

**Brownfields' Redevelopment in Washington State:  
Evaluating Legal Mechanism Performance  
in the Brownfield Context**

**By  
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## ABSTRACT

### **Brownfields' Redevelopment in Washington State: Evaluating Legal Mechanism Performance in the Brownfield Context**

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Federal and State toxics cleanup law has been instrumental in holding primary polluters responsible for the remedial action costs of large scale or complex hazardous waste sites. The strict, joint, and several liability imposed upon owners of contaminated facilities has been instrumental in targeting and cleaning up the nation's worst contaminated sites. Brownfields are an unintended consequence of toxics cleanup liability. Left abandoned, vacant or idle, brownfield properties have become a significant driver for blight, depressed economic activity and social injustice in rural and urban communities.

This study examines the development, structure and performance of legal mechanisms under which brownfield remediation activities are conducted. An analysis of overall time cycles for cleanups was tested for significance ( $P < 0.05$ ) in and between each type of legal mechanism, as a measure of time/cost efficiency to identify whether particular trends vary significantly. Additionally, brownfield time cycle outputs were divided into three programmatic groups. Formal oversight, voluntary, and statutory cleanup were then compared to evaluate whether one programmatic group presented a significant advantage in time (cost) saving. The analysis was compared to a summary of administrative advantages and disadvantages to discern which group presented the best overall benefit.

Study conclusions are that brownfield projects differed little between the administrative pathways. The analysis also suggested that the investigative and negotiation phase of complex cleanups was in significant disproportion to all other phases (regardless of pathway or legal mechanism). Controlling for this disproportion revealed no significant difference in any of the phases between brownfield cleanups conducted as a voluntary or formal mechanism.

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Dedicated to the life and times of:  
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## Chapter 1

### Brownfields in Context

#### Introduction

The strict, joint, and several liability imposed upon owners of contaminated facilities under the Federal Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980 has been instrumental in targeting and cleaning up the nation's worst contaminated sites while holding primary polluters responsible for remedial action costs of large scale or complex sites. However, an unintended consequence of CERCLA liability and attendant costs has made many other properties with real, potential or perceived contamination appear to be highly risky ventures to prospective purchasers who may wish to redevelop such property. Because developers, municipalities and other stakeholders fear that involvement with these sites may make them liable for cleaning up contamination they did not create, they are more attracted to developing undisturbed areas, called “greenfields”. The result can be blighted areas rife with abandoned or underused properties that create safety and health risks for residents, increase unemployment and social service costs and foster a sense of hopelessness. The liability risk associated with such properties act as a hindrance to the sale and redevelopment of abandoned or underutilized property (Bartsch, 2003). To remedy the brownfields conundrum lawmakers, public and private entities have sought a wide variety of solutions for the reuse of contaminated and blighted properties, many of which will be described and analyzed in the following chapters.

The cleanup and redevelopment of the former Union Pacific railway maintenance complex, Kendall Yards, in Spokane Washington is an example of how brownfield

practitioners, working as a team can overcome regulatory, financial and logistical barriers. Kendall Yards was operated by the Union Pacific from 1914 to 1955. The property, 78 acres along the Spokane River across from downtown Spokane, sat neglected for over 50 years. Because of the property's former use and testing performed by a subsequent landowner, the site was known to be contaminated with lead and arsenic in fly ash from coal-fired locomotives and Bunker C, a heavy-petroleum based fuel oil. It was estimated that over 90,000 tons of contaminated soil would have to be removed. In the end that number would nearly triple. The enormity of the cleanup and associated liability acted as a barrier to the land cleanup and reuse. Located on the edge of one of Spokane's poorest neighborhoods the vacant property became a driver for increased blight and depressed property values. The property became notorious for illicit dumping, drug dealing and transient camps.

In 2004, an Idaho developer approached the City of Spokane with an interest in acquiring and redeveloping the property. The developer and city began to work closely with the Washington State Departments of Ecology, and Community Trade and Economic Development (CTED) to develop a cleanup and financial strategy. Working as a team, the city and developer presented the project vision and sought input from the public, while the Department of Ecology provided targeted consultation for site assessment and cleanup plans. Concurrently, CTED began to execute a low interest EPA brownfield revolving loan (BCRLF) to assist the developer with the remediation costs. In 2005 with the remediation and redevelopment strategy in place, a \$3.4 million BCRLF loan, the

largest to date in the nation, was executed to match the developers 2.8 million dollars for cleanup costs.

The cleanup plan called for an estimated 90,000 cubic yards of contaminated soil removal. Once the excavation began the Bunker C was found to a depth of 70 feet, well beyond the point of compliance of 15 feet with no ground water present. Declining an option to minimize soil removal by leaving the Bunker C in place below the point of compliance and accept a restrictive covenant for land use, the developer opted to remove all the contaminated soil; an additional 133,000 cubic yards in order settle liability and allow for unrestrictive use. Despite the massive size of the cleanup, the removal action was completed within one year and the site was removed from Ecology's Hazardous Sites List and settling future liability.

The first phase of the Kendall Yards redevelopment is expected to take 18 months at a cost of \$300 million. The plans call for a mixed use development consisting of 2600 townhouses, condominiums and apartments, 1 million square feet of commercial space, public plaza and greenspace, all within an existing urban environment. The project is expected to have a positive major impact to the city of Spokane and surrounding areas. According to CTED an estimated 500 jobs will be created during the construction phase and up to 2,500 permanent jobs will be created once the commercial space is complete. The redevelopment is expected to return more than \$32 million in revenues to state and local governments during the construction alone. The success of the project depended on

several key arrangements by the stakeholders that are not typically used in brownfield projects.

- A commitment by the stakeholders to work cooperatively as a team to identify barriers and proactively resolve problems;
- Early and extensive outreach and public involvement for project planning and the end use vision;
- Providing several options to settle liability once the cleanup is complete. For example, the developer initially sought a Pre-purchaser Consent Decree to provide process certainty and liability settlement. However to qualify for a EPA brownfield loan a Voluntary Cleanup agreement was required. Ecology provided a dedicated site manager to provide consultation in cleanup investigation and oversight while the developer resolved future liability by removing all contaminated soils.
- Providing attractive financial incentive to encourage risk taking by the investors;
- Providing an innovative approach to site management staffing by the Department of Ecology by dedicating a single experienced site manager to timely and decisive oversight and consultation for the investigation and cleanup phases and;
- Obtaining a developer with interest in the well-being of the community and willing to expend the resources to the cleanup met and exceeded state cleanup standards.

In practice, the CERCLA or Superfund cleanup process is primarily concerned with sites on the National Priorities List that are severely contaminated, pose significant public health concerns, and are technically complex. Sites that are ranked lower in priority, less toxic, and whose cleanup is not currently mandated by enforcement action are often left abandoned or idle because of the perceived economic risk brought about by high remediation costs, lengthy procedural timelines, and uncertainties associated with the finality of cleanup extent and liability relief. These sites or facilities, termed brownfields, represent significant liability to communities, adjacent property owners, and the

environment. Federal and state laws concerning toxic cleanup and reuse have historically been developed to address the clean up action as the priority task and have largely held the redevelopment side of the equation as secondary consideration.

Recent Federal legislation has addressed many of the problems facing prospective purchasers of brownfield facilities providing appropriate levels of liability relief and administrative certainty (US Congress, 2001)<sup>1</sup>. Given the option between accepting potential future CERCLA and state enforcement actions; unknown risk liabilities; and open-ended remediation costs involved in redeveloping a contaminated site, or choosing a greenfield site (an undisturbed or new property, often in suburban or semi-rural areas) that carries no contamination risk - many developers and businesses opt for the latter. The attraction for businesses to locate at greenfield sites has been a significant contributor to urban sprawl in metropolitan areas while leaving core areas of both urban and rural communities as zones of blight that are bereft of economic opportunity (Blanco, 2008).

It can be said that time is money. In Washington State, prospective property purchasers wishing to redevelop brownfield properties must navigate a complex governmental system of regulatory requirements and parallel administrative processes for remediation and liability and settlement under Washington State Model Toxics Control Act (MCTA)<sup>2</sup> and the Federal Comprehensive Environmental Response Compensation and Liability

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<sup>1</sup> US Congress. 2001. *Small Business Liability Relief and Brownfields Revitalization Act of 2001* (PL 107-118, 11 January 2002), 115 United States Statutes at Large, 2356-2381

<sup>2</sup> Washington State Department of Ecology. 2007(revised), *Model Toxics Control Act Cleanup Regulation Chapter 173-340WAC*, Publication No. 94-06, Olympia

Act (CERCLA). Section 128 (a) of CERCLA provides \$48 million annually to State Environmental Response programs (such as the Washington State Department of Ecology Toxics Cleanup Program) to develop brownfield programs that facilitate the reuse of contaminated property and to ensure that substantive cleanup standards are met. Subtitle C – Sec C 231:- State Response Programs- of the Brownfields Revitalization Act, an amendment to CERCLA, formally shifts virtually all cleanup and enforcement responsibility for brownfields cleanup to the states and provides that cleanups addressed through state programs are protected from USEPA enforcement and cost recovery actions. As a further incentive, Section 128 (a) authorizes EPA to administer \$28 million in grants and loans for site assessment and cleanup costs to local governments, non-profits and private developers wishing to redevelop brownfields. Although the oversight of cleanup is the states responsibility, the Section 128 (a) funding recipients must follow federal eligibility and administrative process, as well as enter into a legal agreement with the state program and follow the state administrative process concurrently to qualify for the federal grants.

Herein lays the problem, under MCTA, cleanup activities can be conducted under seven different legal mechanisms. Each mechanism has its own administrative process, along with varying degrees of liability and settlement. The general assumption amongst brownfield practitioners in Washington State is this, the greater the level of liability settlement, the longer it takes and more expensive it becomes to comply with the administration requirements. However, a closer scrutiny at the actual performance of legal mechanism for brownfield projects, when measured in units of time, reveals that

there is little to no significant difference between them. So, given that the administrative process of each mechanism varies, how does one choose or recommend the option that provides the optimal balance between time (money) saving and the greatest degree of liability settlement? Further, what policy recommendations can be made to improve the administrative process and encourage the reuse of contaminated properties?

### **The Socio-Economic Costs of Brownfields**

Federal and state environmental response programs have prioritized the cleanup of contaminated sites on a worst case first basis since the 1980's. What's left are the vast majority of brownfield sites that are of relatively low risk, such as abandoned gas stations. While the cleanup actions of brownfield properties can be costly, inaction on remediation and redevelopment brownfields also bears socio-economic costs associated with blight and economic decline. Thus, a primary motivator for communities engaging in cleanup and reuse is the potential that exist in the reuse itself rather than the sole concerns surrounding cleanup. Meyer (2003) provides an inventory of these costs:

- The economic costs of damage to humans, e.g., health care, loss of life;
- Ecosystem damage costs, .e.g., potential loss of species, additional costs for water treatment;
- Fiscal costs to local governments associated with revenue losses due to reduced real estate values of brownfields as well as adjacent properties;
- Social costs associated with environmental inequality;
- Costs of decreasing urban densities, and its impact on the quality of life, e.g., increase in travel time, vehicle use, air pollution;
- Long-term costs of sprawl, i.e., capital costs of underutilized and redundant infrastructure, increased costs of delivering police, fire, and other emergency services to a larger geographic area, and potential adjustment costs of serving an aging suburban population with transportation services not now available.

Among these costs, much attention has been focused on the fiscal and economic development impacts of brownfields on local governments. Reflecting that these sites are often considered underutilized, if not “idle,” tax revenues are a tangible measure as well as a powerful indicator of the spillover effects of those properties. For example, a Conference of Mayors conducted a survey of 33 cities within which brownfields are located. The lost tax revenues were estimated to range between \$121 million and \$386 million per year in these cities alone (Wernstedt, 2003). On a national scale, local governments "could be losing billions of dollars each year in local tax receipts resulting from their failure to restore brownfields to economic viability" (as quoted in Brower 1998, EPA Director’s Address). The same U. S. Conference of Mayors has characterized brownfields as "dead zones" and as "pockets of disinvestment, neglected and missed opportunities" that exist within American cities. As already indicated, however, these are not just problems isolated to cities, rural areas are facing similar issues. Arguably, the ripple effects may be more acute in rural areas simply because of the small size of those communities.

Based on these potential costs of inaction, economic development experts (Hise and Nelson 1999; Meyer et al 1995; etc) argue that the redevelopment of brownfields will have significant positive economic benefits by creating new employment opportunities, improving quality of life and increasing the municipal tax base once redeveloped properties are returned to the tax rolls. The very presence of brownfields can undermine the economic competitiveness of a region by damaging its image and making it less attractive. As urban or town centers hollow out, commuting distances grow. Expanding

new construction takes farmland and open space, and major investments in infrastructure are required to serve new areas while existing infrastructure in developed areas is underutilized and may deteriorate over time due to underfinanced and inadequate maintenance (Blanco 2008).

Based on these potential costs of inaction, economic development experts (Hise and Nelson 1999; Meyer et al 1995; etc) argue that the redevelopment of brownfields will have significant positive economic benefits by creating new employment opportunities, improving quality of life and increasing the municipal tax base once redeveloped properties are returned to the tax rolls. The very presence of brownfields can undermine the economic competitiveness of a region by damaging the entire region's image and making it less attractive.

