

From Landfill to Landmark

Save The Bay Center

**Policy Lessons from the Coastal Brownfield Development
of Fields Point, Providence, Rhode Island**

Unabridged Report



SAVE THE BAY.

NARRAGANSETT BAY

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Save The Bay Center

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SECTION I

Save The Bay, Smart Growth and Development Patterns in Rhode Island

In 2005, Save The Bay completed the redevelopment of a coastal brownfield at the former site of the Fields Point Municipal Dump in Providence, Rhode Island. The project helped to raise the profile of urban waterfront redevelopment in Rhode Island and the redevelopment possibilities of coastal brownfields in particular. This paper draws on that experience. As an established environmental advocacy organization and a recent developer of a coastal brownfield, Save The Bay is uniquely positioned to assess the coastal brownfield regulatory structure from the perspectives of both an environmental advocate and a developer.

This paper explores how the regulatory and policy context shapes broad patterns of coastal development and the process of brownfield redevelopment in Rhode Island. It provides policymakers, regulators, municipal authorities and developers with a series of lessons on the relationship between this regulatory context and their efforts to foster targeted, sustainable, and ecologically sound coastal development on the basis of Smart Growth principles. We began with a thorough review of Save The Bay's seven-year Fields Point development project, documenting how permitting, financing and cleanup requirements affected Save The Bay's decision-making and project outcomes. A summary of the Save The Bay project case study is attached in the appendix. Then we took a look at the broad federal and state policy context shaping Rhode Island coastal development patterns, and the regulation of coastal brownfield redevelopment.

We reviewed the overarching regulatory framework of the Coastal Zone Management Act and the Clean Water Act, the activities of the two Rhode Island agencies charged with implementing those statutes; the structure of the state's brownfield program; and the related activities of municipal authorities and planners. We also drew on observations and information from agency and municipal staff, consultants, developers and others involved with the Save The Bay project or in brownfield development in general.

Smart Growth principles have provided an important analytical framework for the paper. The paper begins with a look at the importance of these principles in the context of Rhode Island's historical development patterns and current growth trends. It also explores why urban coastal brownfield development can be an important element of a Smart Growth strategy.

Save The Bay selected and developed the Fields Point site in keeping with its organizational mission and broad environmental objectives. A degraded, cut off stretch of urban water-

front was not the obvious first choice for a new Save The Bay Center; but the choice has proven to be an inspired one. The Center provides dramatic and extensive new public access, on-the-water educational opportunities for the RI schoolchildren most detached from Narragansett Bay; a community meeting space; and a powerful demonstration for public officials and private organizations of the redevelopment potential along the urban waterfront.

Save The Bay is a leader but not alone in focusing on the urban waterfront in RI. A number of trends have come together, converging to draw attention to the opportunities and the challenges of urban coastal development. The Providence River relocation project and the associated “Renaissance” have revitalized downtown Providence. The I-195 relocation project currently underway is dramatically altering the layout and enhancing the possibilities of the downtown area. Large investments in recent decades have significantly improved water quality and have made urban waterfront development more appealing and profitable. Proximity to the water is now desirable and Providence, like many other coastal cities, is trying to reclaim its waterfront. Long-term declines in heavy industrial and port activity are spurring efforts to attract new types of economic activity into these areas.

Historical patterns of coastal development are well established in Rhode Island. Narragansett Bay, the estuary that bisects the state, continues as the focal point for development. Protected harbors, rich fisheries, and early industrial development in the Blackstone River Valley served to concentrate population and development on the shores of the northern reaches of Narragansett Bay. The watershed and Bay provided critical hydropower, transportation and waste disposal necessary for supporting the industrial development of the 19th and 20th centuries. Part of the legacy of RI’s industrial history is an inventory of 680 documented environmentally contaminated sites and brownfields used in a variety of high-intensity enterprises over the years. Many of these areas are found along the urban waterfronts now regarded as prime locations for commercial, residential and mixed uses.

Although the historic pull of the coast and waterfront explains the paradox that Rhode Island is both highly urbanized and highly forested, the state has still seen substantial development outward from the urban core. Recent work on the State’s Land Use Plan, along with Grow Smart Rhode Island’s recent conference, highlights the fact that Rhode Island is at a crossroads in its development. Significant population growth in recent years has increased the strains on our state’s natural resources including our waterways, farmland, open spaces and developable land. Between 1961 and 1995 Rhode Island’s consumption of land increased at nine times the rate of its population growth, putting pressure on various infrastructures such as our school systems, roadways and public services.

