

A National Standard for Sustainable Brownfields Redevelopment

This article examines the development of a new standard designed to streamline the brownfields redevelopment process.

231.841 Introduction

The brownfields effort initiated by the Environmental Protection Agency has helped fund redevelopment activities on more than 630 sites, leveraged \$1.1 billion in private funds, and created over two thousand new jobs. As society moves into a brownfields market where state, local, and private efforts are estimated to create a real estate market worth over \$10 billion, a national standard, incorporating the best practices from around the country and designed to streamline the process, may serve to accelerate this new market while providing incentives and guidance for accomplishing the sustainable redevelopment of brownfields. In February 1999, a new American Society for Testing and Materials¹ standard will be published entitled "The Standard Guide for the Sustainable Restoration of Brownfields Properties" (E 1984-98) that is designed to support the brownfields market and provide the necessary incentives and guidance to streamline the brownfields redevelopment process.

(a) Background

Over the last two years, a diverse group of stakeholders has been working as part of a task group under the auspices of ASTM's E-50 Committee on Environmental Assessment to gather and meld the best practices in brownfields redevelopment into a readable but forward-looking "national standard" for sustainable brownfields redevelopment. Quite remarkably, like the brownfields

* This article was written by Michael B. Taylor and Jim Rocco. Mr. Taylor is the president of Vita Nuova, a national consulting practice which provides project management services for redeveloping environmentally-impacted properties including brownfields and superfund sites. Vita Nuova, located in Newtown, CT, is comprised of senior level professionals focusing on project management, financial planning and analysis, stakeholder relations, and risk management services. Mr. Rocco is a Manager of Remediation for BP Oil & Exploration in Cleveland, OH. James Gibson, Environmental Coordinator for the Chicago Housing Authority (formerly of the City of Chicago Brownfields Project) and Margaret R. Stolfa, an attorney with the Massachusetts Department of Environmental Protection, also contributed to this article. The contents contained herein reflect Ms. Stolfa's opinions, and not necessarily those of the Massachusetts DEP.

¹ ASTM is a voluntary, consensus standard making body.

redevelopment movement itself, the task group was comprised of organizations more accustomed to working against each other than working together. However, the diversity of perspectives has become the document's strength rather than its undoing. Organizations as diverse as Exxon and Natural Resources Defense Council, Consumers Renaissance Redevelopment Corporation and the National Environmental Justice Advisory Council, and United Capital Insurance Company and ONE/CHANE Inc., a local community development corporation from Hartford, Conn., worked diligently, in a spirited manner, to develop a document to streamline the brownfields redevelopment process. This was accomplished by incorporating the best national practices into a process guide from the initiation through the implementation of a brownfields redevelopment project.

The development of a brownfields standard was established as a new initiative in ASTM to respond to market demand for a comprehensive guidance on sustainable brownfields redevelopment. In 1995 and into 1996, two trends led to the formal initiation of the standard development process. First, U.S. EPA had been focusing attention on the brownfields issue by offering brownfields grants to a few communities including Cuyahoga County, Ohio, Bridgeport, Conn., and Richmond, Va., and had embarked on a third round of awards. Second, in the private sector, national and local developers focusing on the potential value of redeveloping brownfields properties had started to create a groundswell of interest in redeveloping property that had environmental impacts related to former industrial uses. However, there was no comprehensive guidance available to transfer best practices or offer a road map to new entrants to the process. Due to the lack of comprehensive guidance and a myriad of conflicting laws, regulations, and perceptions in the marketplace, more deals were falling apart than being accomplished. In addition, ASTM had already developed or was in the process of completing a number of standards intended to provide a framework to streamline and improve the environmental corrective action process. In order to demonstrate the usefulness of ASTM's existing standards in the newly developing brownfields market, the creation of a comprehensive guide providing a

[§231.841(a)]

framework for decision making in brownfields redevelopment was necessary.

As with all ASTM standards, an effort was made to gather interested parties from among the traditional constituents of ASTM E-50 (i.e., petroleum companies, chemical companies, insurers, lenders, developers, consultants, attorneys, and utilities). In addition, a meeting was held with EPA to gauge agency interest in such a standard. From this initial meeting with EPA came a most unusual request that transformed the task group into a group representing a cross-section of all of the stakeholders involved in brownfields redevelopment. EPA's request was that ASTM invite NEJAC, a Federal Advisory Committee to EPA established through presidential decree, to join the task group. While at first hesitant, the Waste and Facility Siting Subcommittee of NEJAC appointed a representative to the task group. To further support the task group's diversity, ASTM obtained a small grant from EPA to defray the travel expenses of groups historically not able to participate due to the high cost of traveling to meetings four or five times per year. Through this effort, ASTM was able to attract representatives from cities, states, community groups, and non-profit organizations to participate in the process. The grant allowed such groups as the City of Chicago, the City of Bridgeport, the State of Massachusetts, and the Center for Public and Environmental Oversight at San Francisco State University to participate.