An example can be seen in Tacoma Washington. In 2005, the home improvement retail firm Lowes Inc. was looking to establish a regional distribution center in western Washington. One property of suitable size was located in the former Tacoma industrial area of Nalley Valley. The site was well situated along the Interstate 5 corridor and near the port of Tacoma shipping and rail facilities. However, the portions of the Nalley Valley surface stormwater that drain into Commencement Bay are considered an operable unit of the EPA Commencement Bay superfund site, making the property ineligible for a low interest EPA brownfields cleanup loan. Citing the cost of cleanup (making the overall property value marginal) uncertainty, risk and stigma associated with the EPA superfund, Lowes opted to locate the facility 50 miles to the south in rural Lewis County, despite concerns with the added trucking costs along the highly congested

Interstate 5. The new site is within the Chehalis River floodplain along Interstate 5. In 2007 the Chehalis River flooded the entire valley including weeklong closure of the Interstate 5, while causing extensive damage to businesses in Lewis County. Although the Lewis County location initially was penciled out to be more cost effective, the longer term costs are already turning out to be greater than anticipated.

Using the above case as an example, the ever increasing cost of diesel fuel and poor proximity to seaport and railheads, not to mention the uncertainty of future regulation concerning business operation in the flood prone Chehalis Basin, makes the reuse and infill of established industrial land a more attractive choice. Hence brownfields redevelopment has been claimed as a key strategy from both the sustainable development and the urban growth management perspectives (Greenberg et al. 2001).

### **Cleanup Costs**

The cost consideration of brownfields is not limited to the *social* costs of inaction. The redevelopment of brownfields also has associated multiple costs for developers and municipalities. Unless redevelopment involves the rehabilitation of existing structures, it incurs demolition costs in addition to land and construction costs. Since initial redevelopment costs are typically greater for a developer than new development, redevelopment tends to occur when the supply of land in a metropolitan area is relatively tight and the demand is high, that is, in strong property markets (Blanco 2008). Brownfields redevelopment is additionally burdened by the following costs (Meyer, 2003):

- Due diligence costs, site assessment costs, i.e., costs of investigation aimed at determining the extent or absence of contamination on suspected sites, valuation and risk appraisal;

- Remediation feasibility and planning costs, e.g., determining the remediation strategies and costs;
- Remediation costs themselves, which can range widely;
- Risk management costs, e.g., legal advice on liability, insurance, reserves;
- Present value of potential future costs involving remediation costs.

These additional costs, if unsubsidized by government grants, put urban brownfields at a competitive disadvantage compared to undeveloped land in the suburban or rural fringe of a metropolitan area. For rural communities these costs, or the perception of high cleanup expense, act as a barrier to brownfield reuse unless the opportunity costs of inaction can demonstrate the long term economic advantage of site reuse.

### **Spillover Effects**

The metropolitan growth management argument for the cleanup and redevelopment of brownfields is particularly important for Washington State, since Washington is a leader among the dozen states in the country with strong state-wide growth management legislation. The State's Growth Management Act (RCW 36.70A) passed in 1990 has 13 statewide goals. Out of these 13 goals, three are procedural, dealing with property rights (6); permits (7), and public participation (11), and the rest are substantive dealing with various aspects of the natural and built environment. Brownfields cleanup and redevelopment efforts advance most, if not all, of these substantive goals. The first goal of GMA is "to encourage development in urban areas where adequate public infrastructure is in place or can be provided in an efficient manner" (RCW 36.70A.020).

This goal is implemented through a policy that requires growing counties and cities to identify a boundary for their urban growth areas within which urban infrastructure and services are currently provided or are planned to be provided, and to permit urban densities within these urban growth areas and not outside their boundaries. In effect, this goal encourages infill development of vacant or under-utilized properties within existing urban areas. Relevant here also is the relation between brownfields and greenfields. Greenfields refer to undeveloped areas that have never been built upon, such as farmland or natural resource areas. The urban growth boundary strategy of GMA is aimed at protecting greenfields. And the benefits of brownfields redevelopment instead of greenfields development may be significant in terms of land conservation. An EPA study (Deason et al. 2001) concludes that the amount of land used in greenfields development is greater than in brownfields redevelopment because of lower density regulations in rural areas. They calculated, based on a study of 48 brownfields redevelopment cases in several metropolitan areas across the country, that greenfields development would have used 4.5 acres to every 1 acre of brownfields land. Note also that the term greenfield is often used specifically to denote public open space, parks and recreation areas, as well as habitat conservation areas. It is for reasons of value and increasing scarcity of this sort of space that a reversal of policy often takes place where cities and regional authorities are beginning to consider redeveloping brownfields into greenfields, primarily into parks and open space.<sup>3</sup> Recently a concentrated multi-jurisdictional effort to cleanup former industrial properties adjacent to Puget Sound in Washington State has been undertaken.

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<sup>3</sup> See The Greening of Brownfields in American Cities by Christopher A. De Sousa. *Journal of Environmental Planning and Management*. July 2004. 47 (4): 579. De Sousa examines 20 greening projects, including the issues involved, the benefits of such projects, and the specific planning processes involved.

Nearly all of the 650 sites scheduled for cleanup have a strong component for shoreline, habitat and Greenspace restoration as part of the cleanup and reuse planning (Gardiska, pers. communication, 2008).

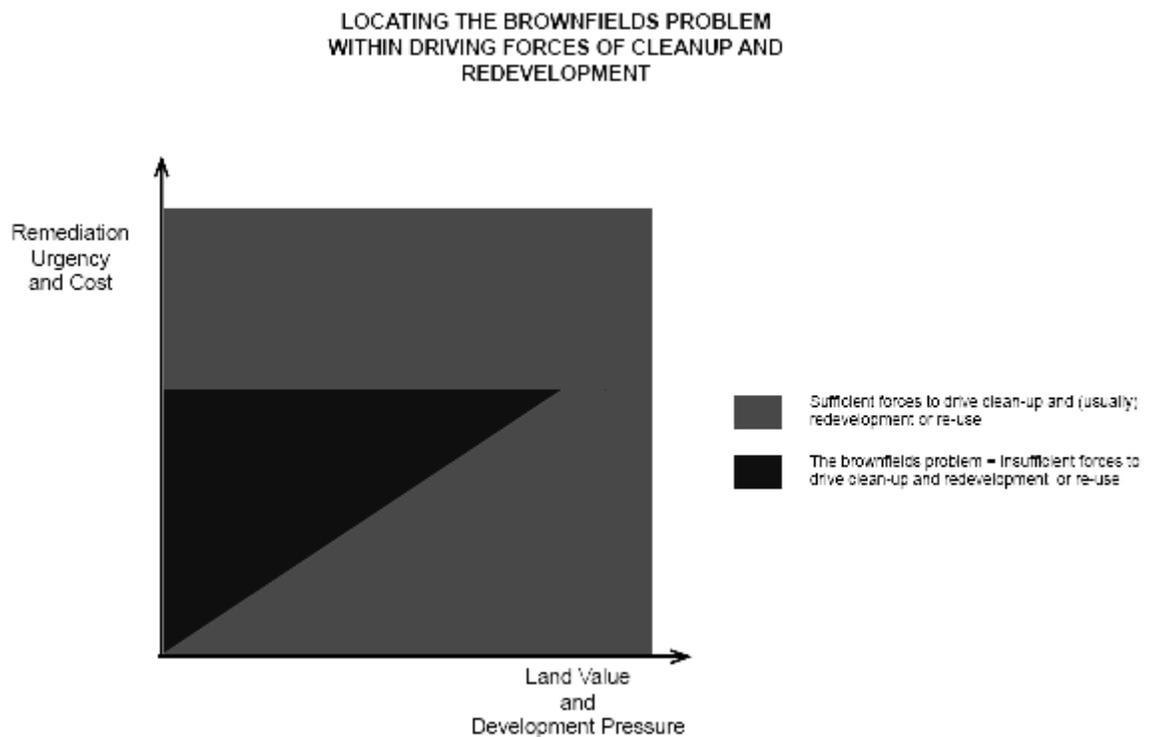
The urban growth boundary approach is also meant to enable the efficient provision of infrastructure (which is linked to ensuring adequate infrastructure for development (goal 12) and encouraging efficient multimodal transportation (goal 3) as well as conservation of undeveloped lands in the State also addresses the goals of retaining open space (goal 9) and protecting the natural environment (goal 10). Reducing sprawl (goal 2) is also directly connected to a brownfields strategy. Brownfields often make up a significant proportion of land in cities, already equipped with urban infrastructures. Once cleaned up, such sites could become competitive with suburban locations, and reduce the attractiveness of suburban sites for developers. Brownfields efforts could be key elements of economic development strategies (goal 5) by removing blighted areas, and by increasing the supply of urban land available for new economic activities (Blanco, 2008).

### **Brownfields Redevelopment, Market Conditions, and the Public Interest**

Land values and development pressures play a significant role in contaminated site cleanup and redevelopment. As these increase in strong real estate markets, site cleanup can become “just another dimension” of the real estate deal (Hersh, Wernstedt 2004). Quite simply, this occurs as the investment opportunity presented by a contaminated site located in a favorable market overcomes the additional costs and risks of the environmental issues that come with it. However, in areas of economic decline, perceived or real threat of contamination often leaves property values “upside down,”

where the costs to address the real or perceived contamination exceed the value of the land itself. In areas where there are concentrations of multiple contaminated sites, the negative economic effects are cumulative, such that brownfields are often thought of as both cause and effect of the economic decline that blocks cleanup and redevelopment. This stylized description (see Figure 1 for a graphic depiction) distinguishes brownfields from the universe of contaminated sites, and identifies the constellation of environmental and economic factors that characterize the brownfields problem. These have led to legislative reform relaxing liability (without relaxing cleanup standards) at brownfields sites and creating financial assistance to push and pull attention to brownfields towards cleanup and redevelopment (Blanco, 2008).

**Figure 1 Brownfields Problem: Remediation Costs and Market Conditions**



## Chapter 2

### Federal Brownfields Policy Development

Brownfields, defined as properties whose potential contamination complicates their use or development, pose both environmental and economic problems for governments, as well as their would-be developers, both private and public. From the perspective of government's role in protecting the public interest, these are properties that have multiple, negative, social and environmental spillover effects (market imperfections) beyond the specific public health risk that they pose. The spillover effects of brownfields establish a presumptive public interest in their cleanup and redevelopment. Blanco (2008) argues that prioritizing cleanup of contaminated property can be guided by two complementary but separable public interests: the public interest in safeguarding public health and the environment, which leads to the prioritization of the cleanup of most hazardous sites, including their public funding; and the public interest in effective metropolitan management and ecosystem protection which leads to the prioritization of brownfields redevelopment, including the provision of public subsidies and liability safeguards.

#### **Superfund Origins of Brownfields Policy**

Brownfields policy must be understood in the broader context of federal policy related to hazardous materials from which it evolved. Three major federal laws address the use, storage and disposal of hazardous substances:

- Toxics Substances Control Act of 1976, which regulates the registration and use of new hazardous chemicals manufactured by the chemical industry
- Resource Conservation and Recovery Act (RCRA) of 1976, which regulates the current disposal of hazardous waste into the air, water and land. It put into place tracking and permitting mechanisms and focused on enforcing responsible parties to clean up sites they contaminate.
- Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA) of 1980 or Superfund, prompted by several environmental disasters, in particular, the public outrage over the Love Canal incident, where a community was built atop a chemical waste dump site.
- CERCLA had authorized United States Environmental Protection Agency response to environmental emergencies involving hazardous wastes or pollutants and contaminants, to initiate investigations and cleanups, and take enforcement action against responsible parties federally, also extended oversight to the Washington State Department of Ecology Model Toxics Cleanup Control Act.
- CERCLA was also revised through The Superfund Amendments and Reauthorization Act (SARA) a Brownfields Economic Development Initiative (BEDI) and the Small Business Liability Relief and Brownfields Revitalization Act (BRERA)

The Resource Conservation and Recovery Act amended the Solid Waste Disposal Act of 1965, and gave EPA the authority to manage waste from “cradle to grave”. (CFR Title 40, Parts 260-279). The Act prohibited all open dumping of waste, provided guidelines for the safe management of municipal waste and encouraged recycling and toxic source reduction. RCRA also authorizes EPA to cleanup environmental problems caused by the

mismanagement of waste, and its corrective actions cover facilities that treat, store, and dispose of hazardous waste. Generally, RCRA cleanup actions are limited to facilities that have viable operators and ongoing operations.

CERCLA or Superfund is of particular importance for brownfields, since federal brownfields initiatives stem from Superfund amendments. This legislation was intended to address the problem that RCRA could not address--already abandoned sites and historical contamination. Since no cleanup funds existed before Superfund, government could not do anything about contaminated sites where owners could not be found. Taxes on petroleum products and chemicals funded the initial \$1.6 billion fund (Superfund) that was authorized under CERCLA. But note that Superfund excludes petroleum products from the list of hazardous materials to which it applies.<sup>4</sup> The fund could only be used if EPA could not find the parties responsible for the contamination, or if the party responsible could not afford the cleanup costs.

**Liability: Strict, Joint and Several**

EPA was authorized to respond directly through emergency cleanup actions or by forcing the potentially responsible parties (PRP's) to comply and respond. CERCLA also authorized EPA to conduct emergency cleanup at a site and then later sue the potentially responsible parties (PRPs) for the costs associated with the cleanup and for natural resource damages. In the case of non-compliant PRPs, CERCLA authorized EPA to

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<sup>4</sup> RCRA addresses the storage and cleanup of underground storage tanks (USTs) containing petroleum and natural gas.

charge up to three times the response and damage costs. Costs could be collected through demand letters, negotiations, administrative settlement, judicial settlement, and litigation.

Instead of direct regulation, CERCLA uses liability to ensure that the polluter pays.