Unguided growth encourages sprawl, and sprawl taxes our infrastructure by spreading population centers and businesses across a broader area.¹ Offering an alternative, Smart Growth strategies provide guidance for development that supports the economy, community, environment and public health. Smart Growth strategies can help communities to ensure that growth and development generate broad community benefits. Smart Growth approaches are typically structured around ten principles that provide communities with a framework for ensuring that new development is supportive of multiple community goals.²

The Smart Growth principles are consistent with Save The Bay’s mission to “protect, explore and restore” Narragansett Bay. Concentrating growth and increasing density in existing communities within the watershed is good for the environment and the Bay’s water quality. The preservation of critical environmental areas along the coast is central to Save The Bay’s marsh and eelgrass restoration goals. Careful attention to developing housing and transportation choices and the development of walkable communities improves community access to natural resources including the Bay.

There are unique challenges associated with coastal development in the urban context that relate to improving water quality, restoring habitat and providing public access. To

The Ten Smart Growth Principles

- 1 Promote mixed land uses**
- 2 Take advantage of compact building design**
- 3 Create a range of housing opportunities and choices**
- 4 Create walkable neighborhoods**
- 5 Foster distinctive, attractive communities with a strong sense of place**
- 6 Preserve open space, farmland, natural beauty, and critical environmental areas**
- 7 Strengthen and direct development towards existing communities**
- 8 Provide a variety of transportation choices**
- 9 Make development decisions predictable, fair and cost effective**
- 10 Encourage community and stakeholder collaboration in development decisions.**³

address the different challenges faced by coastal communities in planning smart development, recent work by The Coastal Resources Center (Pam Rubinoff) and EPA (Lynn Richards) on Aquidneck Island have resulted in the adaptation of some of the existing Smart Growth principles for coastal communities.⁴

Lessons for policy makers that emerged from Save The Bay's experience are highlighted throughout this report and also summarized in Section V.

Lesson 1) Smart Growth principles can provide guidance and structure to coastal communities seeking to shape development and related policies.

A comprehensive approach to guiding coastal development, coupled with strong financial and regulatory incentives helps to focus development and protect areas better suited to less intensive or ecologically important uses. Smart Growth strategies help communities ensure that growth and development support multiple community goals.

Within this context, cleaning up and redeveloping coastal brownfields, underused and abandoned sites, and other infill properties is of paramount importance. Many communities across the country are realizing that the challenges presented by these sites are actually opportunities to ensure that new development yields beneficial economic, environmental, and community based outcomes. A portion of the growth often sought by these communities can be accommodated on previously developed properties where public and private investments in infrastructure have already been made. When brownfields and other previously used sites are redeveloped, multiple benefits accrue.

Lesson 2) The redevelopment of a brownfield site offers significant environmental benefits.

Reusing a brownfield provides an alternative to developing open space or farmland. The clean-up relieves the community of a potential environmental or public health threat. If the brownfield is then developed in a way that supports economic, community, environmental

and public health goals, the benefits are compounded. Compact, mixed-use, and walkable redevelopment of a brownfield site can provide fiscal, environmental, community and public health benefits.

Reusing brownfields strengthens and directs development towards existing communities. Encouraging development on brownfields rather than greenfields preserves open space, farmland, natural beauty and critical environmental areas. Improving the brownfield permitting process and understanding the financial needs of developers helps to make development decisions predictable, fair and cost effective. Remediating and developing coastal brownfields enhances the allure of waterfront that, almost by definition, offers the potential to foster distinctive, attractive communities with a strong sense of place.

SECTION II

A Federal and State Regulatory Framework for Planning

In the early 1970's, spurred by increased public awareness of the impact that human development was having on the country's waterways and coastlines, the Federal Government passed two pieces of landmark legislation: the Clean Water Act and the Coastal Zone Management Act. Addressing many of the development challenges specific to coastal areas, these acts provide the foundation for the regulatory framework shaping coastal development in Rhode Island today. The Clean Water Act is implemented by the Rhode Island Department of Environmental Management (DEM), while the Coastal Resources Management Council (CRMC) is responsible for carrying out the Coastal Zone Management Act.

The Coastal Zone Management Act, enacted by Congress in 1972, established a voluntary program giving coastal states funds to develop and implement plans to manage their coastal resources.⁵ To encourage participation, the Act makes federal financial assistance available to any coastal state or territory, including those on the Great Lakes, willing to develop and implement a comprehensive coastal management program. RI was one of the first states to adopt a statewide coastal management structure and over the years it has developed significant policy-making and permitting power.

