood. And yet, in the brownfields context, a community vision needs to be rooted in a realistic picture of the constraints and possibilities inherent in brownfields.
- A reuse assessment should consider market conditions, community needs, opportunities for funding and partnerships, and any implementation challenges.
- Phase I assessments should be conducted in compliance with USEPA’s “all appropriate inquiry” standard so that the CBO would be able to qualify for liability protection under federal and state law.
- Before investing in site cleanup, a CBO should perform a reuse assessment to see which redevelopment scenarios may be compatible with a given brownfield property.
- Depending on the results of environmental investigations (Phase I and Phase 2 site assessments) and the CBO’s intended end use, there may be a range of cleanup options from which to choose.
- Implementing a redevelopment plan involves a number of sequential steps including identifying financing, securing development approvals, finalizing the real estate transaction, cleanup, and construction.
- For those brownfield properties that are unlikely to be developed in the near term, CBOs can propose interim uses, such as parks or open spaces, which can make the neighborhood more attractive to investors.



U.S. ENVIRONMENTAL PROTECTION AGENCY

THIS PUBLIC BOARDWALK SITS ON SITE OF THE HOLLY STREET LANDFILL, BELLINGHAM, WASHINGTON

CASE STUDY

Vermont Transit Bus Barn, a project of the Champlain Housing Trust Burlington, Vermont

The Vermont Transit Bus Barn redevelopment, located at 343 North Winooski Avenue in Burlington, Vermont, is the most ambitious brownfields project that Champlain Housing Trust (CHT) has undertaken to date. The site, which was in continuous use as a transportation center since 1885, is now home to 25 rental housing units as well as commercial space.

CHT, formerly Burlington Community Land Trust, is one of approximately 180 community land trusts operating across the country. Community land trusts (CLTs) typically act as mediating institutions in urban neighborhoods. As owners they acquire land to hold it in trust for neighborhood residents; as brownfield developers, they can act as a bridge to help communities, private investors, and the public sector negotiate new relationships about property and ownership.

In Vermont, CHT stayed accountable to local residents by remediating and transforming contaminated properties in its target neighborhood, the Old North End. In the last 25 years, CHT built some 500 units of affordable housing, a small urban park, and facilities for a variety of community organizations such as a neighborhood food pantry, a legal aid office, and a nonprofit daycare center. CHT built many of these facilities on remediated brownfields.

As a nonprofit, member-based organization, CHT acquires and holds land for the benefit of people who live in the local community. The land trust model is premised on a radically different concept of property ownership, one which treats land and buildings differently. In a home ownership project, CHT acquires the land and holds permanent title to it, while the home buyer purchases only the house. When home owners decide to move out of their house, they receive 25 percent of any increased equity. The other 75 percent stays with the property to subsidize the next home buyer. Land trusts such as CHT can also acquire commercial property. In these instances, any buildings located on CHT land or later built by the land trust are typically sold or rented to nonprofits, government entities, or, in some cases, for-profit organizations.

For more than a hundred years, the Vermont Transit Authority used the “Bus Barns” site as a bus and trolley repair and maintenance facility. The site contained two historic brick barns and one large steel frame garage. The occupant of the site, Vermont Transit, wanted to move operations and so the owner of the site looked for a buyer; however, petroleum hydrocarbons and solvents, left over from years of routine bus maintenance activities, contaminated the site. CHT knew the site was likely to be contaminated, but also recognized the importance of the site to the revitalization of the entire neighborhood. So CHT actively sought the property as a way to invest in the poorest neighborhood in the city.

CHT aggressively moved on the site and negotiated a purchase and sale contract with the owner. With funding from the city of Burlington, the Vermont Housing and Conservation Board, and low-income housing and historic tax credits, CHT acquired the site. To take on the complexity of the task and to shield itself from some of the risk associated with the cleanup and redevelopment of the site, CHT entered a state program to limit liability, and created a limited partnership with Housing Vermont to control the property.



VERMONT TRANSIT BUS BARN BEFORE REDEVELOPMENT

CHAMPLAIN HOUSING TRUST

With financial support, political will, and community involvement, CHT demolished the steel garage and constructed 12 new apartments and converted one historic barn on the property into nine apartments. CHT developed the second barn into four apartments and commercial uses, which include a laundromat and a garage that repairs donated cars and sells them at below-market rates to low-income buyers.



DON DIXON



DON DIXON

THE “BIG BARN” IS A MIXED USE BUILDING WITH FOUR APARTMENTS, A LAUNDROMAT, A SMALL RESTAURANT, AND THE GOOD NEWS GARAGE

THE “TROLLEY BARN” NOW HOUSES NINE APARTMENTS

The Bus Barns redevelopment project was a tremendous achievement for CHT, but its success did not come without difficulty. Described below are just a few of the lessons CHT learned during the redevelopment process.

First, CHT worked closely with the city of Burlington’s Office of Community and Economic Development to obtain funding for initial site assessments that could help the land trust get a better handle on the extent and severity of contamination and likely cleanup costs. According to Brian Pine, assistant director of housing in Burlington, “one of the biggest barriers to brownfields redevelopment is not having money to do site assessments. Nobody wants to risk money upfront for a site that might never be developed... The city’s way is to partner with CHT and to provide that initial risk capital. The hardest money to get into projects is the assessment money, the predevelopment money to hire the architect and engineer. That’s the money we provide. We’re a little piece of the whole pie, but we’re in so early, we enable the rest of the pie to be made.”

Second, as a membership organization, CHT used its 2,500 members as a source of activism and as means to help rewrite the state’s brownfield laws. CHT was instrumental in helping to establish Vermont’s Redevelopment of Contaminated Properties Program. Under the revised laws, as long as CHT or any prospective purchaser conducts a site assessment and cleanup of a brownfield in compliance with a state-approved work plan, it will receive liability protection for any future costs associated with the discovery of additional contamination or changes in regulatory standards. Through political lobbying and the legislative process, CHT helped change the state’s environmental cleanup statutes and, in essence, drew a box around future liability at contaminated sites. Without this statutory change, it is unlikely that CHT could have redeveloped any brownfields site in Burlington.

Finally, through its community organizing and grassroots development, CHT balanced the need to stay in “business” while remaining accountable to its membership. As Brenda Torpy, CEO of Champlain Housing Trust, described, “the real strength of a community land trust is having a board that includes residents of your homes and general members. And so what our members have accomplished around the state is to build big constituencies in support of affordable housing and community development.”

This case study describes the important role CLTs play in neighborhood revitalization. CBOs can choose to partner with these non-profit counterparts as their missions are often aligned and their roles complementary. Since CLTs typically play the role of primary developer, CBOs can serve the important role of community advocate or collaborator on a CLT-driven brownfield redevelopment project.

3 COMMUNITY VISIONING



COMMUNITY MEMBERS PARTICIPATE IN A DESIGN CHARRETTE AT THE 2009 NATIONAL PLANNING CONFERENCE IN MINNEAPOLIS

Community visioning is a participatory, collaborative, and consensus-driven process. It can help bring together public, private, and community interests to negotiate and suggest new approaches to clean up and redevelop brownfield sites. Whether it is in response to a proposed development on a single brownfield site or to think more comprehensively about the transformation of a neighborhood, community visioning requires the ability to think into the future and to create new relationships.



JOHN REINHARDT

COMMUNITY MEMBERS PARTICIPATE IN A VISIONING MEETING FOR DONALDSONVILLE AT THE 2010 NATIONAL PLANNING CONFERENCE, NEW ORLEANS

Brownfield redevelopment projects often involve a variety of **stakeholders**. These stakeholders can range from the property owner(s), neighboring residents, businesses, utility companies, public agencies, and historic preservation advocates. The most successful visioning efforts involve all community members, including those that seldom attend public meetings—such as youth, low-income and minority populations, and people with disabilities. Engaging a wide range of stakeholders in the redevelopment process is important to gaining community and political support for the project.

Stakeholders can have differing and sometimes contrary opinions about a brownfield redevelopment project based on their role (or stake) in it. For example, a neglectful property owner may try to avoid redevelopment to dodge liability associated with cleanup costs, while residential neighbors may advocate for the redevelopment of the property to help increase the quality of life, aesthetic appeal, and environmental conditions in the area. Finding common ground between stakeholders may be difficult; therefore, community visioning processes involve considerable give and take, with community leaders ceding some of their authority in favor of a decision-making process that is more inclusive. A strong sense of community ownership results when community participants create a vision statement.

This section will help community-based organizations (CBOs), playing the role of community advocates and collaborators, gain a better understanding of the different types of stakeholders and provide guidance on how to develop a cohesive community vision.

SECTION PREVIEW

This section describes what the community visioning process is, who has a role in the process, and why it matters in brownfields redevelopment. This section provides:

- A definition and explanation of the different stakeholders
- A definition and explanation of the community vision and visioning process
- An overview of how to build public support for a brownfields redevelopment project and maintain momentum over the long-term
- Details strategies for how to influence the development of community-friendly brownfields policies

OVERVIEW

What is a Stakeholder?

For the purposes of this discussion, a stakeholder is any person or group that has an interest in the outcome of a brownfield redevelopment project. Community stakeholders include individuals, neighborhood groups, and small business owners affected directly or indirectly by the environmental, economic, or social impacts of brownfields. Contaminated properties are in almost every American city and suburb – making everyone who lives, works, or plays near a contaminated or potentially contaminated site a stakeholder.

Community stakeholders have a legitimate interest, or “stake,” in the redevelopment process because they are directly or indirectly affected by the economic, environmental, and social consequences of living in close proximity to a brownfields site. The range of stakeholders in most brownfields projects extends far beyond the affected local community. These stakeholders include:

Elected officials, who may have considerable political capital riding on the outcome.

Planning agencies and **zoning boards**, which are likely to be involved and may impose conditions on the project at the behest of community residents.

State regulators, who are responsible for determining an acceptable cleanup level and, in this way, influence the trajectory of a project.

Local public health departments, which have a vested interest in ensuring that vacant properties do not pose a public health risk and in improving the overall physical and mental health of people living and working in neighborhoods where brownfields are found.

Environmental groups, which may have a more generalized concern about protecting the natural environment and become involved in project discussions, particularly those projects that promote open space.

Private developers, who are often involved because a vast majority of brownfield projects are carried out by private sector developers.

Real estate interests—**sellers, developers, lenders, lawyers, cleanup contractors**, and **investors**—who are often the driving force behind many brownfield projects; as such, they may hold the biggest *financial* stake.

Typically, the focus of brownfield redevelopment is on the most marketable properties in more thriving urban real estate markets, where developers can realize the greatest market returns on their investment. By contrast, brownfields that are located in neighborhoods with depressed property values may be the most challenging transformations. The costs of remediation may exceed the value of the property, and thus such properties are ignored. Where does this leave a CBO wanting to develop a collective vision for its community—a vision that involves brownfields being transformed into amenities that can improve the life of residents living in underserved and disinvested neighborhoods?

A first step toward reinvesting in a historically disinvested brownfield therefore calls for stakeholders to work collectively in developing a vision for the community. The table below gives an overview of the different types of stakeholders and their roles and interests.

POTENTIAL BROWNFIELD STAKEHOLDERS

GOVERNMENT

- Elected officials
- Environmental regulators (DEQ, EPA, others)
- City planning, economic development, public works, and transportation authorities
- Regional planning authorities

COMMUNITY

- Community residents
- Neighborhood residents in close proximity to the site
- Neighborhood associations
- Environmental justice groups
- Community development corporations
- Youth organizations
- Faith-based organizations

PRIVATE SECTOR

- Property owners
- Buyers/end users
- Real estate developers
- Real estate brokers
- Attorneys
- Environmental consultants
- Remediation contractors
- Financial lenders
- Insurance providers
- Humanitarian organizations

Adapted from: Brownfield Partnership Action Plan Portland Brownfield Initiative, 1998. Available at <http://www.portlandonline.com/Bes/index.cfm?a=72044&c=35009>.

What is a Community Vision?

A community vision is developed when local residents and CBOs make a public commitment to a shared idea about what they want their neighborhood to become and how they plan to accomplish it. To help focus their actions, some communities write a vision statement, which can be a simple sentence or paragraph. For example, a vision statement might be “to provide an environment that is amenable to redevelopment opportunities within the community.” Whatever form the vision statement takes, it should inspire the group and others, but it should also be practical. A compelling vision statement provides both a starting point for activities as well as an outlook for the future. Vision statements often define strategies that will help achieve the defined vision.

For the purposes of this guide, there are two types of community visions—a vision for an entire community or neighborhood, and a site-specific vision. The types interrelate. A defined community vision will inform a site-specific vision. So in other words, a site-specific vision should help to realize the goals and strategies of the defined community vision. *This section addresses how to develop an area-wide community vision.*

ROLES AND INTERESTS OF BROWNFIELD STAKEHOLDERS

STAKEHOLDER	EXAMPLES	ROLE	INTEREST
PROPERTY OWNER		Sell or develop the property	<ul style="list-style-type: none"> Wants to receive a fair value for property depending on the extent of environmental contamination Wants to manage any liability concerns upfront
PUBLIC SECTOR STAKEHOLDERS	<ul style="list-style-type: none"> Local government Community groups EPA grant recipients Nonprofit organizations 	Redevelop the property from a community and economic development perspective	<ul style="list-style-type: none"> Want to see the project succeed in terms of revitalizing blighted properties and generating economic growth May want the property's cleanup and reuse to enhance the community's image
PRIVATE SECTOR STAKEHOLDERS	<ul style="list-style-type: none"> Investors Lenders Developers Insurers 	Provide resources to develop the property	<ul style="list-style-type: none"> Want to see the project succeed in terms of revitalizing blighted properties and generating economic growth Want to earn an appropriate return on investment May want to tie the property redevelopment into a larger redevelopment plan for the neighborhood or community
OTHER PARTIES	<ul style="list-style-type: none"> Attorneys Environmental consultants State and federal regulators 	Provide technical, regulatory, or other guidance	<ul style="list-style-type: none"> Want to ensure that the property is cleaned up and safe for appropriate levels of use and reuse Want to alleviate future environmental concerns on the property

Adapted from "Anatomy of a Brownfields Redevelopment," USEPA, 2006. Available at http://www.epa.gov/brownfields/over-view/anat_bf_redev_101106.pdf.

THE COMMUNITY VISIONING PROCESS

(A) Beginning the Process

There is no single way to conduct a community visioning process or even to draw the boundaries of the community. In some cases, a CBO may want to hold a series of informal meetings to bring together people from the neighborhood to capture their ideas and interests and to mobilize their support; in other cases, a CBO might partner with a local government agency, other neighborhood associations, or a nonprofit to hold workshops or a charrette. It is up to the CBO that initiates the visioning process to develop a process that is open to all community stakeholders and transparent to outside entities. This will help ensure broad community support for the outcome.

In a community visioning process, it is often difficult to distinguish a goal (e.g. revitalizing a neighborhood) from an objective (e.g. building five units of affordable housing) from a step toward an objective (e.g. working with local government to obtain the title to an abandoned lot or a group of brownfield sites). This may cause people to focus on different time frames, with different outcomes in mind, and they might not be able to grasp where they agree and disagree. Therefore, at the outset of the community visioning process, at least two key questions should be addressed:

1. What is the visioning time frame?
2. What is the overall focus of the community vision?

What is the visioning time frame?

The community should decide the time horizon appropriate for its vision. Time frames are typically 10 to 20 years for a short-term vision and 40 to 50 years for long-term visions.

DESIGN CHARRETTE

A **charrette** is a relatively short and intense collaborative process for designing projects, planning communities, and building consensus. Charrettes are particularly suited for visioning because the primary objective involves the public in developing a plan that emerges from community interaction rather than a top-down, professional prescription. Charrettes often deal with design-oriented physical problems, such as maintaining the aesthetic character of a neighborhood or planning a transit-oriented development. In that sense, they are appropriate for visioning efforts focused on physical planning or placemaking issues but can also be useful for community-wide visioning efforts as well. If a visioning process becomes polarized and unwieldy, facilitators trained in collaborative problem solving may be able to help groups find common ground in their visions for revitalizing a brownfield site. For more information on how to conduct a charrette, visit <http://www.charretteinstitute.org>.

What is the overall focus?

Most communities conduct broad visioning exercises focusing on a full spectrum of community issues. Others may focus on a somewhat narrower range of subjects, such as economic development, urban redevelopment, or **placemaking**.

Adequate time is needed to prepare for community meetings, gather data, conduct research, draft materials, recruit participants, and prepare facilitators. Adequate time is also needed to carry out the visioning process. While a community meeting and a draft of the vision can be done in a single day or workshop-style event, it is not recommended. In reality, most communities require a fuller, more deliberative and extended dialogue in order to create their vision. While most processes are designed to run for a few months to a year, long visioning processes are also not recommended, as they can wear people out and cause them to lose interest.

Taking the process to different locations at different times of day will reach more members of the community. Engaging the public in more socially or ethnically diverse communities may add time or complexity to the process in order to address linguistic or access barriers. While the action planning phase of the process may be somewhat less participatory, identifying parties responsible for implementing and monitoring the vision plan can still require significant time and effort.

Most community visioning processes revolve around these four questions.

1. Where are we now?
2. Where are we going?
3. Where do we want to be?
4. How do we get there?

Where are we now?

To answer this question, the community visioning participants need to identify a range of issues that local residents care about and current conditions in the neighborhood. Participants will be the main source of information, but other sources can also contribute to assessing the present state of the neighborhood. For example, local planning

agencies have data and maps on matters that might be of interest to the community, such as the number of vacant and abandoned properties in the neighborhood, the location of brownfield sites, and neighborhood zoning, which describes permitted uses.

Where are we going?