Under CERCLA, potentially liable parties fall into four main categories: a) current facility owners and/or operators; b) past facility owners and operators at the time of disposal of a hazardous substance; c) persons who arranged for treatment or disposal of hazardous substances; d) transporters of hazardous substances who selected the disposal site. Once potentially liable parties are identified, EPA can then impose *strict liability* meaning that “legal responsibility is imposed without regard to fault, and diligence generally is no defense” (US EPA 1992) or *joint and several liability* meaning that EPA can sue any individual for the entire costs of the cleanup regardless of the existence of other potentially liable parties. CERCLA does not specifically mention strict liability under § 9601 (32), the courts have inferred such liability from the language of the Act, which subjects certain parties to liability unless they can successfully assert one of the limited defenses available<sup>5</sup>.

Concerns for potential liability under CERCLA continue to cloud the cleanup and redevelopment of contaminated property, although recent amendments have provided liability protections for innocent and other parties. Since the funds were limited,

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<sup>5</sup> Plater, Zygmunt, J.B., 2004. Environmental Law and Policy: Nature Law and Society. Aspen Publishers. New York. pp 890-91.

Superfund required that eligible sites be identified and prioritized.<sup>6</sup> Several groups contributed to the list of sites that were identified as potentially eligible for cleanup under Superfund<sup>7</sup>. At first, 8,000 sites were identified across the country, and compiled into an inventory called CERCLIS (Information Systems). This list was narrowed and sites were designated to a National Priorities List (NPL) through a hazardous ranking system (HRS), which is primarily based on existing or potential impact on groundwater.<sup>8</sup> Sites scoring 28.5 or higher qualify for the NPL, and those below the HRS threshold are left to the states for cleanup.<sup>9</sup> There are currently about 1,300 sites listed in the NPL, and 48 NPL sites in Washington State. It is clear that the federal Superfund program is only dealing with a small fraction of total contaminated sites in the country, which are estimated in the hundreds of thousands (US GAO 1987).

### **CERCLA Reform Efforts**

The Superfund Amendments and Reauthorization Act (SARA) amended CERCLA in

1986 to increase the trust fund to \$8.5 billion, reauthorized the program through 1991. It also broadened public participation, and established strict cleanup goals, including the use of permanent solutions. States and local governments were required to pay 10% of

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<sup>6</sup> CERCLA required that the National Oil and Hazardous Substances Pollution Contingency Plan, called for by the 1973 amendments to the Clean Water Act, include a list of national priorities among the known or threatened releases of hazardous substances, pollutants or contaminants in the US. NPL is that list. It is incorporated into the Plan as Appendix B of 40 CFR Part 300.

<sup>7</sup> CERCLA does not incorporate process for discovering contaminated sites; it relies on the reports of various interested parties, including EPA, state and local governments, private citizens and citizen groups, hazardous waste handlers who contribute to the list. .

<sup>8</sup> NPL requires an annual update and report to Congress.

<sup>9</sup> There are two other ways for sites to be listed in the NPL: a) Each state can designate a single site regardless of HRS score that it deems of highest priority; b) regardless of HRS score, if the Agency for Toxic Substances and Disease Registry (ATSDR) of US Public Health Service issues a health advisory that recommends human evacuation and EPA agrees. Qualifying for the NPL on the basis of HRS score does not guarantee a listing on the NPL. EPA requires concurrence from a state's governor to list a qualifying site on the NPL.

cleanup costs for private sites, and 50% for sites operated by contractors for state or local governments. SARA also added a liability protection for innocent purchasers who acquire real estate without knowledge of hazards on the site and who do nothing to contribute to contamination of a site. To qualify for the innocent landowner defense, a purchaser must have undertaken at the time of acquiring the property an “all appropriate inquiry” (AAI) into previous ownership and uses of the property. What constitutes an “all appropriate inquiry” is addressed further in the 2001-2002 CERCLA amendments.

SARA introduced other improvements to the Superfund program based on the lessons learned during the program's first six years. The 1986 Superfund amendments had the following impact on removal actions:

- Raised the limits on removal actions from six months to one year and \$1 to \$2 million;
- Authorized a waiver to the new time and cost limits if an added expenditure of time or money would be consistent with the long-term goals of a planned remedial action;
- Introduced a provision that all short-term removal actions must be designed to contribute to efficient performance of any long-term remedial action;
- Mandated that hazardous waste targeted for removal should go only to sites in compliance with strict Resource Conservation and Recovery Act standards.
- Authorized EPA to reimburse local governments for costs incurred in carrying out temporary emergency response to hazardous substance incidents. (SARA)

### **Brownfields Initiatives under CERCLA**

A Brownfields Economic Development Initiative (BEDI) was introduced by EPA in 1993 to address sites that may be contaminated by hazardous substances but which do not pose

the type of public health risk as the sites listed in the NPL. EPA defined brownfields then as “abandoned, idled or under-used industrial and commercial facilities where expansion and redevelopment is complicated by real or perceived environmental contamination”. For the next four years, EPA funded its brownfields initiative through the Superfund appropriations. Beginning in 1997, the EPA brownfields program received its own line in EPA appropriations.

In her article arguing for a universal conceptual definition of brownfields, Yount (2003) uncovers several variations in the definition of the word among the states that differ primarily on the characterization of brownfields as “abandoned or underutilized.” This definition was first established when the EPA launched its Brownfields Action Agenda in 1995, which used the words “abandoned, idled, or under-used industrial and commercial facilities” (USEPA 1995) to define brownfields and this was largely adopted by other levels of government.

#### The Small Business Liability Relief and Brownfields Revitalization Act (BRERA)

The current definition was introduced by the Small Business Liability Relief and Brownfields Revitalization Act (BRERA), an 2001 amendment to CERCLA, marks an evolution in the concept of brownfields defined as “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant” Changing “abandoned, idled, or under-utilized commercial or industrial properties” to simply “*real* property” (emphasis added) reflects the broad view that real or perceived contamination complicates the use or redevelopment of many types of properties, and not exclusively

properties in commercial or industrial use. Note also, that under this later definition, both the activities that may be complicated, and the type of contaminant are broader, and that mention of “active potential for redevelopment or reuse” is absent. The BRERA definition also leaves out any mention of other laws and programs, unlike the previous federal definition, which excluded listings in the National Priority List. Yount argues not only that the BRERA definition is superior to other definitions on the grounds that it is more encompassing, but also emphasizes that a definition should not include eligibility criteria and that instead these latter should be addressed separately.

The Voluntary Cleanup Program (VCP) concept was also recognized by EPA as an approach initiated by several states, including Washington State, to deal with the sheer number of brownfields by disseminating a guidance document.<sup>10</sup> State voluntary cleanup programs, which began emerging in the early 1990s, were created to address contaminated property which posed lower public health and environmental risk. These programs permitted “private-initiated cleanups” to proceed with varying levels of state oversight and enforcement conditions. VCPs provided less extensive administrative processes for lower risk sites than the state statutory programs modeled on Superfund which targeted the higher priority sites despite providing a lower level of liability settlement. A spectrum of administrative process issues and uncertainty for complex sites with commingled contaminants, area wide groundwater contamination and multiple PLP’S also began to emerge with the advent of VCP programs.

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<sup>10</sup> Federal Register. Sept. 9, 1997 (Vol. 62, No. 174, pp. 47495-47506. EPA FRL 5890/ Guidance for developing Superfund MOA language concerning State Voluntary Cleanup Programs.

The legislative passage of BRERAs, also known as the Brownfields Act, established a separate brownfields program at EPA. The Act authorized \$250 million in grants funds each year through 2006. EPA brownfields grant eligibility criteria require grant recipients to conduct cleanups under the state VCP programs. For the complex cases discussed above, this requirement has created additional conflicts in states such as Washington where the remediation must meet the substantive state cleanup standards, more stringent than Federal standards. In these cases a cleanup conducted under a formal agreement that provides ongoing oversight and support from the state is better suited than a VCP cleanup where the states role is largely review of completed actions.

The Brownfields Act also provided liability safeguards to bona fide prospective purchasers (BFPP) of potentially contaminated sites who acquired ownership of such properties after the passage of the Brownfields Act, provided such prospective purchasers met several conditions.<sup>11</sup> With the passage of BRERA several groups could claim liability protections--bona fide prospective purchases, contiguous property owners and innocent landowners--if they met the threshold criteria of performing an “all appropriate inquiry”. In addition, another act of Congress in 1996 had provided a secured creditor exemption, which removed lenders from the definition of “owner” or “operator” under CERCLA, as long as the lending agency did not participate in the management of the

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<sup>11</sup> The conditions are that a prospective: 1) purchased property after the disposal of the hazardous substance; 2) made an all appropriate inquiry regarding prior use and ownership of the site; 3) provide legally required notices of discovery or release of contaminant; 4) exercise appropriate care: preventing continuing release, potential release, or environmental and human exposure to previous releases of hazardous substances; 5) provide access and cooperation to individuals cleaning up the site; 6) not impeding the performance of a response action on the site; 7) comply with requests and subpoenas issued under the Act: and 8) is neither directly nor indirectly liable for response costs associated with the facility.

facility.<sup>12</sup> The creditor exemption is crucial for brownfields redevelopment since without it, banks faced the risk of becoming potentially liable parties as holders of mortgages upon foreclosures.<sup>13</sup> The Brownfields Act, also, required EPA to develop a permanent “all appropriate inquiry” standard by January 2004, which actually became effective on November 1, 2006.

The criteria contained in the “all appropriate inquiry” standard are crucial for reducing CERCLA liability risks in the cleanup and redevelopment of brownfields. Before the enactment of the standard, an “all appropriate inquiry” was defined in terms of whether the inquiry was conducted “in accordance with generally accepted good commercial and customary standards and practices”.<sup>14</sup> The AAI standard includes several major changes from previous practice. Under the new standards, the initial investigation is to be conducted by an Environmental Professional<sup>15</sup>; the investigative interviews to be conducted include a broader range of individuals with experience on the property; visual inspections of the adjoining properties are also required; the environmental professional needs to take into account other factors in his inquiry, such as the relationship of the purchase price to the value of the property; and the AAI has a defined shelf life (if the report is older than 6 months, then additional inquiry needs to be performed, if older than one year, then all the information needs to be updated), By following the AAI rule,

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<sup>12</sup> The Asset, Conservation, Lender Liability, and Deposit Insurance Protection Act of 1996

<sup>13</sup> During 1980’s and 1990’s due to the liability protections under CERCLA until 1996 amendments. (Wick 1992)

<sup>14</sup> In effect, the condition was met if the investigation met the standard promulgated by the American Society of Testing and Materials for initial investigations of potentially contaminated property (ASTM E 1527-00). ASTM had to revise its old standard to achieve compliance with EPA’s new standard.

<sup>15</sup> Defined as “persons who possesses sufficient specific education, training and experience necessary to exercise professional judgment to develop opinions and conclusions regarding conditions indicative of releases or threatened releases...on, at, in, or to a property, sufficient to meet the objectives and performance factors.” (Fed. Reg. 66070)

buyers and neighbors of potentially contaminated property can qualify for liability protection under CERCLA<sup>16</sup>. Further, the rule is being used by EPA to judge eligibility for brownfields assessment grants.

Federal brownfields policy thus grew out of the recognition that Superfund cleanup funds could only be applied to a fraction of contaminated sites, those that posed the highest risk to public health. Since state programs closely mirrored the Superfund program, both federal and state programs were aimed at responding to the worst contaminated sites, and neglected the less contaminated ones. In addition, the early liability requirements of Superfund geared to ensure that the “polluter pays” had the unintended consequence of aggravating the brownfields problem by discouraging parties interested in redeveloping such sites, including lenders. In contrast to the original CERCLA legislation, which was driven by environmental values, brownfields policy has been driven by economic and social concerns raised by distressed communities in conjunction with economic development and growth management concerns.

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<sup>16</sup> As already indicated these liability protections extend to “innocent purchasers”; “bona fide prospective purchasers”; and for property owners where the contamination stems from “contiguous property”. 42 U.S.C. § 9601 (35), (40) (A)-(H), § 9607 (q)(1).

## Chapter 3

### Washington State Brownfields Policy

#### Washington State Model Toxics Control Act

Hazardous site cleanup in Washington State is governed by two parallel environmental response statutory frameworks. As noted earlier federal enforcement actions under CERCLA concentrate on the worst of the worst sites as Superfund actions. All other cleanup actions are governed by the Washington State Model Toxic Control Act (MCTA) of 1988<sup>17</sup>, administered by the Washington State Department of Ecology Toxics Cleanup Program. The MTCA Cleanup Regulation (Chapter 173-340 WAC) establishes the procedural and technical requirements for the cleanup of contaminated sites in Washington (see Figure 2)

In addition to CERCLA liability Washington State law, RCW 70.105D Model Toxics Control Act imposes liability as well. Strict liability may be assigned to owner/operator, and transporters regardless of who is culpable. Ecology also has authority under RCW 70.105D.040 (2) to hold one party responsible. Current property owners are Potentially Liable Persons (PLP) under MTCA. Former owners are PLP's only if the release

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<sup>17</sup> Washington State Department of Ecology. 2001(revised), *Model Toxics Control Act Cleanup Regulation Chapter 173-340WAC*, Publication No. 94-06, Olympia

occurred while they owned the property. Under normal circumstances the current owner is held accountable for the clean up (WADOE, 2005 POL520A pp4)<sup>18</sup>.

Because it is often difficult or impossible to allocate responsibility among persons liable for contamination of hazardous sites MTCA RCW 70.105D040 (2) specifically states that "Each person who is liable under this section is strictly liable, jointly and severally, for all remedial action costs and for all natural resources damages resulting from the release or threatened releases of hazardous substances". The standards of liability apply to sites all placed on Hazardous List regardless of the extent and nature of contamination. Thereby low risk sites (such as petroleum contamination) carry the same level liability as a high risk site contaminated with chlorinated dibenzofurans.