(b) Overview of the ASTM Standard Guide for the Sustainable Restoration of Brownfields Properties

The sustainable redevelopment of brownfields properties has many economic and social benefits and is best achieved through responsible private or public investment. However, brownfields redevelopment is complex and involves interrelated financial, legal, environmental, and community development issues. Considering these complexities, the ASTM task group has developed a framework for stakeholders to follow to ensure that all major components of the brownfields redevelopment process are considered. It also provides guidance for liability management, community involvement, and corrective action.

The framework is described in the "Standard Guide to the Process of Sustainable Brownfields Development." As with many ASTM standards, it provides an interested party with the minimum

criteria necessary for implementing a sustainable brownfields redevelopment. The Standard Guide describes a highly flexible and easily adaptable framework that can be applied at any stage during the brownfields redevelopment process. It provides a mechanism to move the brownfields redevelopment process forward while maintaining an understanding of the economic realities surrounding many of these properties. The Standard Guide is intended to supplement existing guidance and provide guidance where none may exist. It is intended that public, private, non-profit, or community developers could use this document to guide them through the process. A summary of the framework outlined in the Standard Guide is presented below.

(1) The Sustainable Brownfields Redevelopment Process

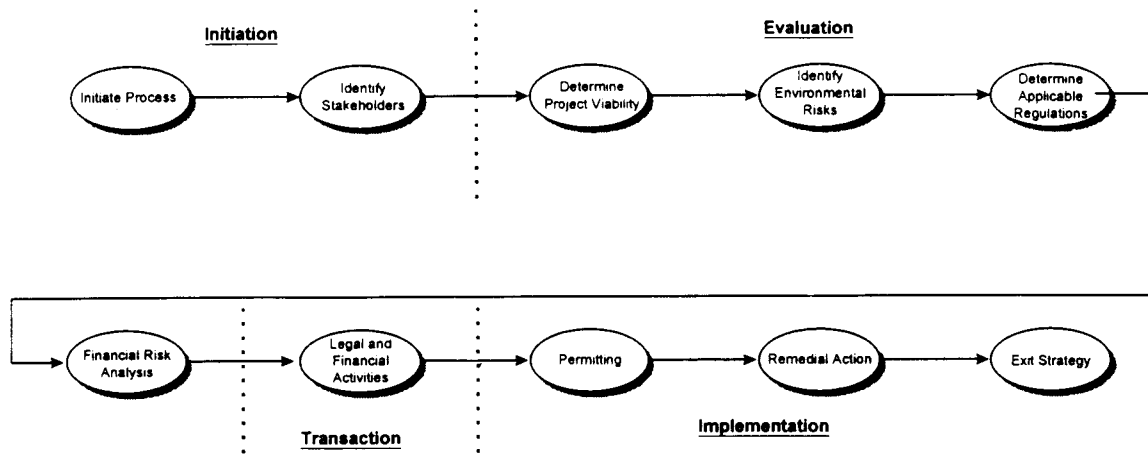
The sustainable brownfields redevelopment process is a voluntary effort that actively engages property owners, developers, government agencies, and the community in conducting corrective action, economic evaluation, and other actions to promote the long-term productive reuse of a brownfields property. Productive reuse of brownfields properties reduces the need to develop new land by satisfying the needs of current stakeholders without compromising the needs of the future generations. However, a critical component of successful brownfields redevelopment is the involvement of the individuals, organizations, and other entities that directly affect or are directly affected by the brownfields property or its redevelopment. These stakeholders include owners, buyers, developers, lenders, insurers, government agencies, and community groups. In addition, successful brownfields redevelopment must incorporate environmental, regulatory, community, and transactional issues. Although environmental issues are a major concern, brownfields redevelopment is not strictly an environmental issue. Brownfields redevelopment must not only protect public health and environment, but must be economically viable and beneficial to the community.