After generating this baseline information, the second step involves identifying larger trends and considering how these trends might affect the desired outcome. For example, is the city planning any streetscape or other infrastructure improvements that might make the neighborhood more attractive to outside investment? How are neighborhood demographics changing and what affect are these changes likely to have on the neighborhood? Are property values trending up or down, and what impact might this have on the community's willingness or the willingness of outside developers to take on the redevelopment of brownfields? Are gentrification pressures evident and, if so, how might these impact local residents? Have new businesses opened up in the neighborhood in the last few years and is this likely to continue? Such questions, and of course there are many others, can help the community anticipate market trends and opportunities for brownfield revitalization in the neighborhood.

Where do we want to be?

In answering the first two questions, the community identified the current conditions and larger economic and demographic trends that shape what can be done with the site. The next step is to sort through all of the possible revitalization scenarios that participants suggested (e.g. affordable housing, open space, a mix of uses, urban agriculture, or a playground) and identify those that represent the shared destination for the community. Clearly, a community visioning process creates not only a vision but practical visionaries.

How do we get there?

In the final step of the community visioning process, participants devise a set of strategies and develop an action plan that can serve as a blueprint for planning in the short and mid-term. This action plan will assist in achieving the vision statement outlined during the process.



GRANDMOTHER AND GRANDSON PARTICIPATE IN A VISIONING DISCUSSION AT THE 2010 NATIONAL PLANNING CONFERENCE IN NEW ORLEANS

JOHN REINHARDT

This overview of the community visioning process is, of course, simplified and assumes a sort of civic harmony and good will that is rarely found in practice. In particular, addressing the questions “where do we want to be?” and “how do we get there?” is likely to generate a good deal of healthy debate. To harness this enthusiasm, an effective visioning process will typically:

- Bring together diverse points of view
- Promote mutual understanding and consensus building
- Build broader community engagement

(B) Fostering Community Support

Before the visioning process begins, process leaders must identify who constitutes the community. There are myriad ways to go about identifying who should be involved. Existing neighborhood organizations are a great resource. They can help build enthusiasm for the process as well as assist in identifying residents and other CBOs that will be affected by the revitalization process.

Whether the process is about dealing with an abandoned building or a community eyesore, the need for open space, or trying to improve the neighborhood more generally, it is important that everyone has a chance to express how a problem affects them personally; why the problem, in their view, is occurring; and what they think can be done about it. Through such dialogue, people determine common ground and competing goals. Stakeholders can also gain a clearer picture of the scope and complexities of the problem being addressed. To help build a broader coalition, the participants can list groups of stakeholders that are absent from the discussion as well as whose perspectives should be represented at future meetings.

Building Consensus and Promoting Mutual Understanding

Everyone has his own frame of reference, and when people misunderstand one another, or do not trust one another, a visioning and coalition building process can turn rancorous and break down. One approach to enable people to think from each other’s point of view and come to a shared understanding of what can be realistically accomplished is to use what is known as a **SWOT analysis**: Strengths, Weaknesses, Opportunities, and Threats.

Community Visioning continues on page 61.

EXAMPLE SWOT ANALYSIS

STRENGTHS (INSIDE THE COMMUNITY)

- Neighborhood associations
- Attractive housing stock
- Able community leaders
- Good relationships with elected officials

WEAKNESSES (INSIDE THE COMMUNITY)

- Abandoned properties
- Lack of open space/playground
- Lack of coordination for economic development
- Environmental contamination from past uses

THREATS (OUTSIDE THE COMMUNITY)

- Lack of cleanup funds for site assessments
- Lack of private investment in neighborhood
- Lack of code enforcement

OPPORTUNITIES (OUTSIDE THE COMMUNITY)

- Proposed park in neighborhood
- New city policy to sell off tax delinquent lots
- Infrastructure improvement targeted for neighborhood.

CASE STUDY

Mill Creek Development Project, a project of Slavic Village Development Cleveland, Ohio

Mill Creek is a large housing development that provides diverse housing types for a mix of incomes and races. This development, the largest housing project built in Cleveland in the last 50 years, occurred as a result of the tenacity of the nonprofit community development corporation Slavic Village Development (SVD), formerly known as the Broadway Area Housing Corporation. Until the Mill Creek development project in 1990, SVD's primary focus was to rehabilitate low-income rental housing. When the opportunity arose to create new housing while preserving open space in the Slavic Village neighborhood, SVD jumped at the opportunity. At that time, the only open space in Slavic Village was on the grounds of the former Cleveland State Hospital, a state-run psychiatric facility that closed in the 1970s. Though residents knew about the space, they did not have access to it. It was fenced off, contaminated, and littered with trash.



JUNK YARD CLEANUP ON SITE OF CLOSED CLEVELAND STATE HOSPITAL



MILL CREEK DEVELOPMENT

SLAVIC VILLAGE DEVELOPMENT

In 1855, the state of Ohio developed the Cleveland State Hospital (also known as the Northern Ohio Lunatic Asylum, Newburgh State Hospital, and Cleveland Developmental Center) on land that had been donated by Thomas Garfield, uncle of President James Garfield. At the time, the land was located on the outskirts of Cleveland in Newburgh Township. Over the course of the hospital's operational history, fires damaged or destroyed the institution on several different occasions. Because the hospital sat on 100 acres, the various state agencies that managed the site simply demolished old structures and built new ones in different locations. Consequently, construction repeatedly disturbed the once pristine site.

Much of the hospital's history predates environmental regulations regarding waste disposal. Consequently, the site became home to a 6.5-acre landfill that contained asbestos-laced demolition rubble in addition to hospital beds, institutional bathtubs, appliances, wheelchairs, and vehicle parts. Additional contamination on the site came from two other sources. An on-site steam power plant provided heat to the various buildings through a maze of underground pipes. In total, there were over a mile of steam tunnels encased in asbestos. Over time, the asbestos deteriorated and mixed with the soil. The other source of contamination came from three underground gasoline storage tanks that the state used to fuel the institution's fleet vehicles. When the institution closed, the managing agency neglected to empty these tanks, and they eventually leaked gasoline into the ground.

Despite this history of contamination and neglect, the majority of the site still *looked* beautiful. Mill Creek wound through the property on its way to the Cuyahoga River. Nature had reclaimed much of the property. Mature trees took root alongside construction rubble. Mill Creek Falls, the tallest waterfall in Cuyahoga County, took its 45-foot plunge just a quarter-mile north of the institutional site.

When SVD began exploring redevelopment options for the former hospital property, there were already several suggestions on the table. A state-run Job Corps program wanted to build homes for its young adult trainees. Cuyahoga County wanted to transform the site into a boot camp for juvenile offenders, and state of Ohio considered building a prison pre-release center on the property.



SLAVIC VILLAGE DEVELOPMENT

IMAGES OF MILL CREEK AFTER CLEANUP AND DEVELOPMENT

SVD's resident board members strongly opposed these existing proposals. For decades, the community was denied access to the property's open space. Moreover, there was no new housing in the Slavic Village neighborhood for 70 years. SVD saw an opportunity to preserve the open space and bring much needed middle-income homebuyers back into the city. The board envisioned a mix of parkland and housing that would use the best natural features of the site while breathing new life into a shrinking city.

In 1990, SVD began working with residents to plan for a new use for the site. Simultaneously, it began the process of acquiring the site from the state of Ohio. During the planning stage, misconceptions about SVD's intentions for the site complicated the process. The residents of Slavic Village, a historically Eastern European neighborhood, perceived that SVD's past efforts to revitalize low-income housing brought low-income residents from surrounding neighborhoods into the community. Somehow, amidst conflicting media reports, residents had the impression that SVD planned to incorporate the previously proposed uses in the site plan. Adding fuel to the fire, a ghost buyer purchased land in the neighborhood and sold it to the public housing authority. The community supported the idea for a park but was outraged by the thought of a massive low-income housing development on the property.

In an effort to appease residents, SVD met with Cleveland Metroparks, the regional park agency, to discuss transforming the entire site into parkland. It so happened that a few years earlier Metroparks considered taking over the site but found that the environmental conditions made the site unattractive from their perspective. Metroparks did, however, express limited interest in a linear park that would connect the hospital site to Mill Creek Falls.

In response to the residents concerns, SVD established the Mill Creek Park Planning Committee to review development proposals. Through months of meetings and review, the committee determined that market rate housing could indeed be a huge benefit to the neighborhood. Through subsequent informational sessions and the publication of a weekly newsletter about the project, the neighborhood eventually came around to SVD's plan to combine market-rate housing with a public park. In 1991, the Mill Creek Park Planning Committee began designing a park that would be environmentally sound, compatible with the housing plan, and accessible to the general public. Neighborhood representatives, Metroparks, the National Park Service, the Trust for Public Land, various state and local officials, and others made up the new planning committee. The committee was able to effectively communicate the potential value of the property to Metroparks, and the agency ultimately agreed to build, maintain, and provide security for a new linear trail with the stipulation that SVD agreed to remediate the existing landfill.

In 1994, SVD acquired the site from the state of Ohio through the city of Cleveland and began the development of Mill Creek. To keep the community involved during the cleanup and development phases of the redevelopment, SVD organized volunteer events and activities to increase visibility for the project. SVD organized an annual, volunteer-supported river cleanup event called River Sweep. It also connected local children and adults to Mill Creek through hikes, tours, and volunteer activities, which sought to teach community members about the important roles the stream and waterfall played in the development of the region.

Today, the Mill Creek development no longer resembles the dilapidated hospital site that once scarred the neighborhood. The site, which sat abandoned for over a decade is now occupied by homeowners from a mix of incomes and races. Some 220 homes and townhouses of varying sizes and architectural styles are located on a 58-acre portion of the property, and the housing development is surrounded by a 35-acre park. SVD sold the remaining 7 acres for other uses.

For information about Slavic Village Development, visit www.slavicvillage.org. To learn more about Mill Creek, go to www.millcreek-cleveland.com.

For example, a neighborhood group is thinking about acquiring tax-foreclosed properties that a city is willing to convey for a nominal fee. For years, these abandoned properties have been an eyesore in the community. Some of the properties may be contaminated. Should the neighborhood group try to acquire one or more of these properties? A SWOT analysis will help this neighborhood group frame a discussion about what people in the community want to preserve and strengthen, what they want to change, and how they might get there. The table below is an example of how a SWOT analysis can help a community frame this discussion.

It may be difficult, however, to reconcile conflicting visions among community residents about the aim of the redevelopment of brownfield sites. Some planning initiatives try to meet this problem head-on by using a few well-tried techniques:

- Community mapping exercises—enable local residents to come together around a vision of a neighborhood built on diverse perspectives and can be used to create consensus about land uses in the project area
- Oral histories and timelines—help participants explore residents' visions of the past as a pre-condition to identify common ground in the future.

There is no magic bullet for consensus building. It may be difficult to achieve, but planning efforts that avoid conflicts can do more harm than the conflict itself.

Building Broader Community Engagement

Community engagement is an effective avenue for building support within the community for the vision developed during the visioning process. A local CBO can take initial steps to redevelop a brownfield property, but it cannot necessarily do the job alone. The effort requires educating potential partners—lenders, property owners, elected officials, other neighborhood groups—about the viability of the project and the reasons to support it. It requires developing a relationship with potential partners who have the expertise or political and financial clout to add momentum to the project. Building this rapport can help identify funding opportunities, anticipate potential roadblocks down the line, and provide access to technical assistance for planning and design. Keeping potential partners informed about the project and the community's activities around the efforts will help this build and sustain rapport. Newsletters and other promotional activities (e.g. brochures, posters, leaflets) highlight the project's progress and keep the community and others involved over the long term.

In addition to these regular mailings, launching a website, a blog, or a social networking forum are excellent ways to provide information to the broader community by inviting their comments and creating interactive discussions. A listserv, which serves as an electronic discussion group, can help to build broader community engagement and to keep people interested in the project. The table on the next page provides an overview of common public participation techniques.

Facilitators can be brought in to help ensure that the visioning process goes according to plan. Facilitators will work with a CBO to identify stakeholders and their needs as well as organize and carry out the visioning process.

Creative Tools for Community Engagement

There are a number of nontraditional community engagement tools that involve the community in new and different ways, engage nontraditional community stakeholders, and help communities explore and understand how urban design and community values interact.

Such creative tools include:

- Visual arts techniques (i.e. drawing exercises, community mural projects)
- Storytelling (i.e. an exercise in collective listening)

- Technology (i.e. Twitter, Facebook, Flickr)
- Exhibits (i.e. temporary displays in retail windows, malls, parks, plazas, museums)
- Music and other types of performances
- Festivals and community gatherings

(C) Building Political Momentum

Linking the community's vision to larger goals is an important step in the visioning process. A vision that does not support adopted plans is likely to not have the political support needed to implement the vision. On the other hand, a thoughtfully produced community vision statement could be the basis for an updated community development or neighborhood plan.

Building broader community support for a brownfield revitalization project can play a significant role at city hall. Local governments, it is important to emphasize, are key players in the redevelopment of brownfields. It may be able to provide direct seed funding to a project to support open space or non-commercial projects, or help project coordinators apply for and secure state and federal brownfield revitalization dollars. The local government can use revolving loan funds to provide gap financing for a project, particularly if it is consistent with community planning efforts.



JOHN REINHARDT

COMMUNITY VISIONING IN ACTION AT A NATIONAL PLANNING CONFERENCE

While public funding is often critical to the success of brownfield projects, local governments have other resources to help a project get off the ground. For example, local government can identify sewer, water, roadway, and other infrastructure improvements needed in the project's target area and coordinate these improvements with the proposed project. It can crack down on illegal dumping and persistent code violations in the brownfield target area, which can make the neighborhood more attractive to outside investment. It can promote various zoning initiatives to promote mixed use districts or affordable housing that could benefit a redevelopment project. Local government can link brownfield revitalization areas to larger community sustainability, energy efficiency, and greening efforts to encourage or provide incentives for all new commercial, retail, or residential construction or renovation to meet best practice building, low impact development, and sustainability standards to encourage new investors and tenants. Finally, it can combine scattered abandoned lots into land development packages that could be redeveloped by CBOs as open space or infill housing.

CBOs can also try to influence state and federal brownfields policies so that more resources, such as site assessment, cleanup grants, and technical assistance, are made available. One way to do so is to lobby state and federal elected officials, letting them know how redevelopment efforts are constrained by current funding levels. Another avenue, particularly at the federal level, is to network with other organizations involved in the revitalization of brownfields, attend brownfield conferences and workshops to connect with allies, and contact national nonprofits that can amplify local-level concerns about brownfields in Washington, D.C.



SITE TOUR OF THE COMMUNITY AS PART OF A CHARRETTE AT THE 2009 NATIONAL PLANNING CONFERENCE IN MINNEAPOLIS

JOHN REINHARDT

COMMON PUBLIC PARTICIPATION TECHNIQUES

SHARING INFORMATION

Bill Stuffers	Information flyer included with monthly utility bill
Briefings	Use regular meetings (neighborhood associations, faith-based groups, social and civic clubs) to provide an opportunity to inform and educate.
Community Events	A good way to introduce the project or the organization to the community, provide information, and gain support
Feature Story	Focused stories on project related issues in neighborhood or church newsletters or even city papers
Information Kiosks	A station where project information is available
Listserve and E-mail Addresses	Anyone can register to receive any messages sent to the listserv. A dedicated e-mail address will allow stakeholders to contact project leaders with questions and feedback.
Newspaper Inserts	A "fact sheet" within the local newspaper
Printed Public Information Materials	Fact Sheets, Newsletters, Brochures, Issue Papers, Progress Reports, Direct Mail Letters
Responsiveness Summaries	A form of documentation that provides feedback to the public regarding comments received and how they are being incorporated
Technical Information Contacts	Providing access to technical expertise to individuals and organizations
Outreach Materials	Visual aides, displays, and events outreach materials are useful to bring to community events and meetings
Site Visit/Tour	A site tour will allow community members to visualize the changes that will take place on site.
Website	Provides information about the project and potentially serves as a venue for illiciting feedback from community residents

COMPILING AND PROVIDING FEEDBACK

Comment Forms	Mail-in forms often included in fact sheets and other project mailings to gain information on public concerns and preferences. Can also be web-based.
Toll-free Hotline	A central number that concerned citizens can call to get information or to express concerns about the project
Community Facilitators	Use qualified individuals in local community organizations to conduct project outreach.
In-Person Surveys	One-on-one "focus groups" with standardized questionnaire or methodology such as "stated preference"
Internet Surveys/Polls	Free online survey software (such as Survey Monkey) allows a user to develop and publish a custom survey online.
Interviews	One-to-one meetings with stakeholders to gain information for developing or refining public involvement and consensus-building programs
Mailed Surveys & Questionnaires	Inquiries mailed randomly to sample population to gain specific information for statistical validation
Photovoice	A method of community engagement that uses photography. Community members are encouraged to walk around their community and document the physical components they think are important as well as the elements they would like to change.

BRINGING PEOPLE TOGETHER

Charrettes	Intensive session where participants design project features
Computer-Assisted Meetings	Any sized meeting when participants use interactive computer technology to register opinions
Deliberative Dialogues	A systematic dialogic process that brings people together as a group to make choices about difficult, complex public issues where there is a lot of uncertainty about solutions and a high likelihood of people polarizing on the issue. The goal of deliberation is to find where there is common ground for action.
Deliberative Polling Processes	Measures informed opinion on an issue
Fairs & Events	Central event with multiple activities to provide project information and raise awareness
Focus Groups	Message testing forum with randomly selected members of target audience. Can also be used to obtain input on planning decisions
Ongoing Advisory Groups	A group of representative stakeholders assembled to provide public input to the planning process. May also have members from the project team and experts.
Open Houses/Public Meetings	Encourages involvement from the public at large.
Task Forces – Expert Committee	A group of experts or representative stakeholders formed to develop a specific product or policy recommendation
Town Meetings	A group meeting format where people come together as equals to share concerns.
Workshops	An informal public meeting that may include presentations and exhibits but ends with interactive working groups

Adapted from Sites for Our Solid Waste: A Guidebook for Effective Public Involvement, EPA. Available at <http://www.epa.gov/osw/nonhaz/municipal/pubs/sites/toc.pdf>.