**Figure 2 Environmental Response Jurisdictions**

Jurisdiction over cleanups is not exclusive to CERCLA  
 MTCA is independent authority subject to federal facility restrictions in CERCLA

**CERCLA**  
 42 USC 9601

**MTCA**  
 RCW 70.105D

<p><b>EPA lead</b> with State consultation</p>	<p><b>State lead</b> with EPA overview 9604(d)(1) Cooperation agreement gives State authority to carry out CERCLA. These are binding contracts enforceable in court</p>		<p>-Most states have their own cleanup laws because States can not seek injunctive relief to cleanup parcel under CERCLA.          -CERCLA also does not include <b>petroleum</b> as hazardous substance</p>
<p>- NPL sites unless state given lead by agreement</p>	<p>NPL by agreement with EPA</p>		<p>Any site, including NPL site unless a federal facility on NPL.          42 USC § 9620(a)(4)</p>

<sup>18</sup> (Washington State Department of Ecology, 2005. Interim Policy: Prospective Purchaser Agreements . Report No. POL520A, pp4)

In addition to state and federal statutory liability, under joint and several liabilities, responsible persons are subject to third party contribution suit as a separate action outside of statutory action. In these cases the primary responsible party, often those responsible for the release of contaminate, may sue other PLP's such as the current owner/operator for contribution towards cleanup costs.

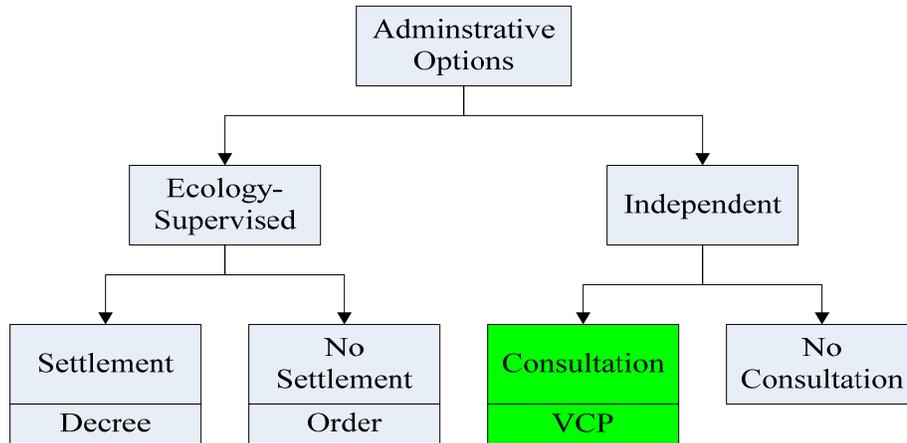
RCW 70.105D.050 provides substantial legal authority to enforce clean actions against recalcitrant parties where under RCW 70.105D.050 (1) "the attorney general may bring actions against any liable person who refuses or fails to comply with an order or Agreed Order for (a) amounts up to three times any costs incurred by the state (assessment, remediation, administrative and natural resource damages), and; (b) a civil penalty of up to twenty-five thousand dollars for each day the party refuses to comply".

### **Two Procedural Pathways: Formal Oversight and the Voluntary Cleanup**

Five primary legal mechanisms are available to the Department of Ecology, and PLP's to reach agreement in cleanup efforts. The agreements range from the expedient Voluntary Cleanup Program to an Enforcement Order placed on recalcitrant parties. Parties considering redevelopment of a hazardous site may negotiate the terms with the state under which the cleanup actions are conducted. Ecology uses two basic approaches to cleanup property (see Figure 3): supervised cleanups (Formal Sites) and independent cleanups (VCP Sites). Both must meet the MTCA requirements. The main difference is the level of involvement of Ecology staff in the process, public participation and level of liability settlement. Contaminated sites are identified and prioritized by Ecology for cleanup based on

the severity of the contamination and threat to public health. A site manager is assigned to formally oversee the process as it progresses through remedial investigation through final cleanup and can take several years.

**Figure 3 MCTA Administration Pathways**



Provided the substantial cleanup standards of MTCA are met, varied levels of settlement may be obtained to minimize liability risk. The negotiated settlement may provide for a simple No Further Action determination from Ecology to complete removal from Ecology’s Hazardous Site List, a covenant not to sue, and protection from third party contribution suit.

**Voluntary Cleanup Program**

In 1997 the Legislature authorized Ecology to implement a voluntary cleanup process in which a potentially liable party or other person can take charge of the investigation and cleanup without formal Ecology supervision. The person handling the cleanup can submit conformation data as evidence of cleanup completion to Ecology for an opinion that the

cleanup has met the requirements of MTCA. The PLP can also seek technical guidance from Ecology on such independent cleanups during the course of the cleanup process for a fee. The PLP would be billed for this technical service. Again the entire process varies by the complexity of the site, but in general such independent cleanups take one to six years to complete.

Over the last several years, some developers have preferred to move even large complex projects through the VCP program because of the (1) perceived relatively short timeframe needed to complete the process and (2) lower cost associated with the voluntary process (little attorney involvement). A growing number of lending institutions accept a No Further Action opinion letter from Ecology as enough evidence to offset liability concerns in lieu of a Consent Decree or prospective purchaser Consent Decree.

Liability relief is limited to the issuance of a No Further Action (NFA) letter from Ecology provided that after review substantive cleanup requirements of the MTCA have been met. Owner/operators pursuing this option do so at their own risk, and this might lead observers to assess a mixed notion of preference for the voluntary approach as lower in terms of both cost and time investment, but higher in potential PLP risk. Those assumptions are precisely what this thesis study seeks to explore. Neither submission of information nor any response by Ecology constitutes settlement of liability. However owner/operators requesting and paying for consultation may receive: (a) informal technical advice and assistance on the administrative and technical requirements of MTCA; (b) a written opinion letters providing Ecology's nonbinding determination that

remedial action performed meet MTCA's substantive requirements or whether further action is necessary at a site; and (c) removal of site, or portion of site, from the Hazardous Sites List, if appropriate. Removal from Ecology's Hazardous Sites List is subject to public notice and comment. Opinion letters, as with all cleanup settlements are subject to a periodic review (every 5 years) to evaluate the effectiveness of the remedy in protecting human health and the environment. Any case may be reopened for further action should further action be necessary.

There are currently approximately 2,270 VCP sites listed on Ecology's Confirmed and Suspected Sites List. Ecology devotes twenty eight site manager positions to the VCP to provide review of independent cleanup actions and issue opinion letters. It is important to note that the Ecology site manager's primary role in the VCP in is to *review completed actions*. Hence the relatively low number of staff assigned to a large number of sites. The VCP program is designed to facilitate relatively low-risk, simple cleanup actions as opposed to more complex cleanups that are best served with ongoing consultation from site managers under a formal agreement.

However, the VCP approach has also been used to facilitate large complex brownfield cleanups. Two examples of these redevelopment efforts are the Rainier Court project in Seattle and Kendall Yards in Spokane. Rainier Court consisted of a mix of dilapidated buildings, oil drums, tires, old cars, and fenced-off lots. It is being redeveloped into mixed senior low-income housing and commercial space. Kendall Yards is an old contaminated railroad property that is to be developed into mixed residential and retail space. Rainier

Court started in 2001 when a non-profit company (SEED) approached Ecology and EPA for brownfields funding. SEED intended to buy up parcels with dilapidated buildings and unused lots for redevelopment into commercial space and various forms of housing. SEED was directed to the Department of Commerce and Economic Development (CTED) for the brownfield funding portion of this project. A VCP site manager was assigned to provide consultative support throughout the investigative and cleanup phases of the project process. The developer retained a respected consultant to handle the cleanup and work in concert with Ecology. The project required more Ecology staff time than most VCP projects but less supervision than most formal sites. Although the multiphase build-out and cleanup has taken several years, the collaborative model has worked well in avoiding delays stemming from post action review and additional work for compliance.

With Kendall Yards, a developer approached the City of Spokane with an idea to develop the abandoned railroad property. The City received brownfield funding for assessment of the project from the EPA Brownfields Cleanup Revolving Loan program. The Ecology gave the site a higher priority in terms of staff time by assigning a site manager outside the VCP program to assist the developer's consultants with the process from remedial investigation through cleanup. A site manager not assigned to the VCP program was selected because of the size of the project and her experience. The site manager met with the consultant regularly, billing her time through the VCP program. The entire cleanup process took approximately 13 months to complete.

### **Formal Oversight Cleanup Process**

The formal site process has also been used to facilitate redevelopment. The advantage to formal review is the potential to settle liability through an Agreed Order, Consent Decree or Prospective Purchaser Consent Decree. An owner or prospective purchaser can approach Ecology with a proposal for cleanup and development. If the State accepts such a proposal, the parties negotiate a site-specific agreement that describes the owner's commitment to cleanup or the prospective purchaser's contribution to cleanup and settles the owner's or purchaser's liability. Based on data provided, Ecology has executed 117 Consent Decrees and 21 prospective purchaser Consent Decrees as of January 2006. The data does not indicate that all these decrees led to redevelopment.

### **Agreed Orders**

An Agreed Order is a legally binding administrative order issued by Ecology and agreed to by the potentially liable person. Agreed Orders are not filed in court and offer the advantage of not involving the State Attorney General Office thus simplifying the process. Under an Agreed Order PLP's may receive: (a) guidance regarding administrative and technical requirements of MTCA; (b) site-specific advice; and (c) removal of site from Hazardous Sites List. Agreed Orders may be fractured, where a separate agreement is negotiated for each stage of the cleanup; remedial investigation, feasibility study and cleanup action plan. Unlike the VCP, a public participation plan including public notice and comment for each phase is required allowing the public to comment on the project scope, standards for cleanup of the constituents of concern (hazardous substances), remedy selection and timeframe. Public comment is a keystone principle in MTCA and has proven value as a tool to avoid unforeseen consequences.

Unless an emergency exists or new or additional remedial action is required, Ecology will stay any enforcement action as long as the PLP meets all terms and conditions of the order. However, an Agreed Order is NOT a settlement of liability, and therefore does NOT provide a covenant not to sue or contribution to suit protection. An Agreed Order includes a re-opener clause that reserves Ecology's authority to require different or additional remedial action under certain circumstances.

### **Consent Decrees**

Consent Decrees are at the heart of the brownfield redevelopment process by providing the greatest degree of liability relief. A Consent Decree is a formal legal agreement filed with the appropriate superior court or federal court with jurisdiction. The work requirements in the decree and the terms under which it must be done are negotiated and agreed to by the PLP, Ecology and the Attorney General Office. Before a Consent Decree becomes final, it must undergo a public review and comment period that often includes a public hearing. Ecology may determine, after public notice and any required hearing, that the proposed settlement will lead to a more expeditious cleanup. Like Agreed Orders, Consent Decrees may be structured where a separate agreement is negotiated for each stage of the cleanup. Provided the work meets substantive requirements of MTCA and all terms and conditions have been met, the attorney general will settle the liability of a PLP for the site by providing a PLP with a covenant not to sue and contribution protection / no enforcement against the settling party or successor in interest. A Consent Decree includes a re-opener clause that reserves Ecology's authority to require different or additional remedial action be performed under certain circumstances.

### **Prospective Purchaser Consent Decree**

In addition to the requirements and terms of settlement in a standard Consent Decree a party that is not liable for cleanup at a site and wishes to purchase a clean up site for redevelopment or reuse may apply to negotiate a Prospective Purchaser Consent Decree. Under the authority of RCW 70.105D.040 (5)(a) “The attorney general may agree to a settlement with *a person not currently liable for remedial action at a facility who proposes to purchase, redevelop, or reuse the facility, provided that:* (i) the settlement will yield substantial new resources to facilitate the cleanup; (ii). The settlement will **expedite** remedial actions... (iii) ...the redevelopment or reuse of the facility is not likely to contribute to the existing release...interfere with remedial actions... or increase health risk to persons at or in the vicinity of the site” [Emphasis added].

The intended advantage to a Prospective Purchaser Consent Decree purchaser is that the negotiated cleanup actions and costs are estimated *prior* to purchase of the property and assumption of liability. The legislative intention for Prospective Purchaser Consent Decrees was to give priority to the cleanup and reuse of vacant/abandoned commercial or industrial contaminated property, in essence to address brownfield properties. A prospective purchaser might want to undertake clean-up responsibilities for a brownfield site that is, say, located more accessibly and conveniently than other regional sites or one that has an existing clientele attached to it. But, in reality, despite the advantage to prospective purchasers wishing to reuse contaminated land, Prospective Purchaser Consent Decrees are used cautiously. According to the Department of Ecology there are several reasons for this. 1) Each stage of the assessment and clean up process requires the negotiation of a separate agreement. This requires considerable staff time for which there

is no dedicated funding. The negotiations also must be done with the attorney general office, adding a layer of expense and complexity; 2) In adhering to the Standards of RCW 70.105D040 (5)(a) Ecology and the attorney general office interpret the definition of qualifying sites as “*vacant or abandoned commercial or industrial property* thereby excluding many brownfield sites that would be more accurately qualified under the federal definition as all...”*real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminate*”; 3) The term priority is undefined in the statute which has historically led to an interpretation meaning worst sites first, without full consideration of a range of priority issues raise by non-governmental entities such as the potential for tax revenue generation, revitalizing blighted areas and greenspace restoration.

### **Enforcement order**

Rarely used in the brownfield context, Enforcement Orders are issued to a potentially liable person when the Department believes a cleanup solution cannot be expeditiously achieved through negotiation or if an emergency exists. Under enforcement order there is no settlement of liability even if the cleanup meets the substantive clean up requirements under MTCA. Ecology can take action to recover all costs and penalties incurred by the state.