Funding and management opportunities are not the only incentives the CZMA provides for states to voluntarily implement their own coastal management program. The federal consistency provision of the Act is a powerful tool allowing states to review federal projects, federally financed projects, and projects receiving federal licenses and permits, to ensure that they abide by state laws, regulations, and policies, creating a balance between state programs and federal activities.

Federal agency activities, federal licensing or permitting activities, and federal assistance activities that are reasonably likely to affect any land or water use or natural resource of the coastal zone must be fully consistent with the enforceable policies of a state's federally approved coastal management program. These include activities such as U.S. Army Corps permits, Nuclear Regulatory Commission permits or Interstate Commerce Commission water carrier licenses. Rhode Island's approved coastal zone for federal consistency purposes includes the area encompassed by the state's seaward boundary (three miles) and 200 feet inland from the coastal feature or the area necessary to carry out an effective coastal program. Federal consistency is a method of ensuring greater protection of coastal uses and resources, as well as facilitating cooperation and coordination between the State and federal agencies.

Key elements of Rhode Island's coastal regulatory framework include:

1. The CRMC's Water Type designations restricting coastal and near-upland uses together with the DEM's Water Quality designations as required under the Clean Water Act
2. CRMC's authority over a two hundred foot wide strip of the coast, or the area necessary to carry out effective resources management programs, exercised under policies and plans codified in the Coastal Resources Management Program
3. CRMC's Special Area Management Plans (SAMPs), which are developed in conjunction with municipalities to address a wide range of issues, such as water quality, land use, habitat protection, public access, storm hazards, and competing uses on a watershed scale. A central purpose of these plans is to coordinate the independent regulatory systems of the municipalities and state agencies.

Water-Type and Water Quality Designations

As part of its coastal management program, CRMC has developed its own water-typing scheme. This water type zoning system is unique to Rhode Island's coastal management program and not duplicated in other states. The division of the state's tidal waters into six types ranging from conservation areas to industrial ports is credited with shaping the nature and location of coastal development in Rhode Island.

According to participants in the creation of the CRMC in the 1970's and the water typing in the 1980's, the water zoning approach addressed a number of interlocking problems. Initially, CRMC had little jurisdiction over towns and municipalities regarding coastal land use. As a result, the coastal permitting process failed to provide the predictability and guidance that conventional upland zoning ordinances provided to non-coastal development projects. At the time, CRMC did case-by-case impact assessments only. This case-by-case approach created a risk of cumulative impacts that would undermine the long-term preservation of the quality and beauty of the coastline.

The initial water type designations were created in consultation with municipalities and Rhode Island DEM. It was built on a one-and-a-half-year public review process, which included consulting with town mayors and leaders whose upland jurisdictions would be impacted by proposed changes. In the end, the "zoning" or water types were assigned to areas largely on the basis of existing or planned usage. Most towns wanted either to freeze out future development or implement an existing plan. Over time the water typing had the effect of concentrating industrial uses in designated areas such as the Port of Providence or the Quonset Point area. In fact, over eighty percent of the water area adjacent to the shore is designated for conservation or low intensity use (Type 1 and Type 2), whereas only fifteen percent of the state's coastal area is designated for high intensity recreation and marinas, commercial and recreational waterfront and industrial waterfront uses (Types 3, 4, 5 and 6). These water type designations have been relatively stable since they were first established.

Under the Clean Water Act, DEM is charged with establishing a related but different set of water quality standards. In general, CRMC water types and DEM water types are consistent with and complement one another, although Clean Water Act water types (i.e. SA, SB, etc.) and CRMC water-types (type 1, type 2, etc.) differ slightly in their perspective and focus. CRMC water-types focus on development uses such as marinas, commercial structures, conservation areas, etc. Clean Water Act water uses set goals for water quality standards, such as making the waters fishable or swimmable. For example the Providence River's DEM designation is SB-1, which is compatible with the CRMC Type 6 Industrial usages. However,

in some areas inconsistencies create complicated situations that can negatively impact environmental protection and development of coastal lands. The CRMC classifications were based on land, while DEM's water quality standards are based on uses, with a goal of upgrading. Additional background on the history of the Clean Water Act and the DEM water quality standards can be found in the appendices. However, it is worth taking a more detailed look at the interaction between the two water quality standards, because of the impact their interaction can have on development options.