SECTION SUMMARY

- Community stakeholders are people who have an interest, or “stake” in a brown-fields project and include individuals, neighborhood groups, and small business owners affected by the environmental and economic impacts of brownfields.
- A community vision happens when local residents make public commitments to a shared idea about what they want their neighborhood to become and how they plan to accomplish it.
- A community visioning process can help a CBO and other stakeholders explore differences between competing positions and build a shared framework of understanding to help various stakeholders see their stake in the redevelopment process.
- Most community visioning processes revolve around four questions:
 1. Where are we now?
 2. Where are we going?
 3. Where do we want to be?
 4. How do we get there?

CASE STUDY

The Watershed at Hillsdale, a project of the Community Partners for Affordable Housing Portland, Oregon



THE WATERSHED SITE UNDER CONSTRUCTION



THE WATERSHED IS A MIXED USE AFFORDABLE HOUSING DEVELOPMENT FOR SENIORS

A casual onlooker would have no idea that The Watershed at Hillsdale was once a derelict brownfield. In fact, the new 45,446-square-foot mixed use affordable housing project for seniors has no resemblance to any of its former uses. What was initially developed as a portion of a dairy farm in the 1850s was transformed over the next 150 years into a neighborhood train station, an auto wrecking and gas station facility, storage space for *The Oregonian* newspaper, and a sanitation vehicle parking lot. Throughout its history, the property, which sits at the confluence of three high-volume streets in the heart of the Hillsdale neighborhood of Portland, Oregon, experienced long periods of abandonment.

Now an architectural gem, Bertha Triangle, as it was known, is an active contributor to the neighborhood once again. With 51 affordable senior housing units, a 2,000-square-foot community center for residents and the greater community, and 3,200 square feet of ground floor commercial space, The Watershed represents more than just an affordable housing project; it demonstrates a brownfield redevelopment process that successfully combined the community's vision with the region's growth plan. In addition, The Watershed symbolizes the neighborhood's commitment to sustainable development with only 0.5 parking spaces per residential unit, energy-conserving windows and high-efficiency water boiler, and stormwater management facilities on-site. The Watershed achieved LEED Silver certification for such sustainable development features.

The process of redeveloping Bertha Triangle did not come without the long-term commitment of residents and the financial and technical support of the Community Partners for Affordable Housing (CPAH) and the Housing Development Center (HDC). In fact, the process took nearly two decades. Beginning in the early 1990s, Hillsdale residents grew frustrated with the area's unfocused growth. They responded by forming the Hillsdale Vision Group to generate ideas for the neighborhood's future. After a series of public hearings and workshops, the group generated a plan calling for the creation of a pedestrian-friendly, mixed use district centered along Southwest Capitol Highway. In 1997, Metro, Portland's regional planning authority, designated Hillsdale as a "town center" in its 2040 Growth Concept Plan, and the Portland Bureau of Planning borrowed from the vision group's work to create the Hillsdale Town Center Plan.

Although the Town Center Plan identified Bertha Triangle as an ideal focal point for the community, fears about contamination stalled redevelopment plans. In 1998, Multnomah County considered using the property for a new library, but its Phase I environmental site assessment identified potential contamination from a gas station facility. The location sat neglected until 2001 when the Oregon Department of Transportation (ODOT), the property owner since 1957, ran a notice of public auction for the site.

The HDC, a Portland nonprofit offering technical assistance to local community development corporations, brought the auction notice to the attention the Community Partners for Affordable Housing (CPAH), a local nonprofit. Both organizations thought the



THE WATERSHED IS A GREEN, AFFORDABLE HOUSING DEVELOPMENT FOR SENIORS BUILT ON A REMEDIATED BROWNFIELD.

site would be perfect for a compact, affordable senior housing development, and CPAH subsequently purchased Bertha Triangle from ODOT.

In January 2002, HDC secured a Targeted Brownfield Assessment (TBA) grant from the U.S. Environmental Protection Agency (USEPA) to determine the nature and extent of contamination on the Bertha Triangle site. The Oregon Department of Environmental Quality (DEQ) dug seven soil borings and drew samples from four groundwater-monitoring wells on the property as part of the TBA. DEQ based the soil collection locations on information gathered by the environmental consulting firm that did the library assessment. Additionally, DEQ conducted a geophysical survey to identify potential underground storage tanks (USTs) remaining on-site.

The soil borings revealed gasoline, diesel fuel, and heavy oil contamination in the northeast portion of the site where the gas station had been located. The subsurface soil in this area also contained chemicals commonly associated with gasoline, including benzene and lead. Fortunately, the geophysical survey did not uncover any USTs. The groundwater samples from the site revealed volatile organic compounds often related to a gasoline release. DEQ also found chemicals associated with dry cleaning solvents. Additionally, the groundwater contained a range of metals at concentrations exceeding safety standards for tap water.

After nearly two years of testing and analysis, the TBA concluded that the site did not pose an unacceptable risk to human health or the environment if appropriate cleanup procedures were followed. DEQ did, however, make a number of recommendations. First, during the development process, DEQ required quarterly groundwater tests to evaluate seasonal variations in contaminants. Second, when the nonprofit removed a temporary metal fence from around the perimeter of the site, it needed to conduct another geophysical survey to identify USTs. Third, proper disposal of all excess soil removed from the site during the project as well as any excavation laborer working on the site needed to be trained in hazardous material handling procedures. And lastly, DEQ required that a vapor barrier be installed if construction activities occurred on the former gas station. This was to mitigate smells from contamination.

In January 2004, DEQ issued a formal letter of no further action (NFA). This letter meant that the project team would not have to address the contamination on the property until it was disturbed by development. Following the receipt of the NFA statement, CPAH hired the environmental cleanup firm, Hahn and Associates, to prepare an Analysis of Brownfields Cleanup Alternatives (ABCA). In the ABCA, Hahn identified three options for dealing with the site: 1) CPAH could do nothing and leave the site undeveloped; 2) the nonprofit could ensure excavation and off-site disposal of the contaminated soil at Waste Management's Hillsboro Landfill; or 3) the final option would involve excavation and off-site treatment at Rinker Materials in Everett, Washington. Hahn evaluated the alternatives based on projected effectiveness, long-term reliability, implementation risk, and cost. Although both off-site disposal and off-site treatment would allow redevelopment of the site, treatment was much more expensive and also posed a more significant implementation risk. Hahn turned over the results of its evaluation in March 2006. Despite the additional costs associated with developing the site, CPAH understood that the site would be a community asset once again if it were developed as a mixed use, transit-oriented affordable housing and commercial focal point. On September 8, 2006, approximately 40 representatives from the Hillsdale community participated in a ceremonial groundbreaking on The Watershed site. The Watershed opened on January 9, 2008.

For more information about The Watershed project, visit <http://www.cpahinc.org/watershed.html> or <http://www.oregonmetro.gov/index.cfm/go/by.web/id=26431>.

4 BROWNFIELD CLEANUP



THIS COASTAL DUMPING GROUND IS NOW HOME TO A MULTIPURPOSE COMMUNITY CENTER IN LIHUE, KAUAI, HAWAII

Environmental cleanup of brownfields is governed by complex and often overlapping federal and state laws. Since the regulatory framework associated with remediating brownfields can be complicated, this section provides a broad overview of cleanup and legal issues that often arise during the redevelopment of brownfield sites. It is important for any organization or individual in brownfields redevelopment to have a basic understanding of cleanup technology and liability; however, primary developers, and sometimes collaborators, will benefit the most from the information in this chapter. At the same time, community advocates will want to be cognizant of cleanup issues so that they will be able to participate more fully in the cleanup process.

SECTION PREVIEW

This section outlines many of the critical brownfields cleanup issues, including:

- How to determine cleanup liability and understanding options for liability protection
- Cleanup options, the available technology and costs
- Determining the level of cleanup necessary for the intended use
- How to involve the community in cleanup decisions
- Advice on selecting a technical consultant and an environmental lawyer



THE ABANDONED WHITNEY SCREW COMPANY COMPLEX IS NOW HOME TO GOODALE'S BIKES, NASHUA, NEW HAMPSHIRE

U.S. ENVIRONMENTAL PROTECTION AGENCY

HOW CLEAN IS CLEAN?

The term “cleanup” can be something of a misnomer. Brownfield sites can be considered “clean” if all or most of the contamination is removed and transported off-site for disposal or incineration. A site can also be “clean” if it undergoes a range of on-site, or ‘*in situ*’, treatments (e.g. chemical, biological, or other treatments) that result in a reduction of contaminant levels on the site such that there is no, or limited, risk to humans or the environment.

Most state programs rely on what is called a **“risk-based” cleanup approach**. Under this approach cleanup standards are typically expressed in terms of the maximum concentrations of contaminants that are permitted on-site based on the site’s future use. For example, in Colorado the cleanup standard for lead in soils is based on a concentration level of 400 parts per million for residential use and 2,960 parts per million for an industrial use.

The variation in cleanup standards is related to the different land uses, which carry with them different exposure assumptions including who is being exposed (i.e. children or adults, residents or workers) and the duration and frequency of exposure (i.e. residential—24 hours/7 days a week versus workers—8 hours/5 days a week). This means that at a site where the soil is heavily contaminated with lead, a substantial amount of soil would have to be excavated and treated to meet the target risk level for residential use compared to that for industrial use. In this respect, risk-based approaches tailor cleanup requirements to the expected future use of a property rather than requiring the same cleanup of a future industrial park as for a future playground. For some uses, like urban agriculture, there are no established risk-based standards. This is described in more detail in the *Agriculture on Remediated Brownfields* section of this guide beginning on page 33.

There are two broad ways to remediate brownfields for reuse:

- Treatment or removal
- Land-use controls

Treatment or Removal

A cleanup that treats or removes contamination to meet residential standards is likely to be the most expensive and may take the longest to implement. After a residential-based cleanup, the property is considered appropriate for unrestricted uses, giving the site owner greater flexibility in developing the property. In some cases, however, remediating a site to allow residential use may not be feasible for a variety of reasons:

- due to the nature and extent of the contamination, it may not be technically feasible;
- the costs may be excessive in relation to the value of the property;
- the property may be zoned industrial or commercial; and
- surrounding uses may make it unlikely that the site will become residential in the future.

If it is clear that the most profitable use of a site is for commercial uses, another option is to remediate a site to levels that allow nonresidential uses. This means that site contamination is reduced to a level that does not pose risks to workers or persons coming onto the site for a limited period time. Of course, if a future developer would want to convert the site to residential use, additional cleanup would be required.

Land-Use Controls

Federal and state environmental laws allow parties conducting the cleanup to *contain*, rather than remove or treat, the contamination. The rationale is that a cleanup is protective if it prevents people from being exposed to residual contamination. Typically, engineering and institutional controls are used to prevent possible exposure.

Engineering Controls

State agencies allow owners to select remedies that prevent exposure by containing contamination. Most often this is done by placing an asphalt or clay cap over contaminated soils. Engineers also devise ventilation systems to prevent unacceptable exposure to the migration of volatile chemicals from shallow contaminated groundwater or saturated soils into overlying buildings.



With engineering controls, such as a cap or ventilation system, the remedy is protective only if the containment system is operating as planned. As with all engineered systems such as bridges or roads, normal wear and tear or a lack of maintenance can compromise the effectiveness of the engineering control, thereby exposing persons to residual contamination.

COMMON CONTAMINANTS AND REMEDIATION TECHNOLOGIES

TYPE OF SITE	COMMON CONTAMINANTS	TECHNOLOGY APPLICATIONS
Agriculture	Volatile organic compounds (VOCs), pesticides, halogenated VOCs, metals	Bioremediation, soil vapor extraction (SVE), soil flushing
Dry cleaning	Halogenated VOCs, solvents	SVE, chemical oxidation, air sparging
Automotive repair	VOCs, semivolatiles organic compounds (SVOCs), metals	Bioremediation, SVE, air sparging
Metal finishing	VOCs, metals, acids	Chemical oxidation, SVE, air sparging, soil flushing, permeable reactive barriers (PRBs), bioremediation
Iron and steel mill sites	Metals, acids, ammonia, SVOCs, VOCs	Chemical oxidation, SVE, air sparging, thermal desorption, PRBs, bioremediation
Wood pulp and paper manufacturing	Dioxin, halogenated VOCs, acids	Chemical oxidation, SVE, air sparging, electrical resistance vitrification, thermal desorption
Wood preserving	Light nonaqueous phase liquids (LNAPLs), metals, dioxin, halogenated SVOCs	Soil flushing, bioslurping, electrical resistance vitrification, chemical oxidation, PRBs
Semiconductor manufacturing	Metals, VOCs, halogenated VOCs, solvents	Bioremediation, SVE, phytoremediation, soil flushing, multiphase extraction (MPE), electrical resistance vitrification
Research and educational institutions	Inorganic acids, solvents, metals, pesticides	Soil flushing, chemical oxidation, PRBs, electromigration, electrical resistance vitrification
Railroad yards	Petrochemicals, VOCs, solvents	Soil flushing, bioslurping, bioremediation, chemical oxidation
Paint/ink manufacturers	Metals, VOCs, solvents, halogenated VOCs	SVE, MPE, phytoremediation, electrical resistance vitrification, electromigration, thermal desorption, soil flushing
Hospitals	Radionuclides, VOCs, solvents, metals	Electrical resistance vitrification, MPE, electromigration, PRBs
Landfills	Metals, VOCs, halogenated SVOCs, solvents, pesticides	Electrical resistance vitrification, bioremediation, soil flushing, electromigration
Electroplating operations	Metals	Soil flushing, chemical oxidation, PRBs, electromigration, phytoremediation
Glass manufacturing	Metals, inorganics	Soil flushing, chemical oxidation, PRBs, electromigration, phytoremediation
Gas station or petroleum refining	Fuels, nonaqueous phase liquids (NAPLs), petroleum hydrocarbons	Bioslurping, thermal desorption, bioremediation, MPE

Adapted from *Brownfields Redevelopment: A Guidebook for Local Governments and Communities—Second Edition*. 2001. ICMA.

Community-based organizations (CBOs), playing the role of advocate, can ask local or state regulatory officials to notify them of monitoring results at sites employing engineering controls. CBOs can serve as the eyes of their neighborhood to ensure that engineering and institutional controls, discussed next, operate and are maintained properly, particularly as time passes and properties are sold. CBOs may want to take photos of sites over time and make them available in the public library as a continuing community resource.

Institutional Controls

Institutional controls are restrictions that regulators and other parties including health departments, zoning boards, and land trusts place on land and groundwater use. Like engineering controls, they are used at sites where the site owner has chosen to contain contaminants rather than remove them, or when it is not technically feasible to reduce the volume of contamination to levels that provide adequate protection. Institutional controls are quite varied, ranging from warning signs to keep trespassers off sites to controls less visible to the eye, such as zoning restrictions and easements recorded on a deed which specify how the land can be used.

Institutional controls restrict exposure. They are applied to provide additional protective measures to protect the physical barriers and reduce the behaviors that will create exposures. As deed notices recorded are on property, institutional controls are meant to have additional reinforcing effects. For example, at a site where extensive groundwater contamination has polluted private wells used for drinking water, such a remedy could deemphasize treatment technologies and a property owner or regulator may opt for controls to cap existing wells or implement well drilling bans to guard against future use of the contaminated aquifer. CBOs can work with local planners to educate the community about the need for and importance of engineering and institutional controls to protect public health, the environment, and private property.

Monitoring Cleanup in the Long Term

While there are concerns about well institutional controls work, state agencies often require site owners to monitor other aspects of the cleanup to assess how a containment technology is working and to determine if contamination has migrated to a neighboring property. Monitoring is usually undertaken by a consultant hired by the developer or site owner and can include the following:

- groundwater sampling (monitoring wells)
- surface water sampling
- sampling of sewage and wastewater discharges
- air emissions and particulate monitoring

Monitoring can also be required during cleanup and construction to ensure that clean-up activities are proceeding as planned and not affecting residents living near the site. This monitoring can include the list above as well as:

- noise levels
- transportation effects (e.g. traffic congestion, road degradation, etc.)
- sampling of materials and debris used on-site and sent to landfills during construction

The table on below lists types of brownfields, contaminants that they may contain, and some possible technology solutions. This list is not comprehensive, however, and contaminants and appropriate technologies should be determined on a site-by-site basis and with the help of a qualified professional.

CLEANUP: WHO IS RESPONSIBLE?

In a brownfield redevelopment scenario, the first question a property owner or prospective buyer often wants answered is if he is liable for remediating the contaminated property. In this section, the conditions under which current, prior, and potential owners may be liable for cleanup costs under state and federal environmental laws are discussed.

Liability Protection Eligibility

It is a common misconception that the USEPA regulates brownfields. In actuality, state agencies regulate brownfield cleanup, while the USEPA regulates sites in the Superfund program. However, the USEPA Office of Brownfields and Land Revitalization provides funding and technical assistance to state brownfield regulators. While state brownfield programs continue to evolve, most now encourage individuals or other parties to remediate contaminated sites by offering them protection from future liability upon completion of a state-approved cleanup. Before becoming involved in a brownfield redevelopment project, a CBO should contact its state's brownfield program.

State brownfield programs vary along two dimensions: 1) eligibility requirements, and 2) the liability protections available. Though state programs vary, there are some trends among them. Namely, certain properties do not qualify for liability protection under some state brownfields programs. Under the Small Business Liability Relief and Brownfield Revitalization Act, properties that are often ineligible include:

- A property being investigated or remediated under a removal program or listed or proposed for listing on the National Priority List of the federal Superfund program
- A site owned by the U.S. government
- Sites under active enforcement
- Sites with leaking underground tanks with a viable responsible party or considered high risk

Tribal governments and state programs may have similar or slightly different definitions of brownfield sites in accordance with their laws and regulations.