### **MCTA Seven Step Process**

The Model Toxics Control Act was established under CERCLA authority where states were allowed to create their own standards for cleaning up hazardous waste, which were not included in the National Priority List (NPL). In some cases, states adopted standards

that are/were even more demanding than the standards used to generate CERCLA's NPL. Washington State's Model Toxics Control Act (MTCA) governs the toxics cleanup program administered by the Washington State Department of Ecology (Ecology). MTCA established the Local and State Toxics Control Account, a toxics cleanup fund, like the Superfund account, funded by a tax on petroleum and hazardous substances, and established processes to identify and prioritize the cleanup of hazardous sites posing the highest risk to public health on a worst-case first basis.

Under the MTCA framework the clean up process involves a seven step process, whether or not the site is considered a brownfield. Recognizing the confusion and expense associated with CERCLA, MTCA was designed to be as streamlined as possible while ensuring strict cleanup standards to protect human health and the environment. However, the length of time and expense in conducting a cleanup action that provides the most appropriate level of liability settlement is an important consideration for anyone who wishes to redevelop a brownfield site. The process typically takes a minimum of 2 years to complete for sites that receive priority consideration by Ecology. The time-frame involved under MTCA regulation can act as a considerable disincentive to developers, making the option to develop greenfield sites much more attractive. Further, negotiations for remedy selection and apportionment of remedial costs amongst a wider range of PLP's can considerably delay the process. As an aside, it is important to briefly outline the cleanup and liability settlement options process mandated by MTCA so the reader may better understand the complexities involved in brownfield redevelopment.

**1) Site Discovery.** Sites where contamination is found must be reported to the Washington State Dept. of Ecology within 90 days of discovery. At this point potentially liable persons (PLP's) may elect to conduct an independent clean up without Ecology's oversight, but clean up results must be reported to Ecology. Parties not electing a voluntary cleanup may enter into an Agreed Order, Consent Decree or should they prove to be recalcitrant be forced to conduct the cleanup under an enforcement order.

**2). Initial Investigation or Phase I Assessment.** Ecology is required to conduct an initial investigation of the site within 90 days of receiving a discovery report. Based on the Phase I information a decision must be made within 30 days to determine if the site requires additional investigation, and emergency cleanup of no further action. If further action is required Ecology sends notice to all PLP's inviting them to work cooperatively with Ecology to conduct a clean up action.

**3) Site Hazard Assessment.** If further action is required a site hazard assessment is conducted to confirm the presence of hazardous substances and to determine the relative risk the site poses to human health and the environment.

**4) Hazard Ranking.** MTCA requires that sites be ranked according to the relative health and environmental risk each poses. Working with an independent Science Advisory Board, Ecology created the Washington Ranking Method to categorize sites using data from site hazard assessments. Sites are ranked on a scale of 1 to 5. A score of 1

represents the highest level of risk and 5 the lowest. Ranked sites are placed on the State Hazardous Sites list.

**5) Remedial Investigation/ Feasibility Study.** A remedial investigation and feasibility study is conducted to characterize the extent and nature of contamination at the site (any adjoining property if necessary). Potential impact to human health and the environment and alternative cleanup technologies are also evaluated in the study. The study and results which are conducted under a Consent Decree, Agreed Order or enforcement order are subject to a 30 day public review prior to finalization. Formal agreements for this step may be developed independently of other steps.

**6) Selection of Cleanup Actions.** Following the study phase a cleanup action plan is developed. The plan identifies the preferred cleanup methods and specifies the cleanup standards and all other requirements at the site. As with the previous step the plan is subject to 30 day public review before finalization and the formal agreement for the plan may be developed independently of other steps.

**7) Site Cleanup.** Implementation of the cleanup plan includes design, operation and monitoring of the cleanup actions. Following successful implementation of the cleanup activities the site may be removed from the Hazardous Sites List if Ecology determines that the substantial requirements of clean up standards have been met.

Not all brownfields are urban and it is of particular concern how these state policies are negotiated for brownfield sites in rural or small towns. Mainly a result of closing natural

resource-based industries, such rural areas and smaller towns, are often in depressed economic areas. The dilemma of not being able to generate a return on investment to attract developers adds an additional dimension of constrain on proposals to cleanup and revitalize rural sites. It is at this point that discussion and review of options for brownfields restoration by either potentially Liable Parties or Prospective New Owners leads directly to the assessment of mix preference for a voluntary or more formal, statutory approach and the funding that is available to aid reuse and revitalization efforts instituted by Washington State Department of Ecology under MTCA.

## Chapter 4

### **Brownfields Revitalization and Environmental Restoration**

Although the magnitude of the brownfields problem is sizable, the majority of contaminated brownfields sites are, though clearly of significance to human health and the environment, still not of the highest rank in threat. This is not to imply that the environmental concern for protecting public health and the environment is less for brownfields properties. In Washington State the standards that brownfields cleanups must meet for safeguarding public health and the environment meet or exceed standards of federal Superfund legislation. Less severely contaminated brownfields typically meet such standards at a lesser cost than more highly contaminated properties. While the primary criterion for brownfields, as for all contaminated sites, is environmental protection - brownfield development is evolving into an integrated model where the interplay of environmental and redevelopment is an issue, not of relaxing environmental protection standards, but rather of facilitating appropriate reuse through public involvement, financial incentives and appropriate safeguards from liability claims.

#### **Focus on Rural Sites**

Brownfields sites range in size from former gas stations and dry cleaners to light industrial, manufacturing, or agri-business sites. These sites are often tax-delinquent or have been left inactive by property owners, complicating the identification of a probable liable party. Although urban brownfields are the focus of attention in brownfields discussions, not all brownfields are urban. Of particular concern are brownfields in rural

or small towns, mainly the result of the closing of natural resource-based industries, such as lumber mills, gas stations or landfills. Rural areas or small towns, often in depressed economic areas, face the dilemma of not being able to generate a return on investment to attract developers or lenders, yet have the need to cleanup and revitalize the sites. This is an area of concern for many states, including Washington State, that experience dual economies where wealth and economic activities are concentrated in cities. Also important to note here is that the redevelopment of brownfields is not just significant for real estate markets focused on housing, industrial and commercial uses. Brownfields redevelopment can achieve other substantive state goals in the areas of habitat restoration, public recreation and open space.

Against this broad policy backdrop of public attention to brownfields, recent initiatives in Washington State are beginning to highlight brownfields redevelopment. Revisions to federal legislation of contaminated sites has followed suit in state legislation, in 1994, 1997, and again in 2004. More recently, the State Legislature passed House Bill 1761, introducing new programs and reforms to existing financial assistance and incentives for brownfields cleanup and redevelopment specifically. Additionally, the Governor's Puget Sound Initiative now called the Puget Sound Partnership pulls brownfields into an ambitious program established to clean up both public and private-aquatic sediments along and upland up to one-half mile from the Puget Sound shoreline by 2020.

### **Brownfields in the Federal and State Policy Context**

Over the last decade, considerable attention has been directed to the legacies of environmental neglect; as simultaneously the cause and effect of economic decline in

urban and rural areas; as well as a prime strategy for achieving sustainable development. In part, the sheer number of brownfields can convey the scope of the problem. The U.S. General Accounting Office (1987), for example, has concluded that there may be between 130,000 and 450,000 contaminated commercial and industrial sites located within the United States based on data collected from several federal agencies in the 1980's. Later estimates have placed this figure in the range of 500,000 – 600,000 (Simons 1988), or even as high as 1 million sites (U.S. EPA).

The sheer magnitude of the brownfields problem stems from the economic restructuring which occurred in the country, beginning in the early 1970s, and continuing through today, as the U.S. economy has shifted from an industrial to services and information sectors. This deindustrialization led to the widespread abandonment of industrial and commercial property. Most heavily impacted initially, Northeast and Midwestern metropolitan areas first lost jobs and industries to Sunbelt and Western locations, and later to foreign competitors. Later waves of deindustrialization also affected Sunbelt and Western regions. Since the potentially hazardous contaminants or pollutants employed by industrial processes were not regulated by the federal or state governments until the 1970s, there is a high likelihood that these properties, already idled by economic forces, held some level of toxic contamination.

The uncertainty regarding the extent of contamination on a previously industrial or commercial site, combined with the liability provisions aggravated the problem for would-be developers. If prospective purchasers or developers could count on firm

estimates of cleanup costs, they could incorporate these costs into their financial calculations, and even obtain reasonable reductions in the purchase price to, at least, partially compensate them for the cleanup costs. But the lack of information on the extent of contamination made it difficult to calculate cleanup costs and profits margins on brownfields projects. In turn, this made such projects too risky for lenders. Brownfields projects were already risky investments for lenders due to the unknown and variable costs of cleanup. Until liability protections for several categories of potential investors in brownfields properties and lenders were put into place beginning in the late 1990s, it is likely that CERCLA contributed significantly to the idling of the stock of brownfields for close to two decades.

#### **The Nature and Recognition of Brownfields under MTCA**

The Toxics Cleanup Program (TCP) includes a specially targeted effort designed to facilitate the return of brownfields properties to productive use. The TCP brownfields program is coordinated with the state of Washington Department of Community Trade and Economic Development (CTED) and the U.S. Environmental Protection Agency (EPA). Efforts to develop and enhance Washington's brownfields activities have been enhanced by past grants awarded under EPA's Section 128 (a) State and Tribal Response Program (STRP).

The Small Business Liability Relief and Brownfields Revitalization Act (SBLRBRA) was signed into law on January 11, 2002 and amends Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) by adding Section 128(a).

Section 128(a) authorizes a grant program awarded and administered by the United States

Environmental Protection Agency (USEPA) to establish and enhance state response programs that address the assessment, cleanup and redevelopment of brownfields sites and other contaminated sites as defined by the law. On November 25, 2003, the USEPA published in the Federal Register, Document number EPA 500-F-04-002, the Notice of Grants Funding Guidance for State and Tribal Response Programs. One goal of the funding as defined by the guidance is, "to provide funding for other activities that increase the number of response actions conducted or overseen, by a state or tribal response program". Ecology has established a brownfield program through an EPA Title II section 128 (a) State and Tribal Response Program Grant with an annual budget of 1.3 million dollars. The program provides outreach and networking, technical assistance, brownfield policy development, and technical applications development aimed specifically for brownfields redevelopment.

The Local Toxics Control Account, funded by a tax on the import of hazardous substances including petroleum products, can be used for financial assistance to local programs and to assist potentially liable parties with remedial action costs but only when these are part of a settlement and the Director of Ecology finds that the funds will substantially expedite cleanup and that the funds will prevent unfair economic hardship. The Local Toxics Control Account can be used by Ecology for grants or loans to local government remedial actions, hazardous waste programs, solid waste programs, cleanup of the hazardous substances associated with methamphetamine sites, and cleanup of derelict vessels. 227 million dollars in grants have been awarded to local government since 1988 from the Local Toxic Control Account. In the last couple years, the demand from local government has exceeded the available dollars.

MTCA recognizes the importance and public benefit of reusing contaminated properties. The policy goal set forth in RCW 70.105D.010 (5) (b) addresses the legislative intent where “the primary purpose of this subsection is to promote the cleanup and reuse of vacant and abandoned commercial or industrial contaminated property”. The attorney general and the department (Ecology) may give priority to settlements that will provide substantial public benefit, including, but not limited to, the reuse of a vacant or abandoned manufacturing facility or the development of a facility by governmental entity to address an important public purpose”. The 2007 legislative amendment to MTCA, House Bill 1761, directs specific financial resources from the Local Toxics Control Account to Ecology’s Remedial Action Grant program. House Bill 1761 directs Ecology to aid local governments wishing to cleanup and put vacant, abandoned and idle properties back into reuse, by raising the State Remedial Action Grant match from 50 percent up to 90%. Further, the bill allows for additional funding to be targeted for habitat restoration, economic development activities, public recreation and property acquisition.

Despite this policy intent, the brownfields program in Washington State currently operates without a statutory definition of brownfields. The closest definition of brownfields in the state is the phrase, “a vacant, abandoned, commercial or industrial, contaminated property.” Further, the Department of Ecology does not distinguish between brownfields assistance and other contaminated site remediation under the state’s Local Toxics Cleanup Account<sup>19</sup>, and does not provide targeted brownfields assistance

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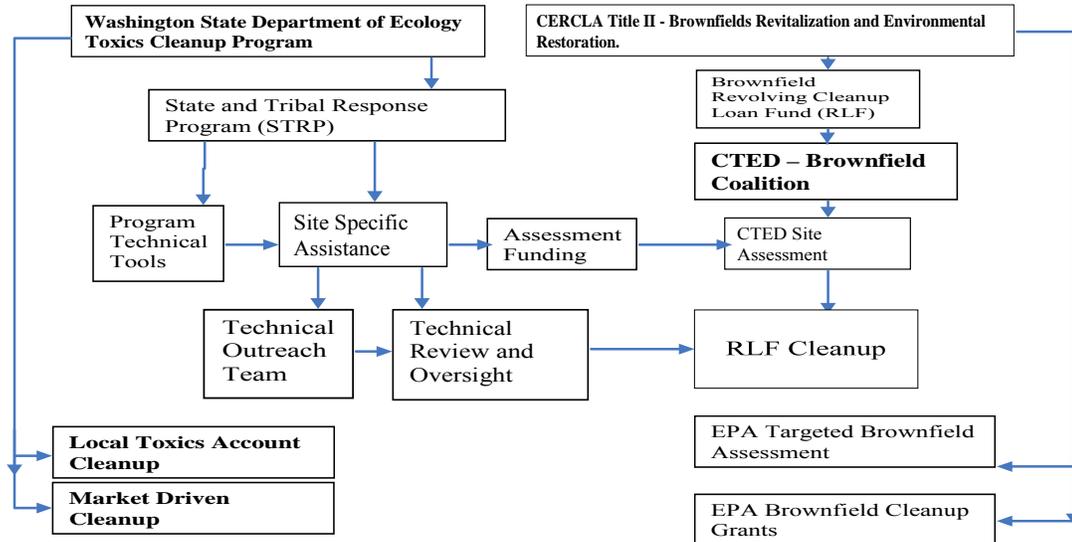
<sup>19</sup> The Local Toxics Cleanup Account is one of two accounts funded by the state tax on petroleum and hazardous substances authorized by MTCA to fund grants and loans for local governments.

using state funds. Even the 2007 amendments to MTCA included in HB 1761 do not directly mention brownfields, although HB 1761 does provide increased funding for strategies to assist local governments in integrating site clean up with economic development, public recreation, and habitat restoration.