A Comparison of CRMC and DEM Water-Typing

CRMC water usage type	Typical DEM Water Quality Types	Potential Inconsistencies
1 Conservation	SA Fishable, Swimmable, Shellfish for human consumption	no
2 Low Intensity Uses	SA Fishable, Swimmable, Shellfish for human consumption	no
3 High-Intensity Boating	SA Fishable, Swimmable, Shellfish for human consumption	no
4 Multipurpose/Open water	SA Fishable, Swimmable, Shellfish for human consumption	yes
5 Commercial and Recreational Harbors	SB Fishable, Swimmable, Shellfish not for human consumption	yes
6 Industrial Waterfronts	SB, SB-I Same as SB, but approved waste water discharge OK	yes

Class SA - These waters are designated for shellfish harvesting for direct human consumption, primary and secondary contact recreational activities, and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation, and industrial cooling. These waters shall have good aesthetic value.

Class SB - These waters are designated for primary and secondary contact recreational activities; shellfish harvesting for controlled relay and depuration; and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation, and industrial cooling. These waters shall have good aesthetic value.

Class SBI - These waters are designated for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation, and industrial cooling. These waters shall have good aesthetic value. Primary contact recreational activities may be impacted due to pathogens from approved wastewater discharges. However all Class SB criteria must be met.⁶

In some cases, differences create conflicts for development. For example, a current proposal at Quonset Point, a former Naval Base, is located in an area designated by the CRMC as Type 6 (Industrial Water Fronts and Commercial Shipping Channels). Already an established industrial area, Quonset Point's surrounding waters are classified as SB, except for a small cove classified as SA. The conflict centers on a proposal to create a major marine repair facility. Such a project is consistent with the CRMC water typing and the intended usages associated with the larger Quonset Point industrial area. But in order to be consistent with the water-dependent industrial use designated by the CRMC for the same water area, the DEM water quality designation would need to be changed. Once set, anti-degradation provisions of the Clean Water Act makes it very difficult to reduce the water quality stan-

dard for a particular body of water. Close and continued coordination between agencies is necessary to maintain consistency between the Clean Water Act and the Coastal Zones Management Act.

Lesson 3) The water-typing scheme created under the Rhode Island Coastal Management Program is a powerful tool for shaping development patterns along the coast.

This is a challenging and dynamic area for policy development because changes in the intensity and nature of permitted activities can have far-reaching and controversial impacts. Such a scheme must also be developed so that there is consistency between the water typing under the coastal management program and the water quality standards required by the Clean Water Act. Inconsistencies can hinder projects that support broad community, economic, environmental and public health outcomes.

Coastal Zone Management Programs and Special Area Management Plans (SAMPs)

Within the framework of the CZMA and through the CRMC, Rhode Island has created a planning structure through which the state can have a significant impact on development patterns, particularly along the coast. Over the water, CRMC has exclusive jurisdiction from the mean high water line out to the three-mile territorial limit.⁷ However, the Council's authority over upland areas is "limited to two hundred feet from the coastal physiographic feature or to that necessary to carry out effective resources management programs."⁸ Municipalities have claimed concurrent jurisdiction with the CRMC pursuant to their zoning power in areas above the mean high water line.⁹

In the case of Special Areas Management Plans (SAMPs), the geographic scope of the CRMC's jurisdiction exceeds that of a single municipality. However, the menu of planning and zoning tools available to CRMC is still limited compared to that of its municipal partners, who continue to drive the overall pattern of development through regulations such as land use zoning and density requirements. Nevertheless, CRMC's broader jurisdiction over non-traditional areas such as public access and shoreline erosion, coupled with its ability to provide integration along the coastal areas, reinforces a regional approach to development.

SAMPs are being developed with increasing frequency because they make comprehensive, cross-jurisdictional planning possible. However, this characteristic also makes these plans extraordinarily challenging to develop and coordinate. Preliminary assessment and data collection are daunting. The challenges of reconciling competing goals for resource protection and economic development among municipalities and agencies with significant overlapping authority cannot be overestimated. While CRMC's permitting authority and federal consistency requirements can provide leverage, the cooperation and expertise of the large municipalities, in particular, are crucial to a Special Areas Management Plan's success.

Since the development of the first SAMP, known as the Providence Harbor plan, CRMC has produced a number of similar plans in Rhode Island, particularly in South County and along the West Passage of Narragansett Bay. Collectively, these plans represent approximately one-third of the state's shoreline area.