(2) The Framework for Sustainable Brownfields Redevelopment

The Standard Guide identifies and discusses four main components in the sustainable brownfields redevelopment process: Initiation, Evaluation, Transaction, and Implementation (Figure 1).

[§231.841(b)(2)]

Figure 1 - The Brownfields Redevelopment Process



The brownfields redevelopment process is not a linear process. Therefore not every redevelopment project requires full use of all components of the process for effective implementation. Each component of the brownfields redevelopment process requires the involvement of various stakeholders. Some stakeholders will remain at the core of the process as one component develops into the next while others will move closer to or further away

from the core during the process. The process works best when the interests of all stakeholders are identified early on and the parties work together as a team to satisfy each party's interests using an open, non-adversarial approach to negotiations. The Standard Guide provides examples of the stakeholders that may be involved in the process and their potential goals (Figure 2).

Figure 2 - An Example of the Stakeholders that Could be Associated with the Basic Components in the Brownfields Redevelopment Process

Initiation	Evaluation	Transaction	Implementation
Community Owner/Seller Prospective Buyer Developer	Community Owner/Seller Prospective Buyer Developer	Community Owner/Seller Prospective Buyer Developer Insurers Lenders	Community Owner/Seller Prospective Buyer Developer Insurers Lenders

Initiation

The brownfields redevelopment process begins when someone recognizes a need or business opportunity and provides the vision for the redevelopment or reuse of the property. Different individuals or groups may initiate the process. However, once a vision is in place, it is incumbent upon those initiating the process to carefully evaluate the project and identify key stakeholders before proceeding with redevelopment.

Identifying key stakeholders during the initiation component is critical to the successful implementation of the brownfields redevelopment process. Considerations for stakeholder determination include the physical proximity to a brownfields property slated for redevelopment, the percentage of capital invested in a particular property, and the effect a brownfields redevelopment project may have on a particular group or individuals. The Standard Guide provides a road map for initiating the process and information on which stakeholders may initiate or participate in the process.

Evaluation

The purpose of the Evaluation component is to determine the potential success of implementing the brownfields redevelopment project. Furthermore, a comprehensive analysis may be necessary to determine whether the envisioned redevelopment and other alternative uses of the property are viable. In addition to traditional real estate issues, a number of environmental and legal issues must also be evaluated. Environmental risks need to be identified and communicated to the stakeholders to provide a clear understanding of the property's environmental condition and associated impact on the property and the surrounding area. Applicable laws and regulations must be identified to provide a clear understanding of the legislative and regulatory requirements, policy issues, and regulatory agencies that need to be involved in addressing the environmental condition of the property. This is critical to the risk management process. Finally, financial risk analysis must be performed to evaluate the financial consequences of the project, taking environmental risk as well as applicable laws and regulations into consideration.

Transaction

The purpose of the Transaction component is to address perceived or real liability under state and/or federal statutes for potential environmental or other property conditions and to develop mechanisms for limiting and transferring the liability. Ownership changes typically occur during the Transaction component. Frequently permits are transferred and new consent orders, voluntary corrective actions, or covenants-not-to-sue are established between the new owner and the regulatory agency. In order to make the property marketable, methods must be identified to manage or allocate the financial risk associated with the property's environmental liability. A number of preliminary agreements (for example, representations and warranties, indemnities) and pre-closing agreements (for example, property access agreements and corrective action agreements) may be appropriate depending on the transaction. The Standard Guide discusses a number of mechanisms for limiting or transferring liability.

Implementation

Implementation occurs in accordance with land-use agreements made during the transaction stage. Redevelopment may be tied to a land use restriction or may be unrestricted, depending on the risk management decisions made previously. The Implementation component includes permitting, remedial action, and an exit strategy to ensure that the property does not become a brownfields property in the future.

(c) Potential Benefits

If implemented appropriately, a national consensus standard for brownfields redevelopment offers many potential benefits. These benefits include:

- *Accelerating market redevelopment of brownfields*
- *Accelerating resolution of economic and social problems of urban commercial and industrial areas*
- *Implementing a defined community involvement process*
- *Accelerating brownfields redevelopment while protecting public health and environment through the use of risk-based decision-making*

[\$231.841(c)]

- *Defining financial assurance to address contingent liabilities*
- *Obtaining support of states to accelerate and replicate state programs.*
- *Continuing meaningful involvement of the environmental justice community*

Many of these potential benefits are highlighted in the following sections:

1. A Framework for Sustainable Brownfields Redevelopment,
2. Streamlining the Corrective Action Process,
3. Implementing a Meaningful Public Participation Process,
4. A Cure for Environmental Justice Concerns,
5. Liability Management, and
6. Implementation: A State Perspective.