### **Organizational Structure of Brownfields in Assistance Washington**

In practice the redevelopment of a brownfield site involves two primary parts; the clean up process; and the development process. The Department of Ecology's Brownfield Program serves to develop policy and technical tools to enhance both aspects of the brownfield redevelopment equation. Historically, the agency focus has been on the cleanup aspect and the redevelopment specifications not considered part of the mission. As the recognition and understanding of the nature of brownfield origination and solutions began to emerge, the brownfields program has been in the vanguard of a philosophical shift to embrace reuse as an equitable aspect of the remediation process. The Brownfields Program works with the EPA, Community Trade and Economic Development, local governments and the private sector to coordinate state and federal brownfield grant applicant activities (see figure 4).

**Figure 4, State and Federal Brownfield Organization and Assistance**

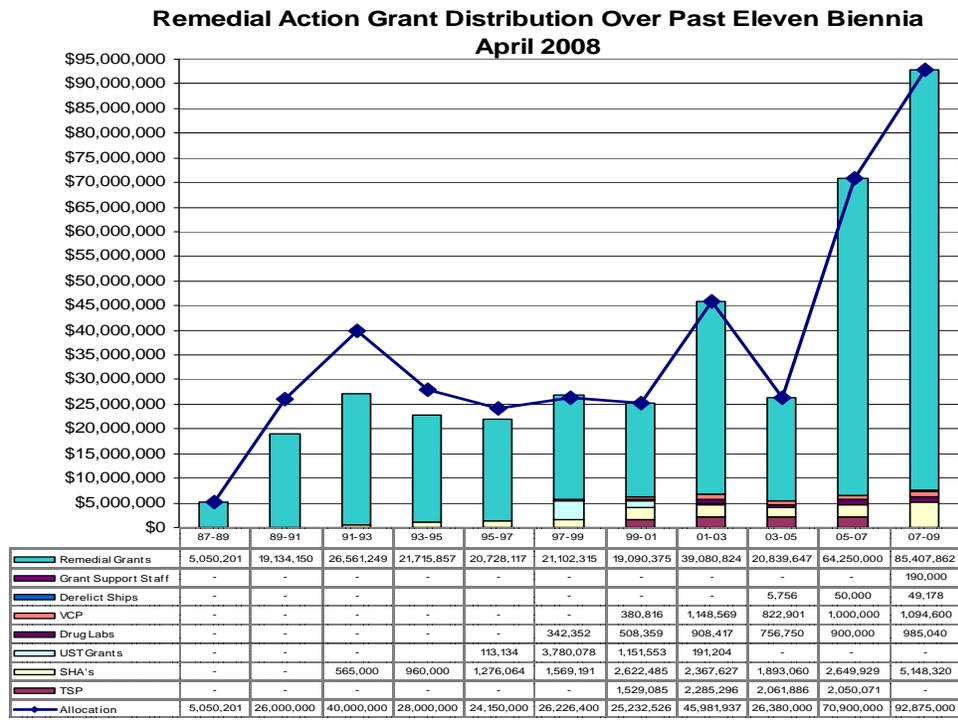


There are three primary pathways for brownfield financial and technical assistance in the State of Washington:

1. Private and commercial financial source with fee based technical oversight from Ecology. This is the most common method for commercial real estate transaction driven cleanup and redevelopment in high value metropolitan markets.
2. Remedial Action Grants available to local governments. These grants are administered through the Department of Ecology Toxics Cleanup Program. There are two options for the state Remedial Action Grants. The first is through a formal oversight program where grant activities are conducted under an Agreed Order. The oversight grant program is by far the most widely used with over 227 million dollars in grants awarded since 2001. Grant recipients are eligible to receive 50 to 90 percent of eligible costs. The second pathway is the VCP side of the program where local governments may conduct independent cleanups and submit

conformation data to obtain a No Further Action Opinion Letter from Ecology and apply for 50 percent of eligible costs retroactively. Since 2001 44 million dollars in grants has been awarded (see figure 5).

**Figure 5 Remedial Action Grant Distributions**



- EPA brownfield loans and grants. Since 2001 local governments and non-profits have received 9.5 million in competitive cleanup and assessments grants from EPA with technical assistance and oversight provided by the Department of Ecology and the Department of Community, Trade and Economic Development Technical assistance. Since 2001 the CTED BCRLF has executed approximately 5 million in low interest loans to private developers and community development corporations. All cleanup actions conducted with EPA brownfields funding, regardless of applicant administrative capacity technical sophistication or project complexity must be done under state VCP program. Technical assistance in submitting applications for a revolving fund loan or coordinating site assessments

is done in partnership with King County/City of Seattle, City of Tacoma, and the City of Spokane.

The Cleanup Enhancement and Land Revitalization team (CLEAR), recognizing an emerging need to establish brownfield reuse linked to landuse planning as a strategic community or regional investment, the Ecology Brownfield Program reorganized in 2008 assists brownfield stakeholders to develop projects that integrate remedial actions with larger community vision of restoration, recreation, or economic benefit. This approach can often solve multiple problems, leverage multiple funding sources, and keep stakeholder focus on the end goal. The team blends policy and planning expertise with technical remediation expertise to provide a holistic approach to project development. In addition to the technical and financial assistance discussed above several innovations have been introduced by the CLEAR team to aid local communities in using the concepts of Integrative Project Planning including Integrated Planning Grants Economic Forecasting, and Model Targeted Brownfields Outreach Teams to initiate projects based on the four fundamental principles of: developing vision, understanding risk, respecting time, and leveraging money.

1. A new grant program, Integrated Planning Grants has been made available to local governments through the remedial action grant program. The grants provide \$200,000 with no match requirement for front-end planning and design and outreach to encourage cleanup actions that are integrated with community vision and comprehensive site planning. The intent is to foster support for sustainable community revitalization and natural resource restoration and future pollution prevention as well as preventing future pollution as an integrated action.
2. Economic Forecasting Model: Using funding from the State and Tribal Response Grant (STRP) the group has begun the development of an economic forecasting

model to measure potential revenue generation and opportunity costs. Public and private investors can use this model to project long-term revenues, thereby, refocusing decision makers on the longer-term advantages for revitalization.

\*The Economic Forecasting Model provides a tool to overcome several barriers that impede efforts to revitalize contaminated properties. In particular, project proponents may be often uncertain or unaware of the potential net return on investment associated with the remediation and redevelopment of property brownfields. The first phase of the project has been completed with the development of the model. Ecology will initiate the second phase under the 2008 STRP grant. This will entail the development of software application and beta testing on several brownfield projects.

3. Targeted Brownfields Outreach Teams: provide planning, legal, financial, marketing, and design expertise to facilitate brownfield clean redevelopment. Many smaller communities lack the staffing and professional experience necessary to plan and execute brownfield redevelopment with sustainable reuse and/or ecological enhancement as end use goals. Using an approach similar to the states of New Jersey and Wisconsin, this program will provide a systematic approach to coordinating Targeted Brownfield Outreach Teams to assist local governments and non-profits with strategic cleanup and redevelopment planning.

It is the intention of all of the initiatives and grant programs discussed in this chapter, and facilitated by the state to significantly speed the cleanup of brownfield properties while providing enhanced environmental benefit through sustainable reuse. Emphasis will be placed on developing additional environment benefits from green building and livable communities to ecological enhancement and restoration.

## Chapter 5

### **Analysis of Legal Mechanisms Performance**

As we have seen, the administrative pathways for brownfield project clean up and redevelopment provide for a great degree of situational flexibility on one hand; yet their complexities can make it astoundingly difficult to discern which pathway and associated financial assistance is most appropriate. Herein lies the problem, under MTCA there are four primary legal mechanisms to conduct cleanup activities. Each mechanism has its own administrative process and varying degrees of liability settlement and grant eligibility requirements. However, a closer scrutiny of the actual performance of legal mechanism when measured in units of time reveals that there is little to no significant difference between them. So, given the administrative process of each mechanism varies and the grant administrative requirements conflict, how does one choose or recommend the option that provides the optimal balance between time (money) saving, funding options and the greatest degree of liability settlement? Further, what policy recommendations can be made to improve the administrative process and encourage the reuse of contaminated properties?

This chapter investigates the above questions by conducting a quantitative analysis of overall time to completion of each type of legal mechanism as a measure of time/cost efficiency, then tests for significance between those mechanisms to identify which, if any, differs significantly from the other – in time/cost terms, as well as the statutory time

requirements. Next, we test to determine if the effect of site hazard ranking, as a measure of complexity, and explain the differences between mechanisms and the statutory time frame. Then conduct a quantitative time cycle analysis of each phase of a cleanup: discovery, investigation; remedial investigation /feasibility study, cleanup action plan and cleanup construction, for each mechanism to identify whether particular trends vary significantly from the MTCA statutory timelines and identify trends in performance and level of effort over MTCA 20 year lifespan.

Third, the mechanisms time cycle outputs were divided into three programmatic groups: real estate market driven formal oversight, real estate market driven Voluntary Cleanup and projects utilizing federal and state brownfield funding. Each group was then compared to evaluate whether one programmatic group presents a significant advantage in time (cost) savings to the other two. The quantitative analysis was be compared to a qualitative summary of administrative advantages and disadvantages to discern which program, if any, presents the best overall benefit.

## **Methods**

The inquiry explores whether the choice of the legal mechanism affects the timely completion of site clean up and whether observed cleanup timelines are in compliance with MTCAQ regulation. Sample population data (n=36) were drawn from the Washington State Department of Ecology's Confirmed and Suspected Contaminated Sites List. Sample data were selected from sites where cleanup action was complete and conducted under a formal legal mechanism and were known commonly known as brownfield sites. Sample selection criteria focused on sites where; 1) clean up activity

was complete, 2) site clean up was conducted under a formal order, and 3) sites were planned for redevelopment. The sample population (n=36) was divided into three subset populations with respect to legal mechanism. In addition, site hazard ranking, as established by the Department of Ecology, was also considered. All data were interval times calculated in months from the start date of initial site hazard assessment to final clean up completion as reported in the Department of Ecology site record. The sample population was represented with equal distributions of mechanism type and hazard ranking. The data was checked and met the assumptions for normality and equal variances. Source: <http://www.ecy.wa.gov/programs/tcp/cscs/CSCSPage.HTM>

### **Analysis of formal legal mechanisms**

**Question 1:** what is the average time it takes to clean up a site under each formal order?

- Enforcement = 74.8 months, Agreed = 108.1 months, Consent = 91.4 months

**Question 2:** Is there a significant difference between the average times it takes to clean up a site under the formal agreements?

An ANOVA Single Factor test was used to determine if there is a significant difference between the mean times of legal mechanisms. The hypothesis for the test is that at least one type of order differs significantly from the other. Conversely the null hypothesis is one of no difference between Enforcement Orders, Agreed Orders and Consent Decrees. The test results in a p-value that is significantly larger than alpha ( $\alpha = 0.05$ ) and the F-Statistic (1.53) is smaller than the F-Critical value (3.28) which would provide enough evidence to reject the null. Therefore it can be inferred that there is no significant difference between the time performances for each of the legal mechanisms.

H <sub>0</sub> : There is no difference between Enforcement orders, Agreed Orders, and Consent orders						
H <sub>1</sub> : At least one order differs						
SUMMARY						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
Column 1	11	823	74.81818	1884.364		
Column 2	14	1513	108.0714	2832.841		
Column 3	11	979	89	1911.2		
ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	6962.185065	2	3481.093	1.536134	0.230207	3.284918
Within Groups	74782.56494	33	2266.138			
Total	81744.75	35				

**Question 3:** is there a significant difference between the average time to completion between the deadlines specified in MCTA Cleanup regulation, WAC 173-340-140, and mean time to completion for each of the types of formal orders listed above?

A T-test & estimate of the mean test was conducted for each legal mechanism in order to determine if there is a significant difference between each of the sample means and the specified mean clean up time specified in stated in WAC 173-340-140. The hypothesis for each test was the mean time to completion for an Enforcement Order, Agreed Order and Consent Decree, respectively is greater than the required time specified in the statute. The null hypothesis for each of the test is that there is no difference between the mean time to completion for each type of order and the required mean time specified in the statute.

The analysis for each of the three tests resulted in p-value that is smaller than alpha (0.05) and the t-statistic is larger than the t-critical value providing evidence to reject the null hypothesis. Therefore, it can be inferred that the mean clean up time of the sample is

greater than the required mean time specified in the statute.