Over time, some Special Area Management Plans have been revised in order to enhance resource management. The revisions are determined after reassessing issues addressed in the original plans and considering new knowledge and development trends. Most have also been modified to reflect surface watershed boundaries. Other policies, standards and recommendations that have been updated and revised include: density control measures; other regulatory requirements to better manage non-point source pollution, cumulative and secondary impacts (resulting in habitat loss, erosion and sediment control problems); storm

water impacts and groundwater contamination from sewage disposal systems; and public access, wetlands protection, dredging, recreational boating, breach way modifications and storm hazards. The central purpose of SAMPs is to coordinate a management strategy to which all previously independent regulatory programs would contribute.

CRMC is in the process of developing a Metro Bay SAMP in order to implement both brownfield redevelopment and smart growth strategies within a region previously dominated by industrial uses. The new Metro Bay SAMP will not only update the original Providence Harbor SAMP, but will allow for a shift to revitalization with water type designation changes and policies to promote balanced coastal management.

The boundaries of the Metro Bay SAMP include over 27 miles of shoreline and over 3700 acres of land in four municipalities.¹⁰ This includes the site of Save The Bay's new Center. The revision of the original Providence River SAMP, titled The Providence Harbor Plan, is the vehicle through which the CRMC is striving to both cope with and guide the increased development pressures felt in the Providence River and Upper Narragansett Bay. The policies regarding new upland uses, the balancing of competing water uses, incentives for public access and brownfield development which are to be developed in the Metro SAMP are intended to provide statewide models with broad ramifications for the achievement of sustainable, balanced, smart growth. The development of the SAMP has involved intensive negotiations between CRMC and the four municipalities within the SAMP boundary (Providence, East Providence, Pawtucket, and Cranston). It has also stimulated much greater interaction among the planning officials of the four cities which share common waterfronts.

Elements of the new Metro Bay SAMP will set broad parameters as well as define specific requirements to be met by developers of individual sites. The policies will directly affect the incentives for and the process by which individual developers develop individual sites. An example is the new coastal buffer policy recently developed as part of the Metro SAMP, titled The Urban Coastal Greenway Policy. The new policy will provide developers with clear design standards that can be integrated into projects helping them to avoid the time-consuming and unpredictable process of seeking a variance from the current buffer policy.

Lesson 4) States can use coastal management structures established under the Coastal Zone Management Act to create a broader regional view of planning, zoning and growth management.

Important determinants of regional development patterns, such as density and land use, are driven by municipal zoning regulations. As a result, there needs to be an effort to coordinate zoning regulations among neighboring coastal communities. The Coastal Zone Management Act provides a framework within which states and municipalities can plan together by creating and implementing Special Area Management Plans (SAMPs). A coastal zone management program can promote integrated planning among coastal municipalities and increase the capacity to serve multiple community goals, such as regional economic growth, coordinated environmental protection and improved quality of life. State, municipal and federal officials can use these tools to align their multiple fiscal and environmental goals.

SECTION III

Site -Specific Permitting, Liability and Capital Issues Impacting Coastal Brownfield Development

Overview

The first half of this paper covered the overarching regulatory structure shaping coastal and brownfield redevelopment patterns in Rhode Island, including the Federal regulations that have helped shape the relevant State regulations and agency structures, and the State and municipal initiatives that shape zoning or development regulations.

This section focuses on:

The permitting and regulatory structure that shapes the site-specific coastal brownfield projects in Rhode Island, and

Lessons from the Save The Bay and Rhode Island experience for policy makers interested in increasing the attractiveness of brownfields by improving the regulatory process and increasing support for brownfield developers.

The major regulatory framework for brownfield remediation in Rhode Island is the State's Brownfield program within DEM. The Brownfield Program governs the investigation, remediation planning and remediation of a brownfield site. This remediation planning has to be closely tied to site-specific aspects of the Clean Water Act and CZMA as well. (The regulatory requirements associated with the Brownfield Program are the focus of the discussion in the section below entitled Brownfield Site Development Process.)

With access to the relevant documentation of the Field's Point development and to project decision makers, we were able to obtain candid views, from a developer's perspective on the Rhode Island permitting process, the engineering challenges and the financial risks and constraints of brownfield development. This analysis focuses primarily on how risk, uncertainty and financial incentives shape the general decision-making of potential developers, rather than the technical and engineering considerations. To gain a broader understanding of the brownfield development process in Rhode Island, we had informal and confidential conversations with environmental consultants, staff members at the various regulatory agencies and state development agencies.