(1) A Framework for Sustainable Brownfields Redevelopment

Significant deliberation and spirited dialogue centered on the definition and meaning of sustainable development in the context of brownfields redevelopment. The challenge was to integrate a broad and general definition like the one developed through the United Nations² without creating an unrealistic barrier to redevelopment. Ultimately, the task group decided to develop a new definition based on the work of previous commissions but reflecting the values embedded in the Standard Guide and focused on the need for sustainable brownfields redevelopment. On this basis, sustainable brownfields redevelopment was defined as:

A voluntary effort that actively engages property owners, developers, government

²In 1987, the United Nations Brundlandt Commission, addressing "Our Common Future" defined sustainable development as "...the process that brings compatibility to the satisfaction of needs, options, and capacities of present and future generations, assuring social equity, preserving the ecological and cultural integrity of the planet, distributing costs and benefits equitably, incorporating environmental costs into the economy, and broadening participation by the societal foundation through the use of economic, social, and environmental policies and assistance from all the distinct actors in society."

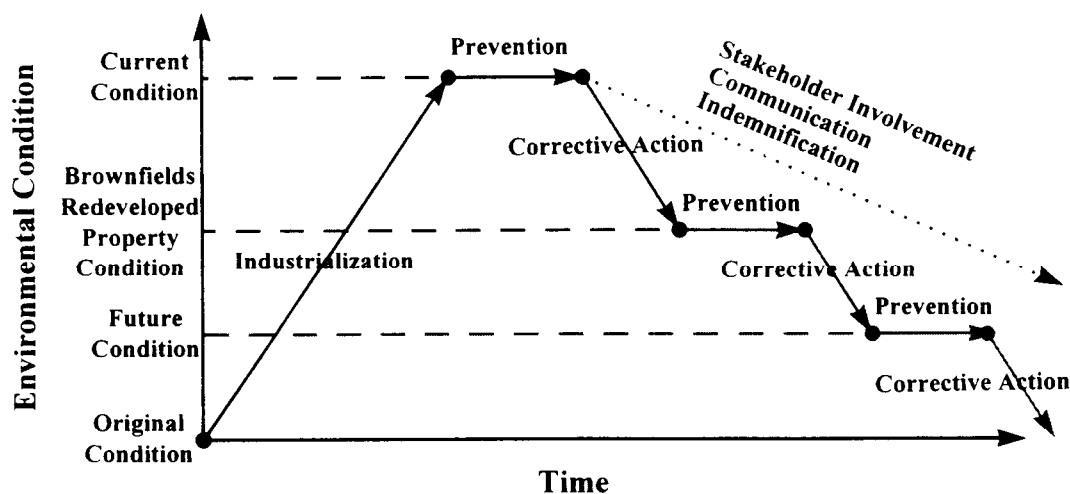
agencies, and the community in conducting corrective action, economic evaluation, and other actions to promote the long-term productive reuse of a brownfields property.

The definition, developed by stakeholders as diverse as BP Exploration & Oil Inc. and the Natural Resources Defense Council, strikes a balance that leads to a local focus on sustainability. Although a prescriptive definition could be more easily applied, there is no guarantee that it would lead to true sustainable development. This definition focuses on a process, which if applied earnestly, will lead to a sustainable outcome. By focusing on the active engagement of stakeholders with clearly defined and legitimate roles throughout the process, it is the responsibility of those empowered in the process to clearly articulate their needs and work with the developer to create a redevelopment that fits within the community's definition of sustainability. The definition also emphasizes the long-term productive reuse of the property, placing responsibility on the actively engaged stakeholders to consider not only the current generation but future generations as well.

Environmental Life Cycle of a Property

An excellent example of the use of the sustainable brownfields redevelopment definition can be found in dealing with the environmental condition of a property. Environmental issues related to the property can make immediate restoration of a property to an original condition impossible or inappropriate. In this case, environmental risks may be addressed by utilizing a risk-based decision-making approach for corrective action to make the property's condition protective of human health and the environment for its intended redevelopment use. However, it must be recognized that, over the property's environmental life cycle, as new uses are found for the redeveloped property, further corrective action may be necessary to ensure that the environmental condition of the property is suitable for its proposed new use. This environmental life cycle is depicted in Figure 3 and further discussed in the following paragraph.