<b>t-Test and Estimate: Mean</b>	<i>Enforcement Order</i>	<i>Agreed Order</i>	<i>Consent Decree</i>
Mean	74.8	108.07	89
Standard Deviation	43.4	53.2	43.71
Hypothesized Mean	40	40	40
Df	10	13	10
t Stat	2.6	4.7	3.7
P(T<=t) one-tail	0.0119	0.0002	0.002
t Critical one-tail	1.81	1.77	1.81
Standard Error	13.08	14.22	13.18
Bound	29.16	30.73	29.36
LCL	45.65	77.34	59.63
UCL	103.98	138.80	118.36

**Question 4:** Is there a significant difference in the average clean up time based on the site's hazard ranking, given a scale 1-5 (1 = most hazardous, 5 = least hazardous)?

An ANOVA Single Factor was used to determine if there is a significant difference in the mean clean up time based on the site's hazard ranking. The hypothesis for the test is that there is a difference in mean clean up time based on ranking. Conversely the null hypothesis is that there is no difference in mean clean up time based on ranking.

FINDINGS: given that the p-value of 0.45 is significantly larger than the alpha ( $\alpha = 0.05$ ) and the F-Statistic of 0.94 is smaller than the F-Critical value (2.67) there is not enough evidence to reject the null and therefore it can be inferred that there is no difference in mean clean up time when controlled for site hazard ranking.

SUMMARY				
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
	1	872	109	4534
	2	952	95.2	774.84444
	3	861	95.66667	2398.75
	4	284	56.8	1226.7
	5	346	86.5	3361.6667

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups		4	2212.838	0.9410723	0.45332098	2.678667
Within Groups		31	2351.4			
Total		35				

**Question 5:** Do the legal mechanism, when controlled for site ranking, explain the difference between mean clean up time and the mean statutory time requirement?

An ANOVA: Two-Factor without replication test was performed to determine whether the hypothesis for the test is that there is a difference in mean clean up time for individual legal mechanism when controlled for hazard ranking. Conversely the null hypothesis is

Anova: Two-Factor Without Replication					
<i>SUMMARY</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>	
92.25	2	191	95.5	7320.5	
87	2	194.5	97.25	882	
54.66666667	2	207.25	103.625	2831.281	
60	2	112	56	544.5	
56	2	160	80	5000	
2	5	476	95.2	2735.669	
3	5	388.75	77.75	1949.75	

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Rows	2924.65	4	731.1625	0.184905	0.934545	6.388233
Columns	761.2562	1	761.2562	0.192516	0.68349	7.708647
Error	15817.03	4	3954.256			
Total	19502.93	9				

that there was no difference in mean clean up time for individual legal mechanism when controlled for hazard ranking.

FINDINGS: given that the p-values of 0.93 and 0,68 are significantly larger than the alpha ( $\alpha = 0.05$ ) and the F-Statistic values of 0.18 and 0.19 are smaller than the F-Critical values (6.38 and 7.7) there is not enough evidence to reject the null. Therefore, it can be inferred that there is no difference in mean clean up time for individual legal mechanism when controlled for hazard ranking. It should be noted that, when controlling for hazard ranking, sample populations of unequal sizes may have undetected variances due to limitations of the test.

**Question 6:** if there is no difference between the mechanisms, even controlling for hazard/complexity, and there is a difference with the statutory deadlines, are there one or more phases of the MCTA process steps that notably deviates from statutory guidelines?

A sample population of brownfield cleanups (n=36) phases conducted under the VCP were included in the analysis to compare the effect of formal legal negotiations against VCP which do not have negotiation aspects. It should be noted that actual cleanup construction times were not included in this analysis. This is due to 1) the highly variable nature variation of actual cleanup construction, and 2) MTCA does not specify a time frame for actual construction. An ANOVA Single Factor test was performed to determine if there is a significant difference between and within the mean phase time that deviates from the statutory timelines? The hypothesis for the test is that there is a difference between at least one phase and the statutory timelines. Conversely the null hypothesis is that there was no difference between at least one phase and the statutory timelines.

Anova: Single Factor

SUMMARY					
Groups	Count	Sum	Average	Variance	
Discovery	4	36	9	0	
RI/FS					
Workplan/Legal					
Negotiations	4	69	17.25	10.91667	
R I/FS /Legal					
Negotiations	4	238	59.5	627.6667	
New Order					
Negotiations	4	261	65.25	621.5833	
Cleanup Action Plan (CAP)	4	296	74	1089.333	

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	14109.5	4	3527.375	7.50665	0.001577	3.055568
Within Groups	7048.5	15	469.9			
Total	21158	19				

FINDINGS: given that the p-value of 0.001 is significantly smaller than the alpha ( $\alpha = 0.05$ ) and the F-Statistic of 7.5 is larger than the F-Critical value (3.05) it can be inferred that there is a difference between at least one phase and the statutory timeframe.

Anova: Two-Factor Without Replication

SUMMARY					
	Count	Sum	Average	Variance	
Discovery	9	4	340	85	1965.333
	9	4	190	47.5	501.6667
	9	4	188	47	376
RI/FS Workplan	15	3	54	18	13
RI/ FS, Negotiations	37	3	201	67	604
New Order	43	3	218	72.66667	602.3333
CAP	51	3	245	81.66667	1281.333

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	3800.667	2	1900.333	9.496391	0.013836	5.143253
Columns	7328.333	3	2442.778	12.20711	0.005771	4.757063
Error	1200.667	6	200.1111			
Total	12329.67	11				

An ANOVA two-factor without replication test was performed to determine whether one phase is significantly different than others within the groups. The hypothesis for the test is that one phase within the groups is significantly different than the others. Conversely the null hypothesis is that there is no difference in phases within the groups.

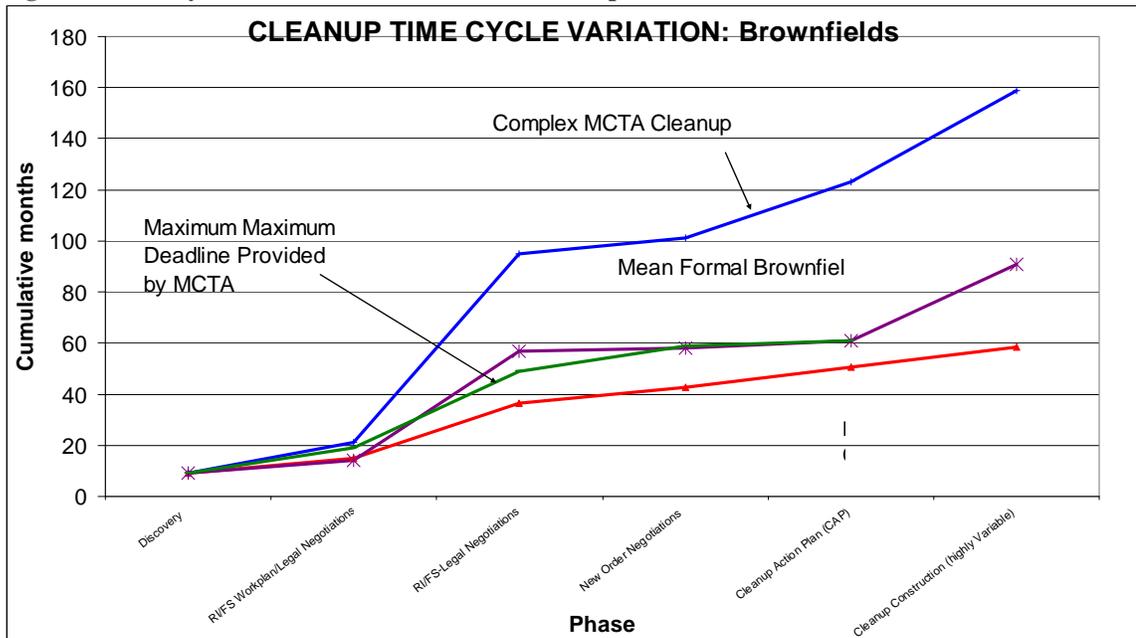
FINDINGS: given that the p-values of 0.013 and 0.005 are significantly smaller than the alpha ( $\alpha = 0.05$ ) and the F-Statistic values of 9.49 and 12.20 are larger than the F-Critical values (5.14 and 4.75) there is sufficient evidence to reject the null. Therefore, it can be inferred that one phase within the groups is significantly different than the others. This is interpreted to be the Remedial Investigation/ Legal Negotiation phase on complex sites, See Table 1 and Figure 6 below. The sites are characterized by having multiple PLP's, recalcitrant or reluctant PLP's, contaminated aquatic sediments and or significant groundwater contamination. Investigations are typically negotiated under Agreed Orders.

**TABLE 1. Brownfield Legal Pathways and Phase Comparison**

	Discovery	RI/FS Workplan/Legal Negotiations	R I/FS /Legal Negotiations	New Order Negotiations	Cleanup Action Plan (CAP)
VCP typical case	9	15	37	43	51
Complex Groundwater and Sediment Sites	9	21	95	101	123
Mean Formal Brownfield	9	14	57	58	61
Maximum MCTA Deadline	9	19	49	59	61

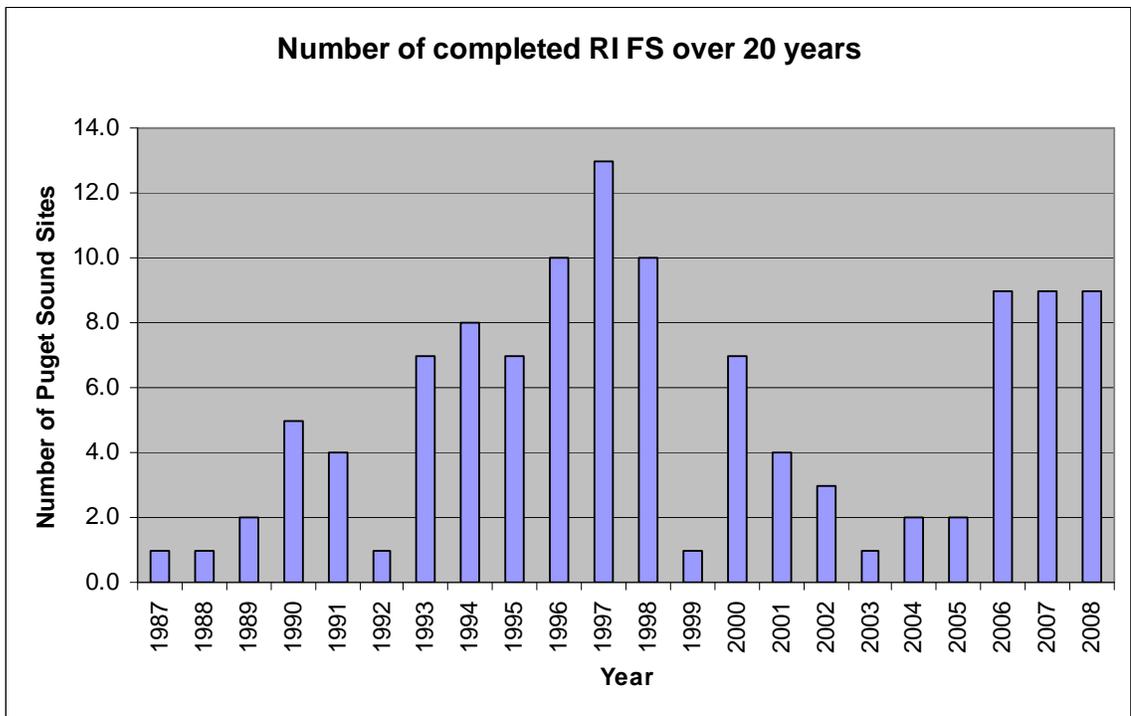
Brownfield sites completed under the VCP were examined for comparable phase time cycle performance to brownfield pre-cleanup activities cleanups conducted under Consent Decrees, Agreed Orders and the statutory deadlines. While the VCP process proved to be shorter overall as well as discrete phases, there is no statistical significance between VCP agreements and formal orders and the statutory deadlines. The mean VCP time to the Cleanup Action Plan (CAP) phase was 51 months compared to 61 months for formal agreements and statutory deadlines (see Table 1).

**Figure 6 Time Cycle Variation of Brownfields Cleanups**

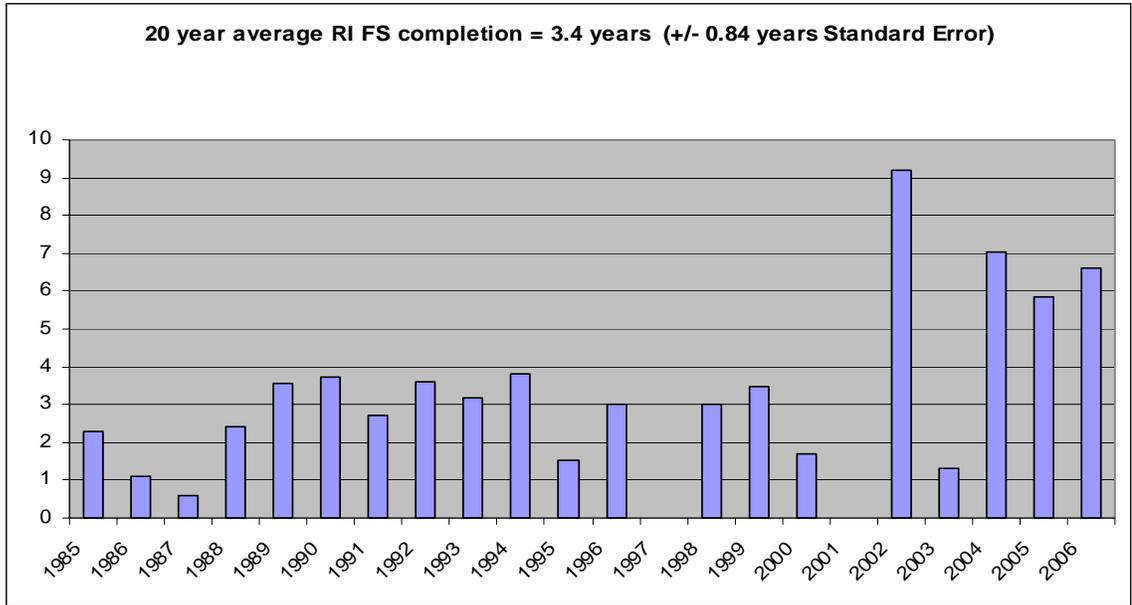


The relationship between staffing levels (full time equivalents or FTE's) and the number of and length to complete a RI/FS was also examined to explain the significant difference between a more complex site and the other sample populations. A sample (n=94) of RI/FS start to finish times were taken From Ecology's Integrated Site Information System data base from a twenty year period. The times ranged from 12 to 128 months with a 20

year mean of 41 months and a 99% probability that all sample sites will take between 12 and 72 months (see Figure 7). The mean time to complete the RI/FS has nearly doubled from 1988 to 2008. From 1988 to 1999 the mean was 31 months, from 2000 to 2008 the mean 57 months. The distribution of the number of RI/FS completion of the twenty year period reflects a bi-modal shape with the first peak in 1997 of 12, a decline from 1999 to 2005 averaging 2 per year the rising to an average of 8 per year from 2006 until 2008 (See Figure 7).