U.S. ENVIRONMENTAL PROTECTION AGENCY

MARINA VILLAGE, AN AFFORDABLE HOUSING DEVELOPMENT BUILT ON A REMEDIATED BROWNFIELD IN ELIZABETH, NEW JERSEY

With respect to property owners, some state programs exclude property owners from liability protection if they:

- caused the contamination,
- are subject to ongoing enforcement actions, or
- are in violation of environmental regulations.

While it is unlikely a CBO will fall under any of these categories, it is important to check with the state agency at the outset of a project since eligibility requirements vary among state programs.

Liability Protection Categories

State liability protection is meant to assure the party doing the cleanup that no additional environmental work will be required once the site cleanup is complete and certified by the state agency. State programs have different mechanisms for giving parties protection from future liability. The three most commonly used are the no further action letter (NFA), covenant not to sue, and a certificate of completion (COC).

No Further Action Letter

In a NFA letter, the state regulatory agency provides assurances that, based on current information about the site, the state will not demand any further cleanup. Typically, a NFA letter grants liability protection to the voluntary party or a party that voluntarily agrees to remediate and redevelop a site, and spells out any long-term site management requirements (e.g. maintaining pavement over contaminated soil or prohibiting drilling a drinking well). If the CBO, in subsequent years, does not comply with these conditions, it can lose liability protection. Typically, the liability protection granted by a NFA letter is *not transferable* to future owners.

Covenant Not to Sue

A covenant not to sue is a legally binding agreement by the state regulatory agency not to require further remediation against the holder of the covenant for either on- or off-site contamination before the effective date of the covenant. In some states, a covenant not to sue, in the language of real estate law, “runs with the land,” and thus applies to future property owners.

Certificate of Completion

A COC exempts the party from future liability for cleanup under most provisions of state law and usually can be transferred to future owners. Its value is to assure potential developers and lenders that additional remedial costs will not be incurred, provided that any required monitoring or maintenance is continued.

It is important to note that despite the various types of liability protection discussed above, a civil suit or another third party claim requiring additional site cleanup can be brought against the current owner. If this happens, the primary developer should consider hiring legal counsel, which is discussed in more detail later in this section.

ASSESSMENT OF CLEANUP OPTIONS

Remediating a contaminated site is not straightforward. There are typically a range of options and each option poses trade-offs between cost, time, and thoroughness. As discussed in Section 3, the environmental consultant hired to complete the Phase I and II assessments should use the data collected to evaluate and recommend various cleanup scenarios, such as **bioremediation**, **chemical treatment**, and **physical separation**. Cleanup recommendations should meet specific standards outlined un-

der federal and state laws. In addition, the assessment of which technology to use should take into consideration the economic feasibility of the project, as cleanup costs can vary widely. CBOs, as developers or advocates, can encourage property owners to enroll their property in the state voluntary cleanup program as all steps of the assessment and cleanup will be spelled out by the program staff who review historical and sampling data, propose cleanup approaches and technologies, oversee cleanup, and make documentation public.

The following questions will help primary developers determine which option, or technology, is best for their situation.



- What will various cleanup options cost?
- How long will the cleanup take?
- Will the cleanup facilitate or constrain the planned end use of the site?
- Which is more appropriate: a more limited cleanup, which may restrict future use options, or a more thorough (and costly) cleanup that allows unrestricted future uses on the site?
- Are cleanup options acceptable to local residents and other stakeholders?

Estimating Cleanup Cost

Naturally, brownfields developers want to limit their liability for cleanup because remediation can be very expensive. The cost of a cleanup depends upon:

- the type and extent of contamination;
- the cleanup standards used to determine how much remediation is required at a site;
- the intended future use of the site; and
- whether cleanup plans focus on removing contamination or containing it.

These factors, not surprisingly, are interrelated.

Perhaps a more difficult problem is how to develop reliable cleanup cost estimates at the early stages of the project, when a CBO is determining the financial feasibility of the project but little information about the extent of site contamination exists. One way to get a handle on cleanup costs at the outset of a project is to use historical costs for similar types of projects. Environmental consultants can calculate an initial “ballpark” figure of the likely costs using this equation:

Number of Units of a Particular Contaminant	X	Per Unit Cleanup Cost
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Number of units of a particular contaminate can include:

- Cubic feet of contaminated soil
- Number of underground tanks needing to be removed
- Cubic feet of building materials needing to be demolished

Different technologies (e.g. excavation versus bioremediation) will have different costs and results and are dependent on the type of contaminant present. For instance, contaminated soil can be excavated and hauled to a landfill at \$400 per ton, while bioremediation of the soil, in which microorganisms are used to degrade contaminants, costs much less. Estimates can help CBOs determine whether or not it makes financial sense to embark on a brownfield redevelopment project. During the course of the project, as the site characterization and any sampling is completed, these estimates can be refined.

Brownfield Cleanup continues on page 78.

CASE STUDY

Starlight Park, a project of the Youth Ministries for Peace and Justice Bronx, New York

Starlight Park serves as yet another example of how inner city freeway development fragmented communities and devalued what were once community assets. Starlight Park, located along the Bronx River, has a history that is deeply rooted in the Bronx community. From 1918 to roughly 1940, the privately owned amusement park is said to have rivaled Coney Island. Fireworks displays, a swimming pool, roller coaster, and the New York Coliseum, a 15,000-seat stadium, were just a few of the attractions that provided entertainment to Bronx residents in the park's heyday. In the 1940s, the original Starlight Park was publicly condemned to make room for the Sheridan Expressway, a project of Robert Moses. In the 1960s, a new Starlight Park was built as part of the expressway construction. Though the park's name reflects the entertainment hub it once was, the new Starlight Park, which is located in close proximity to its namesake, is cut off from the community by the expressway, and its amenities include run-down ball fields and basketball courts.

Despite long periods of neglect and its unfortunate proximity to the Sheridan Expressway, Starlight Park's future is optimistic. Since 1994, the South Bronx faith-based organization, Youth Ministries for Peace and Justice (YMPJ), has committed to rebuilding its community and restoring access to the river by developing riverside parks and trails and restoring the Bronx River. A founding member of the Bronx River Alliance (established in 2001), YMPJ's community advocacy remains a critical component in revitalizing abandoned industrial properties along the Bronx River. As Alexie Torres-Fleming, former executive director of YMPJ, explained: "We live in a community that is 400 acres deficient of parks, according to state standards, where access to water is going around to the fire hydrant in the summer and opening them up and cooling off." YMPJ saw the Bronx River as an opportunity to provide this much-needed open space to the community.

To address issues of pollution along the river, YMPJ formed the RIVER Team, comprised of young volunteers from the neighborhood. The team began a sustained advocacy campaign to clean the river and to identify shoreline properties—abandoned industrial sites—that could be redeveloped as parks. As part of its organizing strategy, the RIVER Team secured canoes and began paddling residents and local and state politicians down the river. The idea was to bring the long-neglected Bronx River to the attention of federal, state, and local agencies. As the result of YMPJ's advocacy and its participation with other community and government stakeholders in the Bronx River Working Group, a number of improvements helped restore the river and its shoreline in the 1990s. YMPJ worked with the city to create new parks in the place of old abandoned industrial sites, and funding was in place to build three or four new riverside parks and make improvements to existing parks and community facilities, such as a boat house, along the river.

Next, YMPJ had its eye on Starlight Park, which was scarcely being used. To gain political and financial support, the organization planned a canoe tour of the river in 2000 with then New York Gov. George Pataki. Following the tour, Pataki went on to pledge \$11 million to renovate the rundown Starlight Park and other green spaces along the Bronx River. This pledge became part of an agreement negotiated between the New York State Department of Transportation (NYSDOT) and the New York City Department of Parks and Recreation (Parks), the current owner of the site. The agreement allowed NYSDOT to use of Starlight Park as staging for the construction along the Sheridan Expressway, and in exchange, NYSDOT committed funds to reconstruct the park and build a link in the Bronx River Greenway.



NEGLECTED COURTS AND INDUSTRIAL CONTAMINATION MAKE STARLIGHT PARK AN UNDESIRABLE NEIGHBORHOOD PARK. CLEANUP AND REDEVELOPMENT IS CURRENTLY UNDERWAY.

YOUTH MINISTRIES FOR PEACE AND JUSTICE

The governor's pledge and the agreement between the city and state agencies was what YMPJ needed to move forward with developing a vision for Starlight Park. Playing the role of community advocate, YMPJ worked with the Pratt Center for Community Development to help develop a visioning process and the Parks department to devise a plan that would

incorporate elements of what the community wanted in the park. Once a final design was decided upon by Parks, the renovations began.

During the initial excavations in 2003, workers detected strong odors emanating from the soil. Further investigations revealed that Starlight Park was built on top of an abandoned Manufacturing Gas Plant (MGP) and that the site had extensive contamination from coal tars and volatile organic compound. MGPs are a forgotten 19th century technology. Before natural gas was available, these plants produced gas primarily from coal and oil, which was then piped to surrounding areas and used for cooking, heating, and lighting in both homes and businesses. Additional research revealed that the MGP operated on the Starlight Park site from 1893 to 1912. Con Edison, New York's energy supplier, used the site as a storage facility and garage until they sold it to the city of New York in 1945. As a former owner and operator on the site, Con Edison was liable for the cost of the cleanup. The MGP on Starlight Park was just one of 50 MGP plants within the boundaries of New York City that Con Edison was responsible for remediating.

After two years spent designing the plan for Starlight Park, YMPJ found itself in the middle of a brownfield cleanup process that involved not only the Starlight site but also contaminated sites throughout the city. As Con Edison worked with the Department of Environmental Conservation (DEC) to develop a framework for remediating these contaminated sites, YMPJ kept close tabs on the process.

YMPJ realized it needed additional resources if it wanted to effectively participate in remediation discussions. The organization employed technical experts to review the site characterization and the adequacy of remedial plans prepared by Con Edison and sought the advice of legal counsel to examine liability issues. Finally, YMPJ understood that it would need to mobilize the community and use political leverage to pressure Con Edison into conducting a more stringent cleanup.

Soon, YMPJ's technical and legal advisors found out that Con Edison's first remedial plan was deficient considering the intended end use of the site. The plan called for limited excavation of highly contaminated areas, so called "hot spots." The excavated areas would then be capped with one to two feet of clean fill. The Con Edison cleanup plan, YMPJ argued, did not include all potential sources of contamination, such as underground storage tanks that were used during the MGP operations. YMPJ also argued that the site needed more sampling in order to better estimate the extent and concentration of contamination. YMPJ also argued that the proposed plan was not enough to protect human health noting that the one to two foot cap was not protective. YMPJ emphasized the site needed a more stringent cleanup since it was going to be used as a public park and that basic construction could easily breach the cap and expose workers or park users to residual contamination.

Understanding that cleanup decisions are typically based on a combination of science, available funding, and politics, YMPJ called on its political allies for help in this cleanup negotiation. Serving as the intermediary between the CBO and the large utility company, the Parks Department proved to be YMPJ's most important ally. Since YMPJ worked for more than five years with the Parks Department on other projects along the Bronx River, the two had established a good working relationship and had a mutual understanding of the environmental issues the Bronx River and the community faced.

YMPJ recognized that Con Edison had a reputation to uphold and would be sensitive to negative public opinions. So, YMPJ issued press releases, courted journalists, and held rallies in conjunction with public notice meetings, pointing out that Con Edison was planning on leaving cancer-causing chemicals in the ground.

The public responded, and Con Edison ultimately revised its cleanup plan for Starlight Park. As part of the new plan, the area being excavated is three times larger than the excavation area in the first remedial plan. Instead of one to two feet of fill, the new plan called for six to eight feet of clean fill to act as cap. YMPJ also discussed how Con Edison would mitigate short-term risks to workers and community residents during the excavation and construction of the new park, including dust suppression, security fencing, routing truck traffic from the site, and air monitoring.

According to Ajamu Kitwana, YMPJ's former deputy director, YMPJ is "75 to 80% percent satisfied with the cleanup". While the clean-up is more extensive than the original remedial plan, residual contamination, nonetheless, was left on-site. However, groundwater monitoring did take place over the course of two years and results were reported to the DEC. For Kitwana, the challenge that CBOs face is to anticipate how institutional controls at contaminated sites are likely to fail and to design cleanups that are protective over the long term.

The redevelopment of Starlight Park, which is scheduled to reopen in 2012, is part of the larger Greenway Plan, developed by the Bronx River Alliance. To learn more about this plan, visit www.bronxriver.org/plans. For more information about Starlight Park, visit <http://www.nycgovparks.org/parks/X147/>. Information on Youth Ministries for Peace and Justice can be found at www.ympj.org.

SPECIAL CIRCUMSTANCES RELATED TO CLEANUP AND LIABILITY

Liability protections, such as those discussed on page 63, offer investors reasonable assurance that they will be clear of liability; however, a number of situations could occur to change this situation.

What happens if the state certifies a cleanup and gives the owner protection for future liability, but one or more of the following situations occurs?

- Additional contamination is discovered.
- Groundwater contamination is found to be migrating off-site towards a public water supply well.
- The site was cleaned up to a standard to allow for industrial uses, but there is talk of putting a day care center on a portion of the site.
- Someone working on the site inadvertently caused or contributed to a spill of hazardous materials.

Is the owner still responsible? What recourse does a community stakeholder have in advocating for additional cleanup?

In most cases, state programs reserve the right to require further cleanup at a site under the following conditions:

- Additional contamination, which was not known at the time of the site investigation and cleanup, is found on-site.
- Failure of a containment system, such as an asphalt cap over contaminated soil, occurs and has the potential to expose people to unreasonable risk.
- There is a change in property use—from commercial to residential, for example—that is not compatible with the original cleanup standard.
- A lack of compliance with property use restrictions (e.g. excavation prohibitions) is or has the potential to expose people to contamination left on-site.
- The person seeking liability protection provided false or misleading information.

COMMUNITY INVOLVEMENT IN CLEANUP

Most states have public participation requirements in its brownfields programs, but these requirements vary. In the majority of state programs, community involvement occurs at a number of milestones during a brownfields project. Depending on the state, public comment may be invited at points in the cleanup process *before*:

- the regulatory agency finalizes a work plan to investigate site contamination;
- the agency finalizes the remedial investigation report;
- the regulatory agency proposes a final cleanup plan;
- approval of engineering or institutional controls; and
- a certification of completion is awarded.

Having a right to comment, however, is no guarantee that communities can, or will, participate meaningfully in cleanup and reuse decisions. CBOs with no experience or expertise in cleanup technologies and risk assessment can have a hard time reviewing and commenting on site cleanup documents. Many of these reports are filled with reams of technical data and comparisons of cleanup alternatives that can be difficult to interpret.

Some states may offer CBOs technical assistance grants, which can be used to hire a technical consultant, to help the community review the materials. Another source of technical assistance is through the **Technical Assistance for Brownfields (TAB)**. This

USEPA program, which is free of charge to community stakeholders and other parties involved in brownfields, provides training in risk assessment, cleanup alternatives, and site assessment principles.

Community residents may also want to request and review any site contingency and safety plans. In some states, parties remediating a site are required to develop a course of action plan in the event the contractors unexpectedly encounter or unearth buried drums, hazardous substances, or other wastes that may pose a risk. The plan specifies what safety precautions are put in place and what procedures will be used in the event that contamination is discovered during site field work.

HOW TO SELECT A CONSULTANT

CBOs seeking to develop a brownfields property should look into hiring an environmental consultant to conduct soil and groundwater investigations and to carry out a response plan. Perhaps the best way to start the search is to get a referral from another brownfield redeveloper. Some questions to ask include:

- Did the consultant perform all work in full compliance with the rules and procedures of the state regulatory agency?
- Did they do so at the budget quoted?

Local and state officials will also have knowledge of a consultant's track record and may be willing to share their views.

This search should result in a short list of consulting firms to which the CBO should send a **Request for Proposal (RFP)**. A RFP includes:

- Background information about the project
- A detailed scope of work
- An itemized cost estimate for the scope of services
- Prices for any potential services not specified in the scope of work
- A proposed schedule
- The qualifications of the persons who will be working on the site
- Proof of professional and environmental insurance coverage
- A list of references

Before making a final choice and signing a contract, the organization should interview each prospective consultant. The following questions can help CBOs consider the strengths and weaknesses of each consultant:

- Does the consultant have experience with the kind of project being proposed?
- What projects have the firm completed in the locality of the proposed project?
- What cleanup treatment methods or technologies has the consultant used or recommended?
- What is the current work-load, and are current projects on schedule?
- Has the consultant worked with the state regulatory agency before?
- Who are the specific employees who will work on the project and what relevant experience do they have?
- Does the consultant have environmental liability insurance?

Finally, the CBO will want to contact the consultant's references and ask them if the consultant met the stated work and project deadlines or satisfactorily resolved any problems that arose during the site investigation and cleanup process. Other questions about whether the final costs were in line with the original estimates and if they were satisfied with the work performed by the consultant can help CBOs make a more informed decision.

HOW TO SELECT LEGAL COUNSEL

Liability issues in brownfields transactions can be complicated and open to legal interpretation. Retaining a lawyer who is familiar with the relevant state and federal level statutes and provisions can help a brownfield developer understand and manage liability. While many real estate lawyers are likely to be competent in brownfields redevelopment, lawyers with expertise in environmental law, particularly with brownfields legislation and the state agency's regulations, can help community organizations work through complex brownfield liability issues.

CBOs should begin the process of selecting legal counsel by asking their environmental consultant for recommendations. In addition, each state has an environmental law committee through the Bar Association. This could be a good resource. Finally, there may be a law school in the community or state that will have information on environmental law clinics or be able to make recommendations.