However, before delving into the site specific aspects of brownfields and the remediation process itself, this section begins with a look at two broad aspects of brownfield redevelopment: the types of sites available for development (including brownfield, infill and greenfield sites) and the level of a developer's experience.

Types of Sites

Developers have many choices when selecting a potential development site. Within the context of brownfield development and smart growth, sites fall into three general categories:

Brownfields: former industrial sites with actual or potential environmental contamination. Like Save The Bay's Fields Point site, brownfields are often located in areas close to the centers of commerce or natural features such as navigable waterways. Proximity to infrastructure and benefits such as location and waterfront can often outweigh expensive and unknown cleanup costs and the risk of long-term liability for pollution.

Infill Properties: previously developed land, often within existing neighborhoods. They can also be brownfields, but often are not.

Developing infill sites is a way for developers to revitalize neighborhoods and address unmet market needs, while avoiding the development of greenfields. Similar to brownfield sites, they are often close to existing infrastructure and concentrations of labor and consumers.

Greenfields: sites that provide important benefits to a region's water quality, habitat and recreational open space. Greenfields offer developers relatively straightforward permitting and zoning obstacles without the technical challenges and liability associated with brownfields. However, as previously undeveloped land, they are often open spaces, forested or agricultural, and generally further away from existing development and established infrastructure such as roads and utilities.

Brownfields are a common feature in old industrial ports and mill towns in Rhode Island. Developers considering sites that are both brownfields and located on a coast or on the edge of a water body face a unique set of challenges, along with significant financial and environmental opportunities. For example, remediation designs must take into account the impact of waves and flooding on the integrity of an engineered brownfield cap. Storm water must be prevented from carrying contamination from the site to the neighboring coastal waters, yet standing water cannot be allowed to infiltrate a site and leach contaminants into the ground water. Compounding the engineering challenges are the overlapping jurisdictions and occasionally contradicting goals within and between the relevant permitting agencies.

Nevertheless, coastal properties carry great potential for restoration of degraded habitats as well as for increased public shore access.

Types of Developers

Two key factors in our analysis of incentives and decision-making behavior were the developers' size and brownfield experience. Experienced versus inexperienced brownfield developers are often motivated by different goals, pursue different types of sites and make decisions differently. Small and inexperienced developers approach the challenges of brownfield redevelopment very differently from large and sophisticated developers, although both are important parts of the community and waterfront redevelopment effort.

Sophisticated developers

Large experienced brownfield developers bring access to financing and technical ability and have the capacity to spread risks. For communities, the appeal of large-scale projects and developers is strong. Economies of scale include a well-coordinated site development plan, reduced municipal resources necessary to facilitate a project and the ability to negotiate incentives on a case-by-case basis. In theory, for small communities (or small states with relatively few sites or little experience), experienced developers may even be able to compensate to a degree for less developed state brownfield programs. Unfortunately, smaller projects or projects which require the assembly of multiple sites are, in some ways, more complicated, and they often yield lower returns.

One of the differences in the way that the two groups approach a brownfield topic was captured in the observation made by a local environmental consultant who observed that sophisticated, experienced brownfield developers look to eliminate unexpected costs over the life of the project, right from the beginning. These developers hire consultants to do both Phase 1 and Phase 2 site assessments in their entirety plus any additional studies deemed useful by the consultants, followed quickly by an engineering cost estimate. The

information gets plugged into pro formas and is used to forecast budgets, raise financing and move the project forward as quickly as possible. The focus is to reduce uncertainty as much as possible, as quickly as possible. Interestingly, the consultant and staff at DEM described the same Rhode Island developer as the most sophisticated and knowledgeable of the permitting and development processes.

Less-experienced developers

In contrast, less-experienced brownfield developers tend to be very distrustful of the process, rotate through consultants regularly, and may pay late. They aggressively focus on minimizing site assessment costs at the front-end of the project and then often face delays during the permitting process and an increased number of unexpected cleanup costs or regulatory requirements.¹¹

As an example, the challenge for Save The Bay was to sort through the data and estimates provided by various consultants and determine which estimates to use in forecasting budgets. Without prior experience, Save The Bay tended to rely on information that satisfied its hope for lower costs.