**Figure 7 20-Year Average RI/FS Completion**

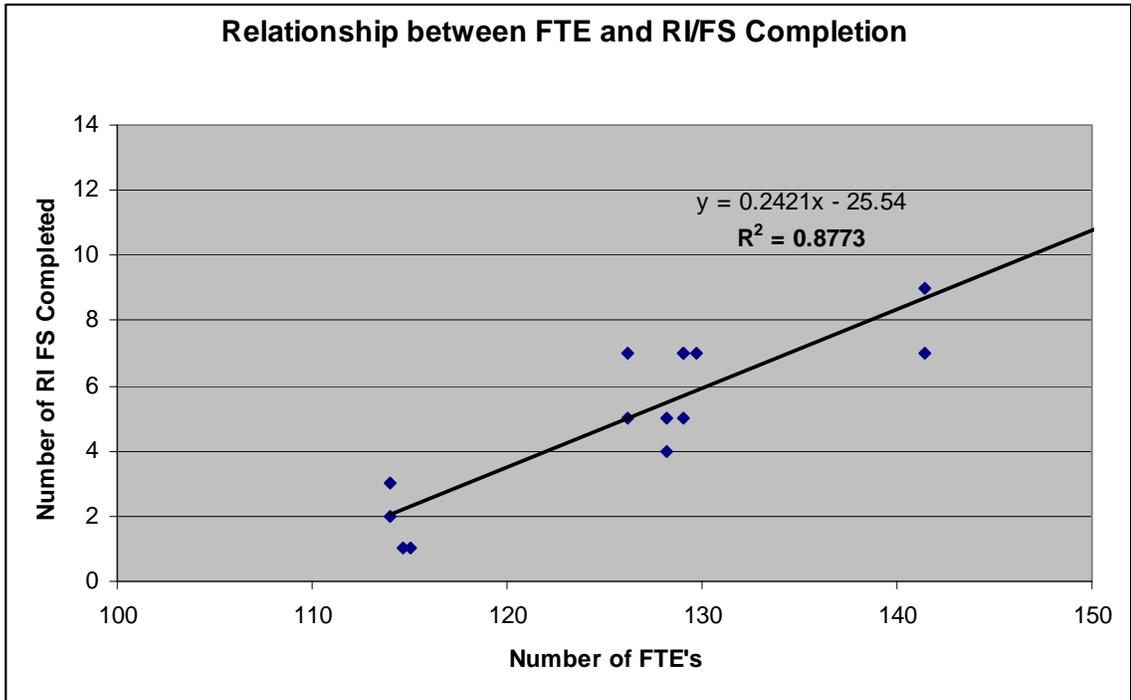


**Figure 8 Completed Puget Sound Remedial Investigations/ Feasibility Studies**

The number of staff assigned to oversee the remedial investigation and negotiate the terms of a formal administrative order may have a profound influence on the number of the investigation and negotiations completed. A regression was performed to examine the relationship between two variables over a twenty year period from 1988 to 2008.

The regression reflects a strong positive correlation ( $R^2 = 0.87$ ) between the number of staff and the number of RI/FS completed (see Figure 9).

**Figure 9 Relationship between FTE and RI/FS Completion**



The above analysis suggests that, in statistical terms, there is little difference in terms of time between the administrative pathways i.e. formal vs. VCP and the main legal mechanisms for brownfield projects. The analysis also suggests that there is a significant difference between the overall cleanup times and the statutory deadlines in MTCA. The complexity of the site in terms of hazard ranking does not explain this difference. The examination of time cycle for discreet phases of the process shows that the remedial investigation, feasibility study and legal negotiations aspect complex cleanups conducted under Agreed Orders is in significant disproportion to all other phases regardless of pathway or legal mechanism. The perception that brownfield cleanup conducted under formal agreements takes significantly longer than VCP cleanup is confounded by the inclusion of sites where the complex nature is more reflective of high risk cleanups. .

## Chapter 6

### **Evaluating Administrative Pathways for Brownfield Redevelopment**

Distinguishing the difference between complex or real estate market driven cleanups and more typical brownfield cleanups allows for a well grounded to evaluate administrative options. That being said, it should be noted that even when controlling for the influence of the RI/FS phases in complex cleanups the same phase for brownfield projects still exceeded the same phase of the real estate market driven VCP by twenty months. This difference may be partially explained by the availability of Ecology staff. As the analysis suggests, staffing levels at the Department of Ecology may have a direct influence on the number of sites that can receive timely consultation, oversight and negotiation of the terms of a formal pathway. However once staff are assigned and when controlling for the remedial investigation, feasibility study and legal negotiations aspect on complex cleanups, it indicates that there is no significant difference in any of the phases between the brownfield VCP and brownfield cleanups conducted under Consent Decrees and Agreed Orders. Therefore ,it can be argued that that overall time investment for formal processes may not be as significant as commonly perceived. The degree of liability settlement, near term and future, combined with procedural certainty may, in many cases, be of greater value than time alone.

The advantages brought about in the development of VCP programs i.e. minimal oversight, minimal legal negotiations, no delays in waiting for formal agreement development and staff assignment were once thought to be the panacea for brownfield

redevelopment; so much so that EPA brownfield grant and loan eligibility essentially requires grantees to enter into VCP programs. As the popularity of conventional real estate transaction cleanups that were conducted under the VCP's grew, lenders became more accepting of a No Further Action Opinion letters as assurance of liability relief.

This approach has worked very well for brownfield projects, notably urban projects where the proponents have staff and resources of sufficient sophistication to undertake the investigation and remediation with minimal oversight. For others, particularly small rural local governments who may not have the level of technical and professional staff available, the review based VCP may require additional investigative and conformational sampling. In order for a VCP to receive an opinion letter stating no further action is necessary (NFA Letter) the investigation and Cleanup Action Plan (CAP) must meet the substantive requirements of MTCA. In other words, the work to characterize the extent and nature of the contamination and develop the cleanup plan is essentially the same under the VCP as in a formal agreement process. However, the VCP process does not include public comment periods. Nor does it include the level of in-process consultation, legal negotiations, and overall Ecology staff time that the formal process requires.

Without early consultation and public comment, the "bring me a rock" syndrome may develop as the proponents are required to conduct additional sampling, more extensive cleanup, or become mired in more public controversy than was originally conceived. The degree and timing of liability settlement is a critical factor in assessing the feasibility of redeveloping a given site. Lenders, although excluded for liability risk (provided they

met the defense stated in RCW 70.105D.020), often require assurance that a settlement of liability is obtained between the owner/operator or prospective purchaser and with Ecology as a condition for financing. The formal agreements administered by Ecology present advantages that the VCP program does not. As part of the agreement, Ecology assigns a dedicated site manager to provide consultation and oversight throughout the process. An Agreed Order or Consent Decree establishes roles of responsibility, performance measures and milestones in advance of any undertaken action. The advantage is certainty in the process that provides stakeholders with measures of accountability and outcome. Another advantage is that formal agreements under MTCA and the State Environmental Policy Act requirements are streamlined together as one. A clear understanding of how the project may impact the local community and providing a mechanism for feedback are key element in developing stakeholder support and maintaining project momentum.

Of concern to public project developers are eligibility concerns associated with grants for land acquisition and redevelopment. Grant administrators tend to look with disfavor on projects that involve contaminated properties. Formal agreements can provide a satisfactory level of assurance that the remediation will be sufficient to resolve liability concerns. Lastly, formal agreements also result in a significantly higher degree of liability settlement. This is particularly true in a Pre-purchaser Consent Decree that protects those wishing to acquire from third party contribution suit and offers finality in liability settlement. The disadvantages in choosing the formal pathway are the added expense and time for attorney involvement, and potential delay associated with waiting

until Ecology staff becomes available. Attorney fees are not eligible expenses for state and federal grant programs. Local governments, particularly rural and distressed cities and counties become hard pressed to muster the resources to negotiate with the state, while the tax payers bear the cost of Attorney General's time to represent the state. Left alone, the issue represents a major impediment to projects entering the formal process.

Currently public brownfield redevelopment projects must compete with other ongoing and planned remediation projects for staff time. Although funding through the EPA State and Tribal Response Grant is available to pay for technical oversight on EPA funded projects, the eligibility criteria for the cleanup requires the cleanup to enter into the VCP, hence the unavailability of potential staff funding for formal cleanup processes. Further, the Washington State Legislature sets the limits on the number of staff Ecology can hire, making it difficult for Ecology to meet the growing demand for consultation and oversight. Since brownfields is codified in Washington State statute there is not the statutory framework to develop administrative justification that would devote additional staff for brownfield projects.

### **Conclusion and Recommendations**

Based on the examination of this paper the recommendations below seek a pathway through the seemingly opposing policy goals set forth in the legislative policy of MTCA RCW 70.105D.010. On one hand the policy sets out the protective goals of the legislation and establishes MTCA's primary purpose to clean up sites where:

- (1) Each person has a fundamental and inalienable right to a healthful environment, and each person has a responsibility to preserve and enhance

that right. The beneficial stewardship of the land, air, and waters of the state is a solemn obligation of the present generation for the benefit of future generations.

- (2) A healthful environment is now threatened by the irresponsible use and disposal of hazardous substances. There are hundreds of hazardous waste sites in this state, and more will be created if current waste practices continue. Hazardous waste sites threaten the state's water resources, including those used for public drinking water. Many of our municipal landfills are current or potential hazardous waste sites and present serious threats to human health and environment. The costs of eliminating these threats in many cases are beyond the financial means of our local governments and ratepayers. The main purpose of Chapter 2, Laws of 1989 is to raise sufficient funds to clean up all hazardous waste sites and to prevent the creation of future hazards due to improper disposal of toxic wastes into the state's land and waters.

On the other hand, MTCA's final policy goal proclaims an underlying redevelopment emphasis, and emphasizes how:

*“It is in the best interest to efficiently use our finite land base, to integrate our land use planning policies, and to clean up and reuse contaminated industrial properties in order to minimize industrial development pressures on undeveloped land and to make clean land available for future social use” [Emphasis added].*

The legislature emphasized the point and provided a de facto definition of brownfields in § (5) (b) where

*” the primary purpose of this subsection is to promote the cleanup and reuse of vacant or abandoned commercial or industrial contaminated property. The attorney general and the department (Ecology) may give priority to settlements that will provide substantial public benefit, including, but not limited to, the reuse of a vacant or abandoned manufacturing facility or the development of a facility by governmental entity to address an important public purpose”. (RCW 70.105D.010 (4) [Emphasis added].*

The legislation made valuable provision to assist in the redevelopment of contaminated property by establishing Pre-purchaser Consent Decrees as codified in WAC 173-340

under the authority of RCW 70.105D.040 (5) (a) which provides for a settlement of liability under § (4) where:

“the attorney general may agree to a settlement with a person not currently liable for remedial action at a facility who proposes to purchase, redevelop or reuse a facility providing that the settlement will yield substantial new resources to facilitate the cleanup; will expedite the cleanup; and will not continue to contribute to the existing release or interfere with remedial actions”.

This redevelopment goal has become overarching in the brownfield context. The goal both provides the legislative basis for the brownfield redevelopment and site cleanup (as well as consistency with the state’s land use policies), and simultaneously establishes the tension inherent in Ecology’s cleanup program between facilitating the redevelopment process and the agency’s emphases on human health and the environment.

Providing a statutory definition for the State could provide both conceptual clarity and a statutory basis for targeting financial and technical assistance to brownfields. The distinctive nature of brownfields was recognized by the federal government with statutory amendment of CERCLA which provided a definition to identify brownfields as a unique type of contaminated site and provided the basis to develop innovative administrative processes to address the problem. While Washington State has developed many brownfield innovations and sophisticated legal mechanisms these tools are not specific to the nature of brownfield and somewhat miss the mark. The lack of a statutory definition for brownfields and specific legislative recognition continues to challenge Ecology’s ability to develop brownfield specific policy, administrative mechanisms, and financial assistance.

By codifying brownfields and providing a definition for brownfields, the legislature can provide the statutory basis to resolve the inherent conflict of MTCA policy goals, thereby giving full weight to the recognition that the reuse of existing developed land is fully as important as remediation alone. Further, the statutory foundation is laid to develop brownfield specific administrative process and legal mechanism that improve on the existing methods. This institutionalization of brownfields can provide the basis to promote and prioritize Brownfield cleanup, dedicate brownfield specific Ecology staff for consultation and oversight, and establish a formal link for the Remedial Action Grant program under the Local Toxics Control Account for financial resources.

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