As with the process for selecting an environmental consultant, CBOs should narrow their list of potential lawyers by meeting with them in person and asking them questions such as:

- What other brownfields projects have you worked on?
- What is your approach to liability protection?
- What is your approach to working with the regulatory agency?

In contacting the lawyer's references, CBOs should ask other brownfields clients questions such as:

- Did the lawyer work effectively with you and the regulatory agency?
- Did the lawyer adequately explain the law and the cleanup processes to you and at the appropriate times so you felt you were making informed decisions?



U.S. ENVIRONMENTAL PROTECTION AGENCY

THE COMMUNITY CELEBRATES THE CONSTRUCTION OF LA CAPILLA CHAPEL REPLICA IN LA CAPILLA HERITAGE PARK IN SILVER CITY, NEW MEXICO

SECTION SUMMARY

- Brownfield cleanups are handled by state environmental regulatory agencies, not by the USEPA. Most state programs encourage site cleanups by offering protection from future liability upon completion of a state-approved cleanup.
- The cost of a cleanup depends on: 1) the type and extent of contamination, 2) the cleanup standards used to determine how much remediation is required at a site and the intended future use of the site, and 3) whether cleanup plans focus on removing contamination or containing it. These factors are interrelated.
- A site can be called “clean” for the purposes of brownfields redevelopment, even though contamination is left on the site at levels that may pose risks to people if they come into contact with it. Thus, the language of environmental regulation can be misleading. The rationale is that a cleanup can be deemed protective if it prevents people from being exposed to residual contamination.

CASE STUDY

Urban Oaks Organic Farm, a collaborative effort among community volunteers and the city of New Britain, Connecticut

The North Oak Street area in New Britain, Connecticut has suffered its fair share of neglect. Originally home to Italian, Irish, and Eastern European immigrants who comprised the hardware manufacturing workforce, the neighborhood quickly deteriorated after the factories closed. Subsequently, a freeway was constructed through the heart of the manufacturing district, eliminating the blight of the empty factories but fragmenting the North Oak Street area. By the 1990s, it was one of the poorest and most densely populated neighborhoods in New Britain, and residents of Hispanic decent had replaced its European immigrant population.

To combat this concentration of poverty, the state of Connecticut's Office of Policy and Management named the North Oak Street Area a Neighborhood Revitalization Zone (NRZ) in late 1990s. As a NRZ, the neighborhood had access to funding and technical assistance for strategic planning and economic development efforts. The NRZ planning process identified North Oak Street as a vital corridor and focused efforts around revitalizing numerous dilapidated properties along the neighborhood's main thoroughfare.

Initially, the New Britain worked with the Department of Housing and Urban Development (HUD) to eliminate a public housing facility that concentrated poverty and crime in the neighborhood. The city took possession of that parcel and transformed it into a park, which opened in 2009. In addition, the New Britain Police Department committed to rebuilding a police substation that was destroyed by fire. With these two projects demonstrating progress, the city turned its attention to a cluster of parcels owned by the Sandelli family.

Sandelli Greenhouses, Inc., was a horticultural product distribution operation. At its peak, the business operated seven greenhouses on four acres. In 1983, the Sandelli business shut its doors, and the site remained abandoned for nearly two decades while the family worked out property ownership. During this time, the property sat neglected while vandals and illegal dumpers defaced it. Residents were eager to see the site cleaned and put into active use. Today, the Sandelli property has little resemblance to the overgrown junkyard it had become. Now a thriving organic farm, the Sandelli property redevelopment serves as an excellent example of agriculture-related reuse of brownfields.



KIMBERLEY HODGSON

URBAN OAKS ORGANIC FARM USES GREENHOUSES TO GROW FOOD ALL YEAR ROUND.



KIMBERLEY HODGSON

FRESHLY TILLED SOIL ON A REMEDIATED BROWNFIELD SITE, NEW ORLEANS

To demonstrate its commitment to the North Oak Street NRZ, the city used a variety of tools to get the Sandelli property into active use again. Kenneth Malinosky, director of municipal development, played a primary role in this endeavor. After years of neglect, the Sandelli family sold the property at an auction to Elmo Aiudi for \$85,000. Aiudi had planned to donate the land to the Marchigian Society, an Italian fraternal organization, but when this donation fell through, Malinosky facilitated a meeting between Aiudi and two well-known local organic farmers, Tony Norris and Mike Kandefer. Malinosky had recently learned that these two farmers were looking for a new home for their farm in Bolton, Connecticut that was displaced by development. The three worked out a long-term lease agreement that suited both parties—the farmers were to pay property taxes and the utility bills, and in return, the farmers offered Aiudi a weekly vegetable allowance.

With this agreement in place, Malinosky began to line up funding to assess, remediate, and renovate the site. Norris, a long-time community activist, organized over a hundred volunteers to launch the cleanup effort that cut brush and removed trash from the site. Ultimately, the city used funding from the New England Brownfields Assessment Pilot Program to conduct environmental site assessments. These assessments concluded that the site did require environmental remediation for semivolatile organic compounds (SVOCs). In addition, a variety of other environmental concerns existed on site including large amounts of greenhouse-related debris, an abandoned car, soil piles, and underground gasoline and fuel oil storage. As the intended reuse of the site was an organic farm, soil contamination was the biggest concern.

Malinosky appealed to then-Gov. John Rolland's office for funding to renovate the salvageable greenhouses on site. The site redevelopment was finally completed with a Community Development Block Grant from HUD. The total cost of the cleanup was approximately \$155,000 and the total cost of site improvements, which included the renovation of four greenhouses, was approximately \$1.25 million.

The Urban Oak Organic Farm opened on a portion of the Sandelli site in 1999. The farm provides education for residents and school groups in organic gardening methods, sustainable agriculture, nontoxic farming techniques, composting, and other environmentally friendly farming techniques. In addition, a farmer's market is open to the public every Friday afternoon and Saturday morning. The establishment of the organic farm has helped enhance the urban environment by demonstrating farming responsibility, non-polluting techniques and soil amendments, pest control utilizing natural predators, and by providing greenspace in a dense and urban area.

In June 2003, the EPA Brownfields Program awarded the city of New Britain a \$60,000 grant to remediate an abutting property, which contained a gas station and multifamily residential building. This property is now owned by the city and serves as Urban Oaks Organic Farm's year-round retail outlet.

5 BROWNFIELDS FINANCE 101



U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICIALS OF BUCKS COUNTY, PENNSYLVANIA RECEIVE A CHECK FOR A BROWNFIELD SITE CLEANUP

Remediating and redeveloping a brownfield site can be complicated and costly. A community-based organization's (CBO) specific funding and insurance needs will be determined, in part, by the role the organization has in the brownfields redevelopment process. A CBO that is either a project advocate or collaborator would benefit from knowing about the financing and tax incentives but is highly unlikely to be the party that applies for funding, makes contract agreements, or purchases insurance. A CBO that is a primary developer or property owner (e.g. buyer or seller) will most likely be involved in transactions regarding funding and insurance.

Public and private tools are available to help make brownfield redevelopment projects financially feasible. From the public sector, local, state, and federal programs provide grants for environmental assessments and cleanup. Philanthropic foundations and banks provide grants and loans to brownfield projects. In addition, there are a number of contractual provisions that can be used upon the sale of a property and insurance policies that can protect buyers and lenders from cleanup liability.



JOSEPH SCHILLING

ABANDONED AND BURNED HOMES SCAR NEIGHBORHOODS IN DAYTON, OHIO

SECTION PREVIEW

This section provides a basic overview of the different public and private mechanisms for funding. Because public funding is subject to changes from congressional mandates and funding appropriations and private funding is subject to shifting economic climates, this section does not attempt to provide detailed information about each and every type of funding resource. Rather, this section focuses on the pertinent information involved in financing brownfield cleanup and redevelopment by describing the:

- various types and sources of public and private funding available for site assessment, cleanup, and redevelopment;
- contractual agreements available to buyers and sellers to reduce and control cleanup costs; and
- insurance products that help to reduce and control cleanup costs.

Before tackling a project, CBOs should check with the USEPA, EPA regional offices, and their state's brownfields regulatory agency for current information on funding sources, including uses, eligibility, dollar maximum, and constraints.

COMMON SOURCES OF FUNDING FOR BROWNFIELD REDEVELOPMENT PROJECTS

Revolving Funds

These funds are available to parties as interest-earning loans. The interest earned on the principal enables the fund to regenerate. These funds are typically a revenue disbursement of a trust fund. Some communities also elect to make a portion of the loan fund available as subgrants for cleanup.

Trust Funds

Trust funds provide a dedicated account with the purpose of receiving and distributing revenues from fees or taxes for purposes related to a specific use. Unlike revolving funds, these funds do not regenerate through payback of loans and interest payments; rather, they maintain funding through dedicated revenue, such as taxes and fees.

Tax Increment Financing (TIF)

TIFs are a function of local government. Local governments typically work with business associations to gain approval and create TIFs to help generate revenue for improvements, such as brownfield cleanup, for a specific area. In general, TIFs work like this: local governments assess property values when the TIF district is designated. Over time and as property tax revenues increase, the incremental difference between the original assessment rate and the new, higher assessed rate is used to finance the designated TIF activity.

Tax Incentives

Public taxation tools are used to encourage brownfield redevelopment. Common practices include crediting and deferring taxes that are paid on property income or sale.

Public Grant Programs

Public grants through local, state, and federal brownfield programs provide funding for remediation and construction on brownfield sites.

Visit <http://www.epa.gov/brownfields/funding.htm> for more information on available funding for brownfield projects.

Public Funding Opportunities

The federal government and most state and local governments provide a variety of grant, loan, and tax incentive programs to cover some or all of the costs of conducting site assessments, developing a remediation plan, cleaning up the contamination to state standards, and making physical improvements to the site to aid in its redevelopment. The availability of these funds and incentives is generally linked to the type of redevelopment being proposed and owner of the site. In addition, preference or priority of some state funding sources or incentives may be dependent on participation in specific state voluntary cleanup programs.

Federal Programs

The USEPA's Office of Brownfields and Land Revitalization provides the majority of the funding and resources for brownfield assessment and cleanup at the federal level. In addition, there are communities that are exploring with their state programs how USEPA funds awarded to the state under the Clean Water State Revolving Fund and Drinking Water State Revolving Fund can support the cleanup of brownfields, particularly where contaminated properties contribute to contamination of surface or drinking waters. The office has various assessment and cleanup grants available to public, pri-

vate, and nonprofit entities. In addition to the grants, the USEPA also offers the Brownfield Cleanup Revolving Loan Fund, which provides low or no-interest loans to eligible parties for brownfield assessment and cleanup.

The Department of Housing and Urban Development's (HUD) Brownfields Economic Development Initiative (BEDI) and the Community Development Block Grant (CDBG) Section 108 Loan Guarantee Program provide financing for economic development, housing rehabilitation, public facilities, and large-scale physical development projects. In addition, communities that are designated as Empowerment Zones, Enterprise Communities, or Urban Renewal Areas have access to a combination of funds such as grants, tax credits for businesses, and bonding authority through HUD. HUD funding usually is available only directly to local governments, but through partnerships with local governments, CBOs can be indirect recipients.

In addition, grants for public works and economic development facilities from the Department of Commerce's Economic Development Administration and tax incentives from Congress help mitigate the brownfield redevelopment costs for local governments. Other programs that provide financial or technical assistance include the Department of Transportation's Livable Communities program, the Department of the Interior's National Park Service programs, and the U.S. Department of Agriculture, which provides Rural Development funds that can support brownfield assessment, cleanup, and community revitalization.



U.S. ENVIRONMENTAL PROTECTION AGENCY

KICKOFF MEETING FOR A REDEVELOPMENT IN MYSTIC VALLEY DEVELOPMENT COMMUNITY, MASSACHUSETTS

State Programs

State and tribal governments are also major sources of funding for brownfields redevelopment. Mostly through voluntary cleanup programs, states offer a variety of financial incentives. CBOs should research their state's programs. In 2009, the USEPA published a summary document on state brownfield programs. The document includes a financial section for each state and includes funding programs and tax incentives. This document can be found at http://www.epa.gov/brownfields/state_tribal/update2009/bf_states_report_r4.pdf.

Summary of Federal Brownfields Finance Programs

U.S. ENVIRONMENTAL PROTECTION AGENCY

Brownfields Assessment Grants

Website: http://www.epa.gov/brownfields/assessment_grants.htm

- Grants to inventory, characterize, assess, and conduct planning and community involvement related to brownfield sites.
- Maximum of \$200,000 grant for each of hazardous substances and petroleum product contaminants.
 - Waiver available for up to \$350,000 for each under certain conditions
 - Can be used for a single specific site or community-wide.
- Eligible entities include state, local, and tribal governments and their agencies.
- Annual competitive grant application and review process.
- Funds should be used within three years of receipt, quarterly reporting to USEPA required.

Brownfields Cleanup Grants

Website: http://www.epa.gov/brownfields/cleanup_grants.htm

- Grants to carry out cleanup of brownfield sites.
- Maximum of \$200,000 grant for each site.
- No entity can apply for more than three sites.
- Requires a 20 percent cost share.
- Eligible entities include state, local and tribal governments and their agencies, and nonprofit organizations.
- Annual competitive grant application and review process.
- Funds should be used within three years of receipt, quarterly reporting to USEPA required.

Brownfields Cleanup Revolving Loan Fund

Website: <http://epa.gov/brownfields/rlfst.htm>

- Grants for the purpose of establishing local revolving loan funds that provide low or no-interest loans to eligible parties to carry out assessment and cleanup at brownfield sites within the community.
- Maximum loan size and other terms are set by the local Revolving Loan Fund.
- Loan recipients can be private developers, nonprofits, and others as determined by local Revolving Loan Fund.

Brownfields Tax Incentive

Website: <http://www.epa.gov/brownfields/tax/index.htm>

- Deduct all costs of cleanup against federal income in the year costs were incurred, rather than spreading them out over a period of years.
- Property must be owned by the taxpayer incurring these expenses, and reuse must be for a trade, business, or production of income.
- No dollar maximum.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Brownfields Economic Development Initiative (BEDI)

Website: <http://hud.gov/offices/cpd/economicdevelopment/programs/bedi/index.cfm>

- BEDI grants must be used in conjunction with Section 108 loan guarantee.
- Total of \$10 million available nationally; maximum of \$1 million per grant awarded.
- Minimum ratio of \$1 loan guarantee required for each \$1 BEDI grant, much higher ratio recommended.

Section 108 Loan Guarantees, Community Development Block Grant (CDBG)

Website: <http://hud.gov/offices/cpd/communitydevelopment/programs/108/index.cfm>

- Provides source of financing for economic development, housing rehabilitation, public facilities, and large-scale physical development projects.
- Local governments borrowing funds guaranteed by Section 108 must pledge their current and future CDBG allocations to cover the loan amount as security for the loan.
- An entitlement public entity or state-assisted non-entitlement public entity may apply for up to five times the public entity's latest approved CDBG entitlement amount, minus any outstanding Section 108 commitments and principal balances of Section 108 loans.

ECONOMIC DEVELOPMENT ADMINISTRATION

Public Works and Economic Development Facilities Grants

Website: <http://www.eda.gov/>

- Funds planning, technical assistance, and local infrastructure (e.g. roads, sewers, water, etc.) needs associated with brownfields redevelopment.
- Eligible applicants include a state, city, county, or other political subdivision of a state, including a special purpose units engaged in economic or infrastructure development activities, and a private or public nonprofit organization or association acting in cooperation with officials of a political subdivision of a state.
- Maximum grant not to exceed 50 percent of the project cost, except may receive up to 80 percent based on relative needs as measured by the severity and duration of unemployment and the per capita income level and extent of underemployment in the region.



U.S. ENVIRONMENTAL PROTECTION AGENCY

THE CITY OF EVANSTON, WYOMING RESTORED THIS FORMER UNION PACIFIC RAILROAD MACHINE SHOP IN 2004. ONCE A DERELICT BROWNFIELD SITE, THE BUILDING IS NOW A MULTIUSE PUBLIC FACILITY

Local Programs

Many local governments, especially those that have received assessment grants from the USEPA, have their own brownfields programs. These programs provide technical assistance and grants to developers, property owners, and residents. Typically, these programs are found within economic development, planning, environmental services, or health departments. While the focus of each local program is unique, many offer assistance to CBOs. There is no central database listing these local government programs; therefore, CBOs should check with the local government to see what it offers.

Other Funding Opportunities

In addition to the government funding sources, private and philanthropic funds are also, in some cases, available to CBOs. The USEPA describes other resources available to CBOs in a publication called *Brownfield Financing* is found at <http://www.epa.gov/efnpage/publications/brownfieldfinancing.pdf>.

BUYER PROTECTIONS FOR PURCHASING A BROWNFIELD PROPERTY

Once a CBO has decided to take on the role of primary developer (as described in Section 1), the CBO must begin to understand both the opportunities and challenges associated with acquiring and redeveloping brownfield properties. If the CBO does not already own the brownfield, the information in this section is particularly valuable, as it will help the organization to determine whether redevelopment of a particular property is *financially viable*.

In a brownfield property transaction, the objectives of the seller and the prospective purchaser (e.g. the CBO) are typically not aligned. The seller may be aware that the property is contaminated but may not know the full extent or type of contamination (e.g. is groundwater impacted?). Nevertheless, the *seller's primary objectives* are to:

- maximize the sales price;
- complete the transaction on a timely basis; and
- obtain relief from future environmentally related liabilities.

On the other hand, the prospective buyer may be concerned that the contamination is greater than currently believed and therefore will want to limit potential liability as the new owner. The *buyer's primary objectives* likely include:

- completing the transaction on a timely basis;
- minimizing cleanup and redevelopment costs; and
- maximizing the property's resale value.