Smaller brownfield sites are often developed or considered for development by smaller, less sophisticated developers, with little or no prior brownfield experience. Such developers include municipalities building schools and other public buildings, non-profits such as YMCAs with social missions that can benefit from infill sites close to the urban core and organizations like Save The Bay that identify a unique site closely meeting the needs of its mission. Because of their size and low levels of experience, unsophisticated developers face different challenges and make development decisions in different ways than more sophisticated developers.

As an economic development strategy, Rhode Island needs to attract large more sophisticated brownfield developers. However, given the number of smaller sites around the state, identifying ways to attract smaller and/or less sophisticated developers to smaller sites could help accelerate the remediation of RI's 680 known contaminated sights by increasing the pool of potential brownfield developers.

Lesson 5) Consider developer experience and the differing needs between sophisticated and unsophisticated brownfield developers when creating policies.

The creation of successful regulatory initiatives requires feedback from all stakeholder groups. Unsophisticated brownfield developers, like Save The Bay, perceive and react to risk and uncertainty differently from more sophisticated developers who have completed multiple brownfield projects. It is, therefore, important to include developers with little and no brownfield experience in the stakeholder policy discussions. Even those developers with no brownfield experience actually make significant brownfield development decisions if they decide simply not to proceed or pursue a brownfield project, discouraged by high-perceived risk and uncertainty. The equalizing factor for unsophisticated developers is information and transparency. The result is an increase in the pool of potential brownfield developers.

The Role of Community Organizations in the Development Process

An important subset among unsophisticated developers is social and community organizations driven by missions to improve the fabric of our communities through social services or education opportunities. While such organizations possess political capital, fundraising capability and specialized expertise in areas such as historical preservation or coastal permitting, they generally lack specific technical, legal and financial expertise in developing real estate. Because of this lack of experience, both real and perceived obstacles create a significant barrier to nonprofit development projects which are designed to improve the fabric of

the community, not necessarily to make a profit.

Such organizations may often take significant financial and organizational risks to remediate a brownfield that a commercial developer will not consider. For example, Save The Bay and Johnson and Wales pushed ahead with property acquisition and construction before resolving uncertainty on the remediation and capital requirements tied to several key permitting issues.

Lesson 6) Consider the needs of small mission-driven project developers, particularly in urban infill areas.

The impacts of policies and regulations (and the incentives and disincentives that they create) are normally measured in economic terms: impact on property values, taxes, jobs, square footage, return on investment, etc. These are critical measures, but may not always capture the value to the community of successful projects undertaken by public and social organizations. The level of commitment that these groups bring and the level of organizational risk that these groups take on should not be underestimated.

Small mission driven projects often don't have the funding to overcome the challenges associated with brownfield redevelopment. They may also be less likely to seek or able to collect site specific information at critical early points in the process. However, these organizations are often an integral part of a good community revitalization effort and the type of developer that municipalities can least risk losing.

Brownfield Site Development Process

The development process for any site includes: Due diligence — everything that happens before the developer acquires ownership or the development rights to a site; Site Acquisition — legally acquiring the property and/or the development rights; and Site Preparation and Remediation — permitting, cleaning up and developing the property.

The development of any greenfield, infill or brownfield site requires careful assessment of the site, a range of liability issues, and financing requirements throughout the process. Brownfield sites create significant additional requirements at each stage. The following chart summarizes some of the key additional requirements.

- 1) Environmental Site Assessment and Regulatory permitting: evaluation of the environmental contamination and securing the necessary state permits.
- 2) Liability protection: legal protection from future action related to existing environmental contamination.
- 3) Financial incentives: capital related influences that affect a developer's decision-making process.

Site Assessment and Permitting

Despite the significant differences between greenfields and brownfields, the permitting process remains very similar, albeit potentially much shorter for greenfields. Wetland, stormwater, groundwater, water quality, building permits, zoning and coastal issues are applicable to both greenfields and brownfields and require permits from the relevant regulatory agencies. The two permitting processes unique to brownfields center on the negotiation of the Brownfield Settlement Agreement to protect the developer from long-term pollution liability and the approval of the Remedial Action Work Plan, which formalizes the technical and engineering strategies and tactics for cleaning up the site.