Figure 3 - The Property Environmental Life Cycle



The risk-based decision process for corrective action during a property's environmental life cycle recognizes the potential future land use of the proposed brownfields redevelopment and the receptors and potential exposure pathways associated with the new use. These factors are considered in determining the appropriate criteria for no further corrective action. By defining these criteria, potential environmental and financial risks related to changes to the use of the redeveloped property in the future can be identified and evaluated. Prevention is a continuing and significant element of the process necessary to minimize future impacts from industrial or other activities on the property. In addition, communication and indemnification are two elements that must play a significant role in the property's environmental life-cycle management process. Communication is necessary to educate and involve the stakeholders that are or may be impacted by the risk management decisions related to the property. Indemnification is essential to address stakeholder concerns about actual or perceived, current and future financial liabilities of corrective action conducted at the property.

Summary

By properly integrating the elements of corrective action, communication, indemnification, and prevention into a brownfields process in which all of the stakeholders are actively engaged, a process can be established that is sustainable even for a

property that has significant environmental concerns such as a Superfund site. This integration process is part of the vision embedded in the Standard Guide. Numerous tools will need to be developed to support this process including: new risk communication tools and processes, institutional controls that ensure the environmental life cycle process is carried out responsibly, and environmental management systems that ensure prevention while encouraging risk reduction.

(2) Streamlining the Corrective Action Process

One of the more controversial issues that has significantly impaired the redevelopment of brownfields properties in the past is the environmental condition of a property and the approach selected to remedy this condition. The environmental condition of a property can potentially present risks to the health and well being of current and future occupants of the property and to the financial well being of the property owner or developer. As discussed previously, the implementation of a risk-based decision process for corrective action that integrates risk assessment into the environmental corrective action process has gained popularity over the past several years. A framework for this risk-based decision-making process is described in the ASTM Standard E-1739, "Standard Guide to Risk-Based Corrective Action for Petroleum Release Sites" and Provisional Standard PS104-98, "Standard Guide for Risk-Based Corrective Action" (RBCA). In addi-

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tion, several states have adopted voluntary corrective action programs that incorporate many of the concepts of the RBCA framework.

The RBCA Process

The RBCA framework is a fundamental and essential component of the sustainable brownfields redevelopment process. It provides an effective means to address the financial and environmental condition of a brownfields property by evaluating alternatives for current and potential future activities on the property. However, it is important to recognize that the RBCA framework is more than just a process for conducting corrective action. Effective implementation of the RBCA process or any risk-based decision-making process requires the application of sound science and a recognition of the interrelationship between risk assessment, risk management, and risk communication. Recognizing these components and their interrelationships in RBCA implementation is essential to a sustainable brownfields redevelopment.

Risk Assessment

Risk assessment merges many disciplines of science to quantify the potential for adverse effects caused by an exposure to a chemical released to the environment (e.g., inhalation of chemical vapors, ingestion of a chemical, contact of a chemical with the skin). If there is no current or potential exposure to a chemical or if the concentration of the chemical is not harmful to human health or the environment, the risk assessment will conclude that there is no unacceptable risk. However, the parameters that define a risk as acceptable or unacceptable must be determined before conducting the risk assessment. Defining these parameters is fundamental to the RBCA process.

Risk Management Decisions

Risk management decisions require the consideration of scientific, social, political, personal, and economic factors. They are necessary to support site-specific determinations that protect human health and the environment and to provide a means for uniform decision-making. Many risk management decisions rely on the application of scientific methodologies for definition. For example:

- identification of chemicals to be considered in the risk assessment,
- evaluation of the fate and transport of chemicals in the environment,
- the toxicity of chemicals, and
- determination of appropriate data quality and quantity are risk management decisions that depend on science.

However, other risk management decisions rely on non-scientific factors for definition. For example, the determination of future land use, points of exposure, and acceptable incremental lifetime cancer risk factors are risk management decisions that are based on social, economic, or other non-scientific factors. Determining a consistent set of risk management parameters provides a basis for objectively comparing alternatives. Clearly, a risk-based decision cannot be made without having defined the appropriate risk management considerations.