Of additional concern is whether or not the buyer has sufficient investment capital to fund the purchase, cleanup, and redevelopment, especially with the risk that costs could increase significantly.

Contractual Provisions

A variety of grant, loan, and insurance programs are available to reduce cleanup costs and limit future liabilities, but the purchase structure for the property and the inclusion of critical contract provisions regarding the purchase may be of equal or greater importance to a successful transaction in the long run.

City Acquisition of a Brownfield Property

A CBO can request that the city or county acquire the property, clean it up, and then resell it to the nonprofit or private firm for redevelopment. This option is advantageous to the CBO because the CBO then benefits from public sector expertise in real estate and brownfield cleanup activities. In addition, publicly owned brownfields are eligible for federal and state assessment and cleanup grants, which are only available to government entities.

Cleanup Costs Escrowed

The buyer can deposit the agreed upon purchase price into an **escrow account**, which would be used to cover all or a portion of the actual cleanup costs. In the event that costs exceed the escrowed monies, the seller receives nothing and the buyer absorbs the added costs.

Seller Pays for Site Assessments

The buyer can require the seller to undertake the cost of the Phase I and II environmental site assessments. This option reduces uncertainty and allows for more informed agreement on purchase price. Furthermore, it enables the seller to provide contractual representations and warranties regarding site conditions.

Minimizing the Risks of Brownfield Redevelopment

Environmental contamination is the liability—or the greatest unknown—that is most likely to delay or prevent the revitalization of a brownfield site. This liability exists when there are residual or yet-to-be-identified contaminants on the property. These contaminants could pose risks to human health and the environment or they could migrate through the soil or groundwater onto adjacent properties.

Specialized insurance products can be used as tools to overcome these potential liability problems, as well as help to limit the impact of possible large cost overruns when remediating unexpectedly difficult sites. These products enable the redevelopment to move forward by reducing financial uncertainty through the transfer of those risks to insurers at a price. Insurance products permit economic risks associated with redevelopment to be quantified, thereby making investment decisions easier for developers and other equity investors. At the same time, insurance provides lenders with a level of certainty that makes it easier for the developer to use debt rather than capital.

Four broad options for insurance coverage are relevant to owners and developers of brownfield redevelopment sites: **cost cap**, **pollution liability**, **secured lender protection**, and **finite risk**.

Cost Cap Insurance

Cost cap insurance, which is sometimes referred to as *cleanup cost cap* or *remediation stop-loss insurance*, covers unanticipated increases in the costs of a known cleanup.

Pollution Liability Insurance

Pollution liability insurance protects the named insured against liability risks that arise out of known and unknown preexisting contaminants or new conditions outside the scope of the remedial plan.

Secured Lender Protection

Secured lender protection insurance protects the lender(s) if the borrower defaults on the loan resulting in the lender becoming a direct or indirect owner of the property.

Finite Risk Insurance

Similar to cost cap insurance, typically finite risk insurance limits costs for the responsible party. It is usually used for the most costly of cleanups, especially for cleanups where the remediation is expected to take more than five years.

A CBO's specific insurance needs will be determined, in part, by the organization's role in the redevelopment. At some point insurance may be needed for: property owners (i.e. sellers and buyers), developers, investors, contractors/consultants, and lenders. To determine specific needs, a CBO should consult its attorney.

SECTION SUMMARY

- There are a variety of funding mechanisms that support brownfield redevelopment. These include revolving funds, trust funds, tax increment financing, tax incentives, grants, and loans.
- The USEPA provides a majority of the funding and resources at the federal level; the departments of Housing and Urban Development, Transportation, and the Interior also offer financing and technical resources.
- Contractual provisions help incentivize brownfield redevelopment among CBOs. These include city acquisition of a brownfield site, escrowed cleanup costs, and provisions that require the seller to pay cleanup costs.
- To minimize the financial risks associated with brownfield redevelopment, insurance policies can be purchased to limit liability for the buyer and lender. These policies include cost cap insurance, pollution liability insurance, secured lender protection, and finite risk insurance.



MABEL DAVIS SKATE PARK BUILT ON A CLOSED LANDFILL IN AUSTIN, TEXAS

U.S. ENVIRONMENTAL PROTECTION AGENCY

CASE STUDY

Mexicantown International Welcome Center and Mercado, a project of the Mexicantown Community Development Corporation Detroit, Michigan

Located in the shadow of the Ambassador Bridge, which connects the city of Detroit to Windsor, Ontario, the International Welcome Center and Mercado symbolizes a watershed change in the historically disinvested Southwest Detroit neighborhood of Mexicantown. The 43,000-square-foot welcome center, complete with an open air market and plaza for events, successfully employs the neighborhood's cultural heritage as an economic development tool.

This \$17 million project was a long overdue. In the 1920s, Mexicantown began attracting Hispanic families to work in Detroit's booming automobile industry. The neighborhood thrived until the 1960s when a series of setbacks began to plague the neighborhood. Entire blocks of homes and businesses were cleared to make way for Interstate 75 (I-75), effectively splitting the neighborhood in half. In the late 1970s, factory closures caused high unemployment in the neighborhood and drained the area of economic opportunities. As firms such as General Motors, Marathon Oil, and Allied Signal Tar abandoned their sites in the heavy industrial zones surrounding Mexicantown, the neighborhood became marred by the blighted and often contaminated properties these firms left behind. In addition, the decision to locate the city's wastewater treatment plant just three miles south of the neighborhood only perpetuated the neighborhood's economic problems.

Perhaps the final straw came during the 1980s when the Detroit International Bridge Company and the Michigan Department of Transportation (MDOT) began buying and demolishing homes and businesses to make room for a connection between I-75 and the Ambassador Bridge. The extension never happened, but rumors about the project scared away potential investors. By 1990, these large tracts of vacant land defined the neighborhood.

Despite this pattern of disinvestment and decline, Mexicantown still had a rich cultural history and an advantageous location less than three miles southwest of downtown Detroit and on the Detroit River. In the 1990s, a fresh wave of immigrants arrived and reenergized a strip of Mexican restaurants along Bagley Avenue. In addition, the city of Detroit began to think about ways to increase the quality of life by revitalizing the neighborhoods in Southwest Detroit. To do this, Detroit focused its federal Empowerment Zone (EZ) funding application on this quadrant, and in 1994, received \$100 million (dispersed over the course of 10 years) in EZ grant funds.

During the EZ application process, the city developed a partnership with local businesses, the educational community, and nonprofits to determine ways to improve residents' quality of life through economic growth and revitalization of blighted neighborhoods, a criterion for EZ funding. This coalition determined that EZ funding would be an opportunity to create a brownfield remediation and redevelopment demonstration project in Southwest Detroit. To demonstrate their support for the proposed EZ initiatives, businesses, foundations, and banking institutions promised to match federal funds with \$1.9 billion.



BROWNFIELD AT THE BASE OF THE AMBASSADOR BRIDGE THAT IS NOW HOME TO AN INTERNATIONAL WELCOME CENTER



MEXICANTOWN INTERNATIONAL WELCOME CENTER AND MERCADO

HAMILTON ANDERSON ASSOCIATES



GRAND OPENING CELEBRATION OF THE INTERNATIONAL WELCOME CENTER

HAMILTON ANDERSON ASSOCIATES

When Detroit's application was accepted, the city created the Southwest Detroit Contaminated Sites Demonstration Project, comprised of a volunteer task force of public, private, and nonprofit groups. Soon, the task force began looking for a site that was ripe for redevelopment. One of its member groups, Mexicantown Community Development Corporation (MCDC), knew a perfect location. At the base of the Ambassador Bridge, a collection of vacant parcels with diverse histories, including residential, commercial, and industrial uses, sat neglected. It was at this location that MCDC wanted to build an international welcome center to draw visitors from Canada to their distinct community.

The Mexicantown International Welcome Center and Mercado became a joint venture between MDOT and the MCDC. In 2002, MCDC signed a memorandum of understanding to build the welcome center, which opened on August 22, 2006. As MCDC's first economic development project, the welcome center taught the organization many valuable lessons. Most importantly, MCDC learned that sometimes, despite the past, state and local officials might be their most valuable partners.

It was these partnerships that made MCDC's vision a reality. The city of Detroit Planning and Development Department arranged for the tax reverted, city-owned property, which made up roughly half the land needed for the development, to be turned over to the MCDC. The Southwest Detroit Contaminated Sites Task Force provided technical advice about contamination issues and helped identify funding sources for the project. During the environmental assessment and remediation period of development, the task force met bimonthly. Because task force members had a diverse range of experiences and expertise, these meetings provided MCDC with a wealth of knowledge from several different perspectives. Having representatives from the city and the state on the task force ultimately made the redevelopment process more efficient and comprehensive.

The city was crucial to securing funding for the project. Through negotiations with the Southeast Michigan Council of Governments (SEMCOG), the city secured a Section 108 federal Department of Housing and Urban Development (HUD) loan guaranteed by Community Development Block Grant money for MCDC. This single loan, worth nearly \$8 million, covered nearly half of the total expenses for the project. In addition, the project received \$5 million in LISC New Market Tax Credits, a program administered by the Community Development Financial Institutions Fund at the U.S. Department of the Treasury. The program provides investors with credits from federal income tax in return for investing in businesses and commercial projects in low-income areas.

In addition to approving federal funding requests, SEMCOG also took an active role in the welcome center and market project. Through its Walkable Communities program, it helped MCDC develop a design that improved pedestrian access and safety. Based on SEMCOG's suggestions, the welcome center has minimal setbacks and presents interesting pedestrian-scaled scenery for those who visit on foot. Additionally, the public plaza connects the project to Mexicantown's Restaurant Row on Bagley Avenue.

MCDC found that allies in high places can also serve to benefit a redevelopment project of this magnitude. Michigan Gov. Jennifer M. Granholm is a proponent of the International Welcome Center and Mercado redevelopment. Her administration oversaw the inclusion of a pedestrian bridge into the \$230 million I-75 Gateway Project. On May 5, 2010, the Mexicantown Bagley Avenue Pedestrian Bridge and Plaza opened. The bridge connects the welcome center and restaurants on the east side of Bagley with the other half of Restaurant Row on the west side of I-75. This award winning, state-of-the-art cable-stayed bridge represents an important physical asset for creating a cohesive cultural district, but more importantly, it demonstrates the state's commitment to address the infrastructure mistakes that fragmented the neighborhood.

Despite the economic conditions under which the Mexicantown International Welcome Center and Mercado opened, the project is a success. The welcome center attracts visitors to the neighborhood and tenants have filled the commercial and office spaces. Most notably, the project serves as a model for other CDCs operating in the area and has begun to spur additional economic development and planning efforts in the neighborhood. For more information on the Mexicantown International Welcome Center and Mercado, visit http://www.michigan.gov/mdot/0,1607,7-151-9621_11041_21800_21802_22733-199679--,00.html.

NEXT STEPS



KIMBERLY HODGSON

LYNCHBURG GROWS IS AN URBAN FARM THAT USES NINE GREENHOUSES TO PROMOTE SUSTAINABLE FARMING AND PROVIDE HEALTHY, LOCAL PRODUCE TO NEARBY RESIDENTS, LYNCHBURG, VIRGINIA

Across the country, community-based organizations (CBOs) play a vital role revitalizing their neighborhoods through the redevelopment of brownfield sites. These projects spurred economic development, improve human and environmental health, confront equity issues, and bring communities together. *Creating Community-Based Brownfield Redevelopment Strategies* outlines valuable information for CBOs that are new to the brownfield redevelopment process.



U.S. ENVIRONMENTAL PROTECTION AGENCY

THE ABANDONED PACIFIC RAIL YARD (TOP) IS NOW HOME TO GATEWAY DISTRICT PARK (BOTTOM) IN SALT LAKE CITY, UT

In most cases, brownfield redevelopment would not be possible without the support of public financing. The USEPA is the primary funder of brownfield cleanups and redevelopments. State voluntary cleanup programs also play a large role in providing technical assistance and financing to brownfield redevelopments. Though many states have well-established and successful brownfield programs, there is a common limitation among them. Most brownfield programs revolve around a site-specific approach meant to address on-site environmental contamination, increase tax valuation on individual parcels, and create jobs at the site. While there are cases where a single brownfield redevelopment project has spurred environmental, economic, and social benefits across a neighborhood or district, it is not common for a single redevelopment to bring widespread benefits to a city or region.

In actuality, small brownfield properties sprinkled throughout a neighborhood or district are less marketable to developers and fail to attract enough support from local governments. Because of their size and the fact that they are often served by crumbling infrastructure, such sites typically cannot generate enough redevelopment benefits to overcome market barriers and neighborhood stigmas. Few developers, for example, are interested in remediating and reusing a single site in a cluster of brownfield properties without some assurance that the surrounding brownfields will be returned to use.

For local governments, clustered brownfields in distressed neighborhoods present other problems. Ownership of these properties are typically fragmented among private owners and burdened by liens, bankruptcy considerations, and other hindrances that make them an unwieldy and time-consuming challenge. For low-income and minority communities, the costs of this policy failure are steep. Not only are residents potentially exposed to contaminants from multiple sites, but the collective underinvestment in small brownfield properties perpetuates the economic inequities that affect low income and minority communities.

The benefits to area-wide brownfields strategies are ample. Such an approach can improve regional (rather than site-specific) environmental conditions and address problems of social equity by bringing distressed neighborhoods into focus. It can lead to more meaningful community involvement and help implement neighborhood, city, and even regional planning initiatives. Finally, an area-wide approach to redeveloping brownfields can satisfy the recreational, cultural, and housing needs of the community. In 2010, the USEPA's Office of Brownfields and Land Revitalization published an RFP for area-wide planning approaches to address issues of multiple brownfield sites. The office will fund 20 municipalities across the country to develop area-wide brownfield pilot programs. Lessons learned from these pilots, if successful, are likely to be reflected in future brownfield grant and policy approaches.

The purpose of this guide is to encourage communities to think of brownfields as opportunities for community transformation, and the contents of this guide focus on site-specific redevelopment strategies. However, CBOs involved in brownfields redevelopment can use this guide as a launching pad to involvement in both site-specific *and* area-wide redevelopment approaches. As a primary developer or collaborator, a CBO can invest in one parcel at a time in order to make its community a better place to live, work, and play. As an advocate, CBOs can become involved in strategic policy decisions regarding the future of its local brownfield program. Partnerships among the myriad stakeholders involved in brownfield redevelopment are crucial to the successful transformation of scarred communities across the country. Such partnerships prove to have transformative effects on single brownfield sites; though, they can also be utilized to drive long-range, area-wide redevelopment approaches.

ADDITIONAL RESOURCES

BROWNFIELD CLEANUP AND REDEVELOPMENT FAQs

How do you know when a property needs to be cleaned up?

If, after conducting environmental assessments as described in Step 2, your sampling results exceed your state's cleanup levels or the risk assessment indicates that a potential risk to human health or the environment exists, it is likely that some form of cleanup is necessary.

Who do I need to consult to get help with cleaning up the site?

If you haven't done so already, you should hire an environmental consultant to work with you to develop and implement a plan to address the contamination at your site. Additionally, it may be necessary to hire an environmental attorney who is familiar with state and federal laws to assist you in dealing with the legal issues relative to the cleanup process. Finally, you should also contact your state environmental agency and ensure that any cleanup work you are planning to conduct will fulfill state requirements. See Step 4 for more information regarding your state's cleanup requirements.

How much will the cleanup cost?

The more information you have about the types and amount of contamination on your property, the easier it will be to estimate the cost to clean it up. In addition, determining future intended use for the property may allow you to tailor the cleanup and reduce the costs.

Incorporating cleanup activities into the general construction process or using innovative architectural designs can help reduce costs. For example, it may be possible to reduce the amount of contaminated soil needing to be excavated and disposed of by constructing buildings over less-contaminated areas, and/or paving areas of higher contamination to reduce exposure.

In addition, cost-effective remediation techniques designed to address contamination under buildings and in groundwater have been developed, and may be appropriate for your project. You may want to contact your state's environmental agency as they may have web sites and contact information that can provide you with more information about these remediation techniques.

What types of cleanup might be necessary at Brownfields sites?

Soil, sediment, groundwater and indoor air may need to be cleaned up at a contaminated site. Techniques have been developed to address contamination in each of these media. The type of cleanup selected is based on situation-specific considerations such as type of contamination, amount of contamination, depth to groundwater, and extent of risk to human health or the environment. Additional cleanup might be necessary during the demolition phase to address issues such as asbestos or lead-based paint.

What are institutional controls?

In cases where the cleanup does not remove or address all of the contamination at the property to the most stringent of standards (e.g., for residential or unrestricted use), Institutional Controls (ICs) may be required as part of the cleanup. ICs are legally

enforceable restrictions, conditions, or controls that limit or prevent the use of the property, ground water, or surface water so that future exposure to contamination can be prevented or minimized.

ICs are intended to reside in the property chain of title records and to be discovered when property ownership changes. By making future owners and others aware of the location of contamination, a less stringent cleanup option may be implemented that is just as protective of humans and the environment as a more “complete” cleanup. Some examples of ICs include easements, activity and use limitations, restrictive covenants, well drilling prohibitions, deed restrictions, zoning restrictions, and special building permit requirements.

Each state’s real estate laws vary. In some states, the owner is the only person can only place such instruments in the chain of title. Check your state’s laws for specifics for your situation.

If my property has a deed restriction/institutional control/environmental covenant incorporated into the environmental risk management plan, how will this impact the marketing and redevelopment of the site?

If your site is safe for reuse but has a deed restriction, developers and occupants will need to be made aware that in certain areas some uses are either prohibited (i.e., growing vegetables is not permitted) or require special consideration (i.e. excavation below 6 feet requires a soil management plan). Developers will need this information to formulate the best plan for reuse of the property. Potential owners or occupants need this information so that they can safely use the property and so they can fulfill any ongoing obligations associated with the deed restriction. These obligations are site and state-specific and may include periodic review and reporting of site conditions, operation of a remediation system, or payment of an annual fee. You should check with your state cleanup program to determine whether any such ongoing obligations apply to your site.