Potential Alternatives Selection

During the RBCA process alternatives for solving or addressing chemicals in the environment are identified. Each alternative has characteristics that define its benefits and its risks to the stakeholders. It must be recognized that the risks associated with an alternative are not just limited to human health risks but also include other non-environmental risks such as social and financial risks. The important point to remember is that all of the alternatives have some potential benefit but also pose some potential risk. The science of risk assessment helps stakeholders quantify the potential risks of each alternative and allows for the rational, objective comparison of the alternatives. Risk communication provides the stakeholders with the understanding and knowledge to support the alternatives selected. The RBCA Standard supports opening the risk assessment process which allows stakeholders to participate in risk management decisions. With proper technical support and risk communication, stakeholders can help to carefully balance risks and benefits to ensure a corrective action that supports the stakeholders' vision of a sustainable brownfields redevelopment.

Risk Communication

Consistent with the sustainable brownfields redevelopment process, the RBCA process requires the involvement of the individuals, organizations, and other entities that are directly affected by the brownfields property or its redevelopment. Risk management decisions are necessary to support determinations that are protective of human health and the environment and require the consideration of a combination of scientific, social, political, personal, and economic factors. Therefore, it is critical that the risk management decisions are acceptable to all stakeholders. In addition, the application of risk management decisions within the risk assessment process must be clearly understood and accepted by all of the stakeholders. Early, effective, and continuous risk communication is, therefore, critical to the successful implementation of the RBCA and sustainable brownfields redevelopment processes.

Risk communication, however, has been the most overlooked component of the RBCA process and is all too often undertaken after the evaluation has been completed and the decisions have been made. When implementing the RBCA process for a brownfields redevelopment property there are typically numerous alternatives for solving or addressing the environmental condition of a property. Each alternative has characteristics that define its benefits and its risks to the stakeholders. There are also stakeholders with differing interests, objectives, and levels of knowledge. Although the perception of these benefits and risks may vary among the stakeholders, it cannot be assumed that all stakeholders have the knowledge or background to effectively participate in the process.

Therefore, an effective risk communication approach must begin early in the brownfields redevelopment process. It must provide the stakeholders with an understanding of the process and the basis for the risk-based decisions and involve them in the decision-making process. To this end, the RBCA framework relies on the determination of the risk management decisions as an initial step in the RBCA process. The RBCA process encourages the discussion of the range of options for these decisions among the stakeholders and incorporates stakeholders' views and values into the risk-based decision-making process. The resulting alternatives selected to address the environmental

condition of the property should, therefore, be acceptable to all of the stakeholders.

Summary

In summary, the RBCA process is a fundamental and essential component of the sustainable brownfields redevelopment process. Its goal is the sustainable redevelopment and the improvement of a property's environmental condition.

Effective implementation of the RBCA framework or any risk-based decision making process requires the integration of risk assessment, risk management, and risk communication. In order for the RBCA process to be successful, early, and continuous risk communication must be an integral part of the process. Stakeholders must be involved in the process and have an understanding of the process and the basis for the risk-based decisions in order to ensure their acceptance of the alternatives selected to address the environmental condition of a property.

(3) Meaningful Public Participation

Brownfields redevelopment is a multi-stakeholder process. Its success and sustainability are dependent upon effective communication with those stakeholders. The Standard Guide offers a mechanism for identifying the roles and possible objectives of potential stakeholders in each of the four stages of brownfields redevelopment: initiation, evaluation, transaction, and implementation. One of the leading causes of projects not reaching completion is the lack of effective communication with stakeholders.

The Standard Guide establishes a process for identifying stakeholders and in developing a meaningful way to engage them. Two important definitions help guide the stakeholder identification and involvement process:

Community: The individuals living and/or working within the area that may be affected by brownfields redevelopment.

Stakeholder: Individuals, organizations, or other entities that directly affect or are directly affected by the brownfields property or its redevelopment.

These definitions help focus and limit the stakeholder process to those with actual interest in the property. It also establishes a specific community

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role, distinct from other stakeholders, in that the community is always included in the process. Historically, in the context of superfund sites and hazardous waste facility siting, groups that had no relation to the site and were not affected by it supplanted the wishes of the community or were mistaken for representing the wishes of the community. The Standard Guide ensures that no matter who else is involved in the process, the community has a seat at the table.

The Role of Cities

Many private developers may look at the stakeholder involvement process and determine the effort is not worth the cost. However, the Standard Guide does not place the primary responsibility on the developer for many of the tasks associated with stakeholder involvement. The primary responsibility for creating an atmosphere where meaningful public participation can occur is on the city or local government entity. Many of the tasks associated with meaningful public participation, such as identification of community needs and concerns, technical support, and training for stakeholders should occur prior to a specific brownfields deal being put on the table. Many communities, including those used as models for the Standard Guide, had on-going public participation processes that had already identified community leadership, performed needs assessment, provided training for stakeholders in environmental issues, and were actively engaged in seeking both public and private support for brownfields redevelopment. This atmosphere, if properly supported by a local brownfields redevelopment coordinator, makes private sector involvement in brownfields redevelopment more viable and less onerous. However, a private developer should be aware that if community stakeholders are ignored and not engaged, they may slow or stop a redevelopment project with public hearings.