What information generated during assessment and cleanup work will developers, lenders, and potential occupants request during the development stage, and how should the information be presented?

At a minimum, most developers, lenders and potential occupants will want to be assured that the site has been appropriately cleaned up and closed out of the state and/or federal cleanup programs. They may also be interested in reviewing the closeout report and having a copy of the site closure letter received from the state or its designees. Other documents of interest may include the AAI report, assessment reports, and documentation of remediation activities. Most state environmental agencies retain copies of these documents in their files for the public to review. You may also want to set up an information repository in a local library to facilitate review.

Source: *Toolbox for Cleanup and Redevelopment of Contaminated Sites in Small Cities and Rural Communities*. 2007. Association of State and Territorial Solid Waste Management Officials. Available at <http://www.astswmo.org/files/publications/cercla/Toolboxfinal.pdf>.

RESOURCES, PUBLICATIONS, WEBSITES, AND CONTACTS

U.S. ENVIRONMENTAL PROTECTION AGENCY & REGIONAL OFFICES

REGION	WEBSITE	PHONE NUMBER
EPA - HEADQUARTERS: Office of Solid Waste and Emergency Response	http://www.epa.gov/brownfields	(202) 260-6837
REGION 1: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	http://www.epa.gov/region1/brownfields/index.html	(617) 918-1221
REGION 2: New Jersey, New York, Puerto Rico, Virgin Islands	http://www.epa.gov/region2/brownfields/	(212) 637-3000
REGION 3: Delaware, Washington, D.C., Maryland, Pennsylvania, Virginia, West Virginia	http://www.epa.gov/reg3hwmd/bf-1r/	(215) 814-3129
REGION 4: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee	http://www.epa.gov/region4/index.html	(404) 562-8684
REGION 5: Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin	http://www.epa.gov/R5Brownfields/	(312) 886-7576
REGION 6: Arkansas, Louisiana, New Mexico, Oklahoma, Texas	http://www.epa.gov/earth1r6/6sf/bfpages/sfbfhome.htm	(214) 665-6736
REGION 7: Iowa, Kansas, Missouri, Nebraska	http://www.epa.gov/region07/cleanup/brownfields/	(913) 551-7066
REGION 8: Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming	http://www.epa.gov/region08/land_waste/bfhome/bfhome.html	(800) 227-8917
REGION 9: Arizona, California, Hawaii, Nevada, American Samoa, Guam	http://www.epa.gov/region09/waste/brown/index.html	(415) 972-3188
REGION 10: Alaska, Idaho, Oregon, Washington	http://www.epa.gov/swerosps/bf/index.html#other	(800) 424-4372

An online list of regional contacts is available at <http://www.epa.gov/swerosps/bf/regcntct.htm>.

U.S. ENVIRONMENTAL PROTECTION AGENCY ONLINE RESOURCES

RESOURCE	WEBSITE	DESCRIPTION
Brownfields and Land Revitalization Program	http://www.epa.gov/brownfields/	This website offers up-to-date relevant information on the EPA's Brownfields Program. The program maintains an accurate record of progress made by its Pilot/Grantees and shares information, lessons learned, and successes through the website.
Compliance and Enforcement	http://www.epa.gov/compliance/	EPA's Office of Enforcement and Compliance Assurance (OECA) pursues enforcement and provides compliance assistance to areas that yield the most environmental benefit or reduce risk to human health. Enforcement and compliance actions are organized around environmental problems and broad patterns of non-compliance rather than provisions of single statutes.
National Risk Management Research Laboratory	http://epa.gov/nrmrl/	The National Risk Management Research Laboratory seeks to develop solutions to environmental and human health problems. This website publishes the results of research in the following areas: air, water, land, ecosystems, sustainability, and technology.
Robert S. Kerr Environmental Research Center	http://www.epa.gov/ointrnt/facilities/ada.htm	The Robert S. Kerr Environmental Research Center, located in Ada, Oklahoma conducts research on soil and subsurface environments. The facility's mission is to study the transport and transformation of contaminants in soil and groundwater generated by municipal, agricultural, and industrial wastes.
Superfund Program	http://www.epa.gov/superfund	The Superfund website provides pertinent information for the general public and for those involved in the Superfund program. The site offers information about Superfund sites (searchable by location), the health effects of common contaminants, cleanup efforts, and opportunities for engagement in cleanup activities.

BROWNFIELD PUBLIC DATA SOURCES

RESOURCE	WEBSITE	DESCRIPTION
Care2	http://www.care2.com/near_home/getlocal_list_all.html	This site provides free environmental reports for a variety of criteria.
Envirofacts, EPA	http://www.epa.gov/enviro/	This systems searches for environmental-related data based on location. Specific topic searches include air, waste, facility, land, toxics, compliance, water, and radiation. The system retrieves information from multiple EPA sources.
EnviroMapper for Brownfields, EPA	http://www.epa.gov/enviro/bf	This tool combines interactive maps and aerial photography to locate, display, and query brownfields grant types by the areas/jurisdictions of city, county, state, and tribe.
Superfund National Priorities List, EPA	http://epa.gov/swerfrr/ff/nplstates.htm	The EPA's National Priorities List (NPL) lists sites by state/U.S. territory.
TOXMAP, Environmental Health e-Maps	http://toxmap.nlm.nih.gov/toxmap/main/index.jsp	This site maps on-site toxic releases and hazardous waste sites from the EPA's Toxics Release Inventory (TRI) and the Superfund National Priorities List (NPL)

INFORMATION ON COMMON CONTAMINANTS OF BROWNFIELDS

RESOURCE	WEBSITE	DESCRIPTION
Agency for Toxic Substances and Disease Registry (ATSDR), U.S. Department of Health and Human Services.	http://www.atsdr.cdc.gov	ATSDR uses the science-based solutions against public health problems. This website provides useful information regarding toxic substances.
Hazardous Waste Clean-up Information (CLU-IN)	http://www.cluin.org/contaminantfocus	This website bundles information associated with the cleanup of individual contaminants and contaminant groups.
Occupational Safety and Health Administration, U.S. Department of Labor	http://www.osha.gov/SLTC/hazardouswaste/evaluation.html	This website contains resources to aid in evaluating hazards at a waste site.

ASSOCIATIONS & ORGANIZATIONS FOCUSED ON BROWNFIELD CLEANUP AND REDEVELOPMENT

ORGANIZATION	WEBSITE	DESCRIPTION
aboutREMIEDIATION	http://www.aboutremediation.com	AR is the leading brownfields resource in Canada. The website includes tools, training, and solutions to increase knowledge; build capacity; and promote projects, technologies, case studies, and business services.
American Planning Association	http://www.planning.org/research/brownfields/pdf/resourceelist.pdf	APA is an independent, nonprofit educational organization that provides leadership in the development of vital communities. APA and its professional institute, the American Institute of Certified Planners, advance the art and science of planning to meet the needs of people and society.
Brownfields Center at the Environmental Law Institute	http://www.brownfieldscenter.org/big/searchdatabase.cfm	This is an interactive resource database intended to provide users with a thorough listing of the government agencies, regional and national nonprofits, community groups, and businesses working on brownfields-related issues in each state.
Brownfields & Land Revitalization Technical Support Center (BTSC)	http://www.brownfieldstsc.org	The BTSC contains useful guides and resources on brownfield redevelopment. Local and state government personnel, EPA staff, tribes, and nonprofits with active EPA Brownfields Cleanup Grants may request site-specific support for brownfields sites from the BTSC at no cost. Nongovernmental organizations are limited to information requests only.
Center for Creative Land Recycling	http://www.cclr.org/resources	The Center for Creative Land Recycling is an EPA TAB program provider. Their website provides information on funding opportunities, regulatory processes, and additional resources for each state.
Environmental Redevelopers Association	http://www.brownfieldslaw.com/states.htm	This is an online database of agencies working on brownfields and voluntary cleanup programs in the U.S.
FirstGov	http://www.firstgov.gov	FirstGov is a central source for all information related to federal government programs, funding sources, jobs, and agencies.
International City/County Management Association	http://www.icma.org	ICMA website provides information on brownfields research.
National Association of Development Organizations	http://www.nado.org/	NADO serves as the voice for the nation's 520 regional development organizations through advocacy, education, research, and training. With a regional scope, NADO focuses on policy issues related to planning, environmental stewardship, and economic development.
National Brownfield Association	http://www.brownfieldassociation.org/	NBA is a non-profit organization that supports responsible brownfield redevelopment. It provides information and education resources as well as a forum for the exchange of ideas among people working on brownfield redevelopment across the country.
National Charrette Institute	http://www.charretteinstitute.org/	NCI offers training and resources on public participation and community visioning.
Northeast Midwest Institute	http://www.nemw.org/index.php?option=com_content&view=category&layout=blog&id=18&Itemid=214	NMI is a nonprofit, nonpartisan organization that works to promote environmental quality, regional equity, and economic vitality through research and analysis, developing and advancing innovative policy, evaluating key federal programs, disseminating information, and highlighting sound economic and environmental technologies and practices.
U.S. Conference of Mayors	http://www.usmayors.org/78thAnnualMeeting/	This website offers information on activities governments can do to encourage and participate in brownfield redevelopment.
Western Pennsylvania Brownfields Center, Carnegie Mellon University	http://www.cmu.edu/steinbrenner/brownfields/index.html	Carnegie Mellon University and the University of Pittsburgh cosponsor this website. It provides information about brownfield projects, case studies, regulations, and links to other brownfield websites of interest.

RESOURCES ON FINANCING BROWNFIELD REDEVELOPMENT PROJECTS

RESOURCE	WEBSITE	DESCRIPTION
<i>Financing Brownfield Cleanup and Redevelopment</i> (2002), Government Finance Review, Charles Bartsch	http://findarticles.com/p/articles/mi_hb6642/is_1_18/ai_n28899690	This paper examines brownfield financing options, including tax incentives, capital attraction incentives, and initiatives to support financing.
<i>Financing Brownfields, Redevelopment Projects: A Guide for Developers</i> (1999), EPA	http://www.smartgrowth.org/pdf/brownfield.pdf	This document provides financing and general redevelopment information for developers and private property owners.
<i>Guidebook of Financial Tools: Paying for Environmental Systems</i> (2008), EPA	http://www.epa.gov/efinpage/publications/GFT2008.pdf	This guidebook is designed to assist in finding the means to finance environmental protection initiatives.
Insurance and Brownfields Redevelopment	http://www.epa.gov/brownfields/insurance/index.html	This page on the EPA's Brownfields Program website provides resources associated with insurance and financing.
<i>Introduction to Environmental Insurance and Risk Management Tools</i> (2006), EPA	http://www.clu-in.org/conf/tio/ei_050206/	This free webinar was originally presented on May 2, 2006. The presentation introduces the role that environmental insurance plays in risk management. It covers topics including risk management and redevelopment approaches, environmental insurance coverage, and negotiating environmental insurance coverage claims.
Technical Assistance to Brownfields, Easy Brownfield Grant Application Software	http://www.tabez.org	A grant writing tool to be used for preparation of EPA brownfields grant proposals.
<i>Utilizing Environmental Insurance for Brownfield Redevelopment</i> (2003), Sarah S. Hollis, Thomas Lambert and Peter B. Meyer	http://cepm.louisville.edu/Pubs_WPapers/practiceguides/PG4.pdf	This document details the types of insurance policies available for brownfield projects as well as information related to the risks involved in each stage of the redevelopment process and details on how to find an insurance advisor or broker.

ADDITIONAL PUBLICATIONS ON BROWNFIELD REDEVELOPMENT

RESOURCE	WEBSITE	DESCRIPTION
<i>Brownfields Redevelopment: A Guidebook for Local Governments and Communities</i> , 2nd Ed. (2001), International City/County Management Association	http://www.usmayors.org/brownfields/library/Brownfields_Redevelopment.Pdf	This is a comprehensive guide to brownfield redevelopment. It was developed for local governments and communities.
<i>Brownfields Resource Guide for Rural and Small Communities</i> (2004), National Association of Development Organizations	http://www.nado.org/pubs/rguide04.pdf	This guide contains contact details of national and regional organizations, technical resources, federal and private funding sources.
<i>Brownfields Technology Primer: Requesting and Evaluating Proposals That Encourage Innovative Technologies for Investigation and Cleanup</i> , EPA	http://www.brownfieldstsc.org/pdfs/rfpfinal.pdf	This document provides the specific information required to prepare requests for proposals (RFPs).
<i>Brownfields to Greenfield\$: A Manual on Brownfields Redevelopment</i> (2000), Sustainable Long Island	http://www.sustainableli.org/documents/Brownfieldsto-Greenfields-Final.pdf	This manual contains information related to brownfield redevelopment in New York State, including examples of remediation programs as well as useful tools and resources.
<i>Road Map to Understanding Innovative Technology Options for Brownfields Investigation and Cleanup</i> , 4th Ed (2005), EPA	http://www.brownfieldstsc.org/roadmap/home.cfm	This document includes new and updated resources to assist in identification and selection of innovative site characterization and cleanup technologies for brownfields redevelopment.

GLOSSARY

This section provides definitions for the terminology used in brownfield redevelopment. In addition to the terms used in this guide (those that appear in **red** throughout the text), this glossary contains language used frequently by stakeholders involved in brownfield cleanup and revitalization.

Abandonment: a cessation of the use of a property by the owner with the intention of neither selling the property nor resuming the use of the property. ++

All Appropriate Inquiry: refers to the requirements for assessing the environmental conditions of a property prior to its acquisition. By demonstrating AAI, a potential owner may be able to claim protection from liability even if the property turns out to be contaminated. Thus, if the site turns out to be contaminated after the Phase I site assessment concludes it is not, the new property owner may be able to qualify as an “innocent landowner” or “bona fide prospective purchaser” under federal and state law.

“As is” Sale: the transfer of a property to a buyer with no promises, assurances, or representations by the property owner about the conditions of the property. +

Bioaccumulation: bioaccumulation occurs when plants absorb contamination from soil and pass along the harmful affects of the contaminant to any person or animal that consumes it.

Bioremediation: the use of microorganisms to clean up or degrade contaminants and return a site to its natural condition.

Bona Fide Prospective Purchaser: a bona fide prospective purchaser exhibits the following actions or characteristics:

- ensured that all disposal was made prior to the date of purchase;
- made all appropriate inquiry;
- exercises appropriate care with respect to any release of contaminants;
- provides full cooperation, assistance, and access to persons authorized to undertake response actions or natural resource restoration;
- complies with land-use restrictions and does not impede performance of institutional controls;
- complies with all information requests;
- provides all legally required notices regarding releases of hazardous substances;
- is not potentially liable or affiliated with any other person potentially liable. +++

Brownfields: abandoned, idled, or underused real property, land, residential, industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. For the complete statutory definition, see <http://www.epa.gov/brownfields/laws/sblrbra.htm>.

Brownfields Tax Incentive Program: a federal tax incentive to spur cleanup and development of brownfields in poor urban and rural areas under the Taxpayer Relief Act (PL 105-34/HR 2014), signed by President Clinton on August 25, 1997. Under the tax incentive, environmental cleanup costs for properties in these areas are fully deductible in the year in which they are incurred. ++

Certificate of Completion (COC): a written verification that exempts the developing party from future liability for cleanup under most provisions of state law and usually can be transferred to future owners. Its value is to assure potential purchasers and

lenders that additional remedial costs will not be incurred, provided that any required monitoring or maintenance is continued.

Charrette: a relatively short and intense collaborative process for designing projects, planning communities, and building consensus. Charrettes are typically used during community visioning processes.

Chemical Treatment: a method used for brownfield cleanup that relies on chemicals to destabilize, de-emulsify, or absorb contaminants.

“Claims Made”: refers to environmental insurance policies in that most policies require that claims have to be filed for specific costs or damages during the policy period rather than occurrence-based.

Cleanup Approval Letter: a written verification from a state voluntary cleanup or brownfield program that a site has been cleaned up in a manner satisfactory to the state. ⁺

Cleanup: the term used for actions taken to deal with a release or threat of release of a hazardous substance that could affect humans or the environment. The term sometimes is used interchangeably with the terms remedial action, removal action, response action, or corrective action.

Collaborator: a stakeholder who does not own or wish to own a brownfields site but would like to be involved in the brownfield redevelopment process. A collaborator can 1) identify the site, 2) find funding through state or federal grants to conduct a site assessment, and 3) take the lead on community planning issues.

Comfort Letter: a letter issued through a state voluntary cleanup program. It typically states that a site complies with the program’s requirements, that it is clean enough for the intended use, and that no future enforcement action is expected unless conditions or uses of the site change. The letter typically does not provide legally enforceable rights, such as relief from liability. ⁺

Community Advocates: stakeholders that are willing to play a role in brownfield revitalization but are not able to or willing to own a brownfield property because of the financial risk involved.

Community Development Block Grant (CDBG): a lump-sum grant to a state or local government from the Department of Housing and Urban Development (HUD) that may be used for development activities including, in some cases, brownfield revitalization. ⁺

Community Development Corporations (CDCs): local nonprofit organizations created to promote urban redevelopment. ⁺

Community Development Loan Funds (CDLFs): unregulated financial collaborators that bring together capital from individual and institutional social investors at below-market rates and re-lend this money primarily to nonprofit housing and business developers in urban and rural low income communities. ⁺⁺

Community Land Trusts (CLT): organizations that typically act as mediating institutions in urban neighborhoods. CLTs provide affordable housing options, develop community facilities, preserve open space, and work with other community groups to promote economic opportunities. Such organizations often play the role of primary developer in brownfield redevelopment processes. ^{*}

Community Reinvestment Act of 1977 (CRA): federal law that requires insured depository institutions to meet credit needs, including home mortgages and business

loans, of all communities they serve, including low- and moderate-income communities. Congress passed this act to reduce redlining, the practice of reducing or denying the opportunity for services, such as loans and insurance, to low- and moderate-income communities.