Examples from Chicago

The sustainable brownfields redevelopment process builds the all-important trust among impacted community members. In many communities where brownfields are present, trust is in very short supply. Promises have been made and broken on numerous occasions. Therefore, early, active and meaningful community involvement is

critical to the success of brownfields redevelopment projects.

For instance, in southwest Chicago, communities had concerns about possible health effects associated with abandoned and derelict industrial sites that were close to residential neighborhoods. They contacted the local and state governments for assistance. Representatives investigated but took no immediate action. Several years after these investigations, three neighborhood children who had been playing on the site and two adults who were scavenging for scrap metal and bricks, developed acute lead poisoning. The community demanded action. An investigation by the state health department determined that the individuals were exposed to high levels of lead from an abandoned paint manufacturing facility. Illinois' Environmental Protection Agency initiated demolition of the building but the job was not completed. More years passed. Finally, the U.S. EPA became involved, and issued a Unilateral Administrative Order against the facility. The City of Chicago agreed to complete the demolition and the site was eventually secured until a final clean up could be completed. The community saw government officials study the problem and study the problem again. Almost 15 years passed from the time the community initially raised its concerns to the time the building was completely demolished and the site was fenced. Promises had been made and broken. As a result, the agency's presence in the community and promises to take action were met with skepticism. However, by bringing community representatives into the process, allowing them to have meaningful input, and providing them with documents to review and comment on, the trust that had eroded over the last 15 years was slowly restored. The fact that the agency also took tangible action at the site further strengthened the community's trust. If open and active engagement, as described in the Standard Guide, had been taken when the Chicago community first addressed these concerns, it is likely the community would be healthier today.

The Chicago Housing Authority is applying the principles described in the Standard Guide to ensure the open exchange of ideas and concerns during brownfields cleanup and redevelopment activities. Currently, CHA is working closely with U.S. EPA and community groups to clean up a site that

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was contaminated with PCBs. As part of this cleanup, CHA has placed primary emphasis on the health and safety of the community. The cleanup plan was developed cooperatively with community leaders, their legal and technical consultants, and the U.S. EPA. Once the agreed upon plan was completed, CHA organized an outreach effort for the community to ensure all residents the opportunity to voice concerns and have their questions answered. In addition, CHA further engaged the community by employing several residents from the development to work on the project. Community leaders are given regular updates on the progress of the cleanup and immediately notified if any unexpected delays occur. CHA's efforts to build consensus in the community helped to ensure support for this project. The project is currently underway and is expected to be completed by early 1999.

Efforts to inform and engage the community not only help to ensure the success of a particular brownfields project, they also help to build community capacity and promote sustainable community development. This encourages residents to lead and actively participate in the revitalization of their communities. Recognizing that problems of urban decay, crime, and unemployment are interrelated, it is important to recognize that communities know best how to tackle these problems. For this reason, the CHA brought resident representatives, community organizations, churches, businesses, non-profit organizations, planning consultants and local governments together to develop plans to improve their communities and change the face of public housing. Part of this change took place on Dec. 12, 1998 when the CHA leveled four blighted Lakefront high-rise properties to make way for new and better housing. Additional demolition of high-rises and redevelopment will take place in the coming years.

As part of this redevelopment the CHA will continue to involve the community in planning and redevelopment to ensure that its mission of providing affordable housing opportunities in viable communities is achieved.

(4) A Cure for the Concerns for Environmental Justice

The Standard Guide has been proposed as a potential cure for Title VI claims. As part of the

Title VI Federal Advisory Committee³ discussion, the process of meaningful participation embedded in the Standard Guide was introduced as a possible alternative to the submission of Title VI complaints. Environmental justice advocates who participated in developing the Standard Guide hope to implement it in a way that will prevent litigation with EPA concerning disproportionate burden impact determinations under Title VI.

(5) Liability Management

The Standard Guide, if implemented as a whole, provides a mechanism for developing the necessary liability protection for its users. Each step in the process provides the elements necessary to ensure that transactional parties are protected from intervention by another party. The Standard Guide articulates the risks that the stakeholders involved in the property transaction might encounter. It also offers alternatives for handling those risks.