Community Vision: a collective understanding among community residents and other stakeholders that leads to a broad agreement about a preferred future, which in turn leads to implementation strategies involving changes in public policy and actions.

Community Visioning Process: a participatory planning process that seeks to negotiate an agreed-upon future for a community. To do this, citizens and stakeholders are engaged in discussions and exercises about alternative futures.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): a federal law passed in 1980 that created a special tax that funds a trust fund, commonly known as Superfund, to be used to investigate and remediate abandoned or uncontrolled hazardous waste sites. CERCLA is enforced by the EPA.

Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS): a three-tiered database used by the EPA to track contaminated properties. The most polluted sites in the country wind up on the National Priorities List (NPL). These contaminated properties are referred to as Superfund sites.

Condemnation: a legal process that allows a government entity to acquire the title to property for a public purpose, which, in the case of brownfields, can include unused or potentially contaminated sites. Once the property has been condemned, the government entity can destroy any buildings and offer the site for private redevelopment. ⁺

Contaminant: any physical, chemical, biological, or radiological substance or matter present in any media at concentrations that may pose a threat to human health or the environment.

Contractor-Certified Cleanups: cleanups where the state allows private contractors to make cleanup decisions on behalf of the state, including no further action (NFA) letters. Only a small number of states use certified contractors. ⁺

Contractor Certification: a process for assuring that contractors meet state standards and have state approval for performing specific tasks. ⁺

Contribution Action: a legal proceeding brought by a party that has incurred cleanup costs against other liable parties for their share of the costs incurred. ⁺

Corrective Action: the cleanup process used to address contamination at treatment, storage, and disposal facilities regulated under the Resource Conservation and Recovery Act (RCRA). ⁺

Cost Cap Insurance (also known as **Stop Loss Insurance**): a type of insurance that addresses cost overruns, that is, costs above those estimated for cleanup of a contaminated site. It covers the insured for a self-insured retention (SIR), which is the cost of cleanup plus an additional deductible. ⁺⁺

Covenant: a contract relating to real property, entered into by two or more parties. The agreement concerns a pledge by one of the parties that something has been done, shall be done, or shall not be done, or stipulates to the truth of certain facts. Covenants are primarily used in transfers of real property, known as deeds. ⁺⁺

Covenant Not to Sue: a legally binding agreement by the regulatory agency not to require further remediation against the holder of the covenant for either on-site or off-site contamination on the property before the effective date of the covenant. In some states, a covenant not to sue, in the language of real estate law, “runs with the land,” and thus applies to future property owners.

Deed: a written document, signed, delivered, and recorded, by which one person transfers ownership of land to another person. ⁺⁺

Deed Restriction: a limitation on the use of a property that is recorded on the deed to the property. The limitations on use are legally enforceable against the owner of the property, but the state law determines who may enforce the limitation. ⁺

Due Diligence: evaluation of the environmental condition of a parcel of land, often as part of a real estate transaction. This is required in order for a purchaser to qualify for federal liability protection as an innocent purchaser. See also Environmental Site Assessment. ⁺

Easement: a right to use or limit the use of someone else’s property. ⁺

Emergency Removal: an action initiated in response to a release of a hazardous substance that requires immediate on-site activity. ⁺⁺

Empowerment Zones (EZ): federally designated areas eligible for development assistance pursuant to Internal Revenue Code 26 U.S.C. § 1391. ⁺⁺

Engineering Controls (EC): physical mechanisms for preventing exposure to contamination. Examples include: fences, pavement, and clay caps placed on contaminated soil. ⁺

Environmental Protection Agency (USEPA): the federal agency that implements environmental statutes, such as CERCLA and RCRA for cleaning up the environment. ⁺⁺

Environmental Site Assessment (also known as **All Appropriate Inquiries**): Environmental site assessments (ESA) are conducted to evaluate existing environmental problems from past operations and potential environmental problems from current or proposed operations at a site. The ESA takes place in two phases. Phase I is meant to determine if a site is contaminated. This is done through an inspection of the property, investigation into past uses, review of records relating to the property, and interview with past and current owners/occupants. If investigations under Phase I determines that there is the potential for site contamination, a Phase II assessment is required to determine the type and extent of the contamination. This includes on-site soil and groundwater testing by an environmental engineer.

Environmental Insurance: used to eliminate or reduce the financial risk of a brown-field transaction. In exchange for payment, an insurance company agrees to accept the risk of the owner being held liable under state or federal laws for cleanup costs or damages above a specified amount. Such insurance policies include cost cap, pollution liability, finite risk, and secured lender protection insurance. These policies are discussed in Section 5 of this guide. ⁺

Escrow Account: an account used most often during a real estate transaction. The account is typically held in the borrower’s name and funds deposited into the account are used to pay obligations such as property taxes, insurance premiums, and, in the case of brownfields, cleanup costs.

Exaction: a local government may impose an exaction to require concessions from

developers, such as the construction of sidewalks on land that will be developed. The exaction must further a legitimate public interest. +

Finite Risk Insurance: insurance that limits costs for the responsible party. It is usually used for the most costly of cleanups, especially for cleanups where the remediation is expected to take more than five years.

Greenfields: sites that are undeveloped and require little or no environmental cleanup. Greenfields have no previous industrial or commercial use and compete with brownfields in offering development incentives. ++

Hard Costs: a term used in development projects for the amount that includes total land costs, site clearance, grading and construction costs, and landscaping. +

Hazardous Substance: any material that poses a threat to public health or the environment, as defined by CERCLA. The term also refers to hazardous wastes, as defined under Resource Conservation and Recovery Act (RCRA). Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.

Highest and Best Use: the redevelopment use of the property that will result in the maximum market value for the property.

Hot Spots: with respect to brownfields, hot spots are specific areas where the level of contamination is very high. +

Joint and Several Liability: responsibility for all cleanup costs and harm may be imposed on one party despite the fact that there is more than one responsible party connected with a site. Thus, each responsible party may bear full costs for cleanup of a site polluted by hazardous substances. The party being sued may, in turn, sue other responsible parties for contribution to the costs. ++

Indemnification: an agreement that provides for one party to bear the costs, either directly or by reimbursement, for damages or losses incurred by a second party. +

Infill Development: development on vacant or underused sites in a developed area. +

Innocent Purchaser: a purchaser of land polluted by hazardous substances who (1) at the time of acquiring the property did not know and had no reason to know that any hazardous substance was disposed of on the property; (2) exercised due care with respect to the hazardous substances; and (3) took precautions against foreseeable acts or omissions of the third party. One may use this defense to avoid liability under CERCLA. However, this defense to liability under CERCLA is almost never available to purchasers of known brownfields sites. ++

Institutional Controls (IC): legal and administrative mechanisms designed to reduce exposure to contamination. Examples include: deed restrictions, easements, warning signs and notices, and zoning restrictions. +

Liability Relief or Release: protection from liability for contamination provided by a state government as an incentive for brownfield cleanups. Releases vary in scope and form and can include covenants not to sue and some types of no further action letters and certificates of completion. +

Market Analysis: investigating and reviewing local and regional real estate market conditions, economic conditions, and supply and demand data for a potential redevelopment.

Mitigation: actions intended to minimize the significant environmental impacts of a project. ⁺⁺

National Priorities List: a list developed and maintained by the U.S. Environmental Protection Agency (USEPA). This list identifies sites that are a known releases or threatened releases of hazardous substances, pollutants, or contaminants. It guides the EPA in prioritizing sites for further investigation and cleanup. Sites on this list are commonly referred to as Superfund sites and are eligible for CERCLA funding. ⁺

Natural Resource Damages: injuries caused to natural resources such as streams, wildlife, and wetlands by contamination from a site. The government can, in some cases, compel parties responsible for the injuries to pay damages. ⁺

No Further Action (NFA) Letter: a written statement by a regulatory agency that provides assurances that, based on current information about the site, the agency will not demand any further cleanup. Typically, a NFA grants liability protection to the voluntary party but not to future owners of the property.

No Further Remedial Action Planned (NFRAP): a designation determined by the EPA once an investigation into the level of contamination has taken place on a given Superfund site. This designation means that the EPA has ruled out severe contamination and that, in some cases, the site is ripe for redevelopment.

Nonresidential/Residential Use Standard: a cleanup standard, usually expressed as a numerical ratio of parts of a specific contaminant to parts of the medium of concern (e.g., five parts of lead per million parts of soil) that, based on the proposed reuse, describes the maximum concentration of the contaminant in the medium that will not present an unacceptable risk to the health of humans residing on-site, or engaging in any activity on the site that is considered to be substantially similar to residing on the site. The residential use standard is usually the strictest cleanup standard because it assumes daily exposure for extended hours of the day and also factors in the unique exposures and sensitivity of certain populations—infants, children, pregnant and breastfeeding women, and elderly people—in the standard. ⁺

Physical Separation: a method used in brownfields cleanup that involves techniques such as engineered barriers, isolation, capping, or removing contaminants.

Placemaking: a term that describes the process of creating vibrant public spaces by capitalizing on a community's assets, history, and culture. Placemaking, or creating a *sense of place*, can be realized through public parks, plazas, squares, and streetscapes that foster interaction among the people who use the space.

Pollution Liability Insurance: an environmental policy form that is modeled after a standard commercial general liability contract. Its purpose is to protect the named insured against liability risks that arise out of known and unknown preexisting contaminants, or new conditions outside the scope of the remedial plan.

Potentially Responsible Parties (PRPs): persons or entities subject to liability under CERCLA. PRPs may include past, present, and future owners of such sites, and operators and generators and transporters of hazardous substances. (See Title 42 U.S.C. § 9607(a)). Under CERCLA, PRPs are strictly liable for cleanup costs for a site polluted by hazardous substances because of the abnormally high risk to human health and the environment from hazardous substances. CERCLA allows one PRP to sue another PRP for cleanup costs. However, a party that has settled its liability with the federal government or state is protected from contribution claims by non-settling parties regarding matters covered by the settlement. ⁺⁺

Primary Developer: a stakeholder that takes on the primary financial responsibility and liability in a brownfield redevelopment project.

Private Right of Action: an individual's legal right to bring a claim, action, or suit in a court of law or administrative proceeding.⁺⁺

Pro Forma: financial projections for a real estate project. This includes an income statement, capital costs, operating revenues and expenses, and return on investment over a period of time.⁺

Property Transfer Insurance: environmental insurance that provides coverage for the cleanup costs of adjoining or downstream sites when the contamination stems from the on-site pollution.⁺⁺

Real Estate Investment Trust Fund (REIT): a mechanism for funding brownfields redevelopment. Pension funds and insurance companies invest in REITs because they offer a high rate of return. When funding a brownfields redevelopment, the REIT owns the brownfields site, thus limiting each investor's liability.⁺⁺

Remediation: sufficient cleanup of pollution so that, at a minimum, the property is returned to a state that "assures protection of human health and the environment" (42 U.S.C. § 9621(d)).⁺⁺

Reopener Provisions: express exceptions to liability releases or agreements that reserve the government's right to require further cleanup under certain conditions. These conditions typically include fraud by parties responsible for the cleanup, discovery of previously unknown contamination, and discovery that contamination remaining on the site is significantly more toxic than originally believed.⁺

Request for Proposals (RFPs): a document that asks developers for a detailed proposal on development of a site. RFPs typically include background information about the project, a detailed scope of work, a request for an itemized cost estimate for the scope of services, and prices for any potential services not specified in the scope of work. A proposed schedule, the qualifications of the persons who will be working on the site, proof of professional and environmental insurance coverage, and a list of references can also be part of the RFP.

Residential Use Standard: a cleanup standard, usually expressed as a numerical ratio of parts of a specific contaminant to parts of the medium of concern (e.g., five parts of lead per million parts of soil) that describes the maximum concentration of the contaminant in the medium that will not present an unacceptable risk to the health of humans residing on the site, or engaging in activities on the site that are considered to be substantially similar to residing on the site. The residential use standard is usually the strictest cleanup standard.⁺

Resource Conservation and Recovery Act (RCRA): a federal statute enacted in 1976 that regulates the generation, transportation, storage, treatment, and disposal of hazardous waste. RCRA programs include the Corrective Action and Underground Storage Tank Programs (42 U.S.C. § 6901).⁺

Restrictive Covenant: a specific type of deed restriction. For example, a restrictive covenant could prohibit commercial uses.⁺

"Risk-based" Cleanup Approach: a cleanup approach that is expressed in terms of the maximum concentrations of contaminants that are permitted on site based on the site's future use.

“Running with the Land”: an obligation or right that attaches to a property and passes to the new owner after the land is sold. ⁺

Sanborn Map: a record kept for insurance purposes that shows the locations of buildings and areas where chemicals have been used for certain industrial purposes for a specific property. Phase I Assessments often rely on these maps. ⁺⁺

Secured Lender Protection Insurance: an environmental insurance policy that protects a bank or other lender against risks covered by Pollution Liability and Cost Cap policies. Such policies become effective upon a default in the loan and the lender becomes the indirect or direct owner of the contaminated property. It covers repayment of the loan balance, costs to complete any remaining cleanup, legal defense costs, contract damages, third-party bodily injury and property damage, and business interruption.

Small Business Liability Relief and Brownfields Revitalization Act (also known as the **Brownfields Law**): a law passed in January 2002 that provides greater support by the EPA for brownfields cleanup and reuse. The law modified EPA’s brownfields grants and technical assistance program by increasing EPA funding authority up to \$200 million per year; providing grants for assessments, revolving loan funds, direct cleanups, and job training; and expanding the entities, properties, and activities eligible for brownfields grants. The law changed and clarified Superfund liability for prospective purchasers, innocent landowners, and contiguous property owners and provides liability protection for certain small-volume waste contributors and municipal solid waste contributors.

Stakeholder: any person or group that has an interest in the outcome of a brownfield redevelopment project. Community stakeholders include individuals, neighborhood groups, and small business owners affected directly or indirectly by the environmental, economic, or social impacts of brownfields.

Strict Liability: liability defined as responsibility for harm to the person, land, or property of another, by one engaging in abnormally dangerous activity, even if the one engaging in such activity has exercised utmost care to prevent harm. ⁺⁺

Superfund: the trust fund that provides for the cleanup of hazardous substances released into the environment, regardless of fault. The Superfund was established in 1980 under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). In 1986, the Superfund Amendments and Reauthorization Act (SARA) amended CERCLA and included several key changes and additions to the program (see <http://www.epa.gov/superfund/policy/sara.htm>).

Sustainable Development: development that seeks to incorporate the three E’s of sustainability: environment, economy, and social equity.

SWOT Analysis (**S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats): a community planning assessment tool that enables people to think from each other’s point of view and come to a shared understanding of what can be realistically accomplished.

Technical Assistance for Brownfields Program (TAB): a program administered by the EPA that provides community stakeholders and other parties involved in brownfields with training, free of charge, in risk assessment, cleanup alternatives, and site assessment principles.

Technical Assistance Grants (TAGs): grants available for hiring technical advisors or consultants. These grants are administered by the EPA for the benefit of any group of

individuals that may be affected by a release or threatened release of hazardous substances from any facility listed on the National Priorities List (NPL) or is proposed for listing on the National Oil and Hazardous Substances Contingency Plan (NCP) and at which a response action has begun (40 C.F.R. § 35.4025). ⁺⁺

Title Search: investigation into who has owned a property over time. This includes investigation into encumbrances, such as easements on the property. Title searches are performed during the Phase 1 environmental site assessment to determine possible contaminants typically used on the property. ⁺⁺

Toxic Tort Action: a legal proceeding brought to seek damages for personal injury or property damage incurred as a result of exposure to a hazardous substance. ⁺

Transit-Oriented Development (TOD): a term used to emphasize the need to surround transit nodes, such as commuter train stations, with nearby mixed use development. The mixture of commercial and residential uses provides a critical mass of ridership for the transit system and easy pedestrian access for riders to the services they need. TOD seeks to optimize the beneficial connections between land use and transportation and has been central to planning around transit facilities in a number of cities nationwide, including Arlington, Virginia, and those in the Bay Area.

Uncertainty Premium: the amount that the buyer of a property subtracts or discounts from the purchase price to reflect the risk of unexpected environmental assessment and cleanup costs. ⁺

Use Permit: a type of variance that authorizes an otherwise unacceptable use on a property without changing its zoning. ⁺

Variance: An individual exception to a land-use restriction or other legal standard granted because of special circumstances. Variances are required when a brownfield redeveloper or community chooses a desired end use that does not comply with uses allowed under the zoning code. ⁺

Voluntary Cleanup Programs (VCPs): programs found at the state level that provide administrative, technical, legal, and financial incentives to encourage voluntary clean-up of brownfield sites.

^{*}Definition adapted from Brownfields Center, Environmental Law Institute (<http://www.brownfieldscenter.org/big/glossary.shtml>).

⁺⁺ Definition adapted from *Brownfields to Greenfields: A Manual on Brownfields Redevelopment* produced by Sustainable Long Island (<http://www.sustainableli.org/documents/BrownfieldstoGreenfields-Final.pdf>).

⁺⁺⁺ Definition adapted from *Washtenaw County Brownfield Redevelopment Program Guide*, produced by Washtenaw County, State of Michigan (http://www.washtenaw.org/government/departments/economic-development-and-energy/wcbr/wcbr_administrative_documents/wcbr_program_guide_sep_09).

^{*} Definition adapted from National Community Land Trust (<http://www.clnetwork.org/index.php?fuseaction=Main.SectionHome§ionID=2>).

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