For environmental risks associated with a particular site, the Standard Guide strongly recommends the use of risk-based decision-making for corrective action that puts the primary responsibility for determining the level of acceptable risk and remedial alternative selection on the stakeholders. The proper application of the risk-based decision-making process, with multi-stakeholder involvement, will clearly define the potential risks and offer alternatives for mitigating them.

It is incumbent upon the transactional parties to develop a strategy to ensure that risks are minimized today and into the future. As a means of ensuring the durability of such a strategy, the Standard Guide recommends the use of private sector mechanisms such as insurance. Policies developed in recent years cover contingent liabilities and remain in force for a reasonable period of time. Utilizing the multi-stakeholder approach can provide an additional level of liability protection by establishing a partnership between the community as well as various city, state, and federal agencies and the developer, to create a property redevelopment that protects of human health and the environment, and is sustainable.

³ A Federal Advisory Committee was established to study EPA's "Interim Guidance for Investigation Title VI Administrative Complaints."

(6) *Implementation: A State's Perspective*

The Standard Guide can enhance state cleanup and redevelopment programs. The state's interest in successful brownfields redevelopment is generally two-fold: to ensure that a property is clean enough to be safe for a chosen use and to encourage economic revitalization.

Many states have developed brownfields laws and voluntary corrective action regulations to facilitate the cleanup and redevelopment of brownfields properties. Many states have built their corrective action programs on risk-based decision making concepts and have implemented effective brownfields regulatory policies. Risk-based cleanup programs allow flexibility by tying cleanup to the proposed use of a property. With respect to the proposed use of a property, the answer to the question "how clean is clean enough?" becomes the responsibility of the private sector, as monitored by the state.

In combination with flexible corrective action programs, many state brownfields laws include financial incentives targeted to encourage the redevelopment and reuse of brownfields properties. Whether through direct funding or tax credits, these programs also provide flexibility, taking the different needs of different projects into account. Some developers need cash up front, some need long term investment incentives, and others need state assistance in working out a process to get a particular property remediated and redeveloped.

The Standard Guide outlines a process compatible with these state programs because it takes into account the reality that all properties are not created equally; not all components of the Standard Guide are needed at every site. The Standard Guide takes stakeholders through a flexible process that incorporates regulatory, community, and transactional concerns. Flexibility is built into the Standard Guide so those stakeholders can tailor the process to their particular needs. Its underlying principles emphasize the importance of identifying stakeholders early in the development of a project, and the benefits of full disclosure. Educating stakeholders about redevelopment risks and benefits and the concerns of other stakeholders are also highlighted in the Standard Guide. Collectively, these principles further the state's goals of encouraging corrective action and redevelopment.

A state, in its role as honest broker, can use the Standard Guide. In the interest of full disclosure, the Standard Guide can be used to put the many different stakeholders on notice of their different interests and goals, each equally valid, whether identifiable as financial interests or those tangible concerns such as quality of life. States can do this by incorporating the Standard Guide into regulatory programs or by referencing or recommending it as a useful tool for achieving the successful redevelopment of a brownfields property. A state could also use the Standard Guide in a facilitator's role to more directly guide stakeholders to a positive outcome.

(d) *Summary*

The Standard Guide is a voluntary, consensus document developed by a broad range of stakeholders that provides guidance regarding brownfields redevelopment. As with many ASTM standards, it provides an interested party with the minimum criteria necessary for implementing a sustainable brownfields redevelopment. The Standard Guide provides a framework for the brownfields redevelopment process and identifies critical factors and impediments that need to be overcome in order to achieve sustainable development. It encourages the identification of a wide range of potential stakeholders and their involvement in all aspects of decision-making concerning the redevelopment of the property.

The Standard Guide encourages sustainable brownfields redevelopment through responsible private/public investment and redevelopment of brownfields properties and active engagement of government, developers, the community and other stakeholders.

The Standard Guide combines the best practices of cities and states from across the country to expedite the brownfields redevelopment process. It is the belief that responsible implementation of this standard will create economic and social benefits beyond what might currently be possible. It is the hope that, in aiming for consensus that reaches beyond compromise, ASTM E-50 might have established a process which, while benefiting all, ensures that those who live and work near these abandoned reminders of an earlier industrial age, might benefit the most.

[§231.841(d)]