Major Documents/Approvals Necessary for Each Phase of Project

Environmental Site Assessment and Permitting

Liability Protection

Financial Incentives

Due Diligence

Notification of Release

Site Investigation Work Plan

Site Investigation

Phase I

Phase II

Site Investigation Report

Pre-Application Meeting

Remedial Decision Letter

Draft Remedial Action Work Plan

Targeted Brownfield

Site Assessment Grants

Site Acquisition

Bona Fide Prospective Purchaser Letter

Covenant Not to Sue or Settlement Agreement

Site Acquisition

Environmental Insurance

Site Preparation / Remediation

Approved Remedial Action Work Plan

Other permits:

RIPDES

Water Quality Certification

CRMC Permits

Army Corps of Engineers

Closure Report

Environmental Land Use Restriction

Economic Development Corporation Revolving Loans

Historic Tax Credit

Brownfield Tax Credit (expired)

Mill Building Tax Credit

Revolving Loan Fund

Regulators and the Regulated: Differing Perceptions

There has been significant discussion, particularly from the regulatory side (DEM and CRMC) about the importance of encouraging potential developers to set up pre-application meetings, so that the permitting process can be well defined and, thus, made more predictable. Staff at DEM expressed frustration and amazement that, even now, few developers or their consultants take advantage of a pre-application meeting. Discussions with consultants and a review of other state programs suggest that Rhode Island DEM and developers have different perspectives on defining uncertainty and risk and that the lack of developers' interest in the pre-application meeting is one example of how these differences are impacting the brownfield process.

From a review of the Save The Bay case study, and from discussions with developers and consultants and DEM staff, the following observations can be made. Outside of general frustrations on all sides with delays, the most common aspirations expressed were to "decrease uncertainty", "reduce risk," "make the process more predictable." The universally used word to describe the solution is "streamlining." While the vocabulary used by the various stakeholder groups seems to be consistent, it seems that a gap exists in the definition of risk and uncertainty and how various streamlining efforts might decrease risk and uncertainty for both the regulatory agencies and development interests.

Based on conversations with staff at DEM and environmental consultants, the following table compares differing evaluations of the pre-application meeting.

Perceptions of the Pre-Application Meeting	
DEM Perspective	Developer Perspective
Increases predictability of permitting process and possible regulatory or remediation requirements.	Increases scope of investigation even before a developer decides to acquire the property.
Gets projects in the DEM pipeline.	Informs DEM that they will be doing investigations, which requires a Notice of Release. DEM says that by statute a Notice of Release (NOR) should be filed within 14 days of discovery. Few developers actually follow the statute. DEM doesn't get the NOR until an application is filed, sometimes years later.
Collects and aggregates new information.	
Reduces delays and last minute requests for expediting applications through misunderstanding of process and requirements.	Puts the cart before the horse: Most initial investigations conducted by consultants are decision making tools used to decide on whether or not to purchase or further investigate a property. Only after they decide to pursue a property do they spend the money to pursue a Brownfield Agreement and then close on a property.

Lesson 7) Differing perspectives create unexpected dynamics between the regulator and the regulated.

Government agencies with a broad mandate to protect public health and safety, to assign risk and liability and an interest in building a broad base of information about brownfields approach the permitting of a particular project with a different orientation than the developer. Areas of difference are likely to include alternative methods of evaluating risk, the

value attached to collecting different types of information, clean-up requirements, and the assignment of continuing liability. Procedures designed to fulfill the needs of one group may be seen as unnecessary or burdensome by the other.

Regulatory interface: Obstacles within and between regulatory agencies

Communication and coordination within any large organization is always a challenge and the agencies overseeing coastal brownfield development are no different. In both DEM and CRMC, decisions or processes have been hampered by internal agency structures or lack of coordination. From the developer’s perspective, this adds an additional layer of uncertainty.

The redevelopment of an urban coastal brownfield involves the additional complexity of multiple permitting agencies and technical requirements. A former municipal dump located on a narrow six-acre coastal site, the Save The Bay project required a multitude of permits and approvals from municipal, state and federal agencies. The two central agencies were CRMC and DEM. At times, permits were required from separate departments within each agency. Where these jurisdictions overlapped is where the biggest challenges were encountered.

An example of conflicting mandates within the DEM involves the interaction between two internal departments, Office of Waste Management and Office of Water Resources, and their differing mandates relative to Save The Bay’s storm water management system. The issue was whether or not the EPA-funded storm water system should be allowed to infiltrate the site. The Office of Waste Management, tasked with overseeing landfill closures and brownfields, generally seeks to eliminate storm water infiltration into a site. By contrast the

Examples of Brownfield Elements with Overlapping Agency Jurisdiction

Engineering Challenge	Engineering Solution	Agency Jurisdiction	Conflict/Discussion
Shoreline Erosion	Revetment Wall	DEM: part of cap CRMC: Coastal feature	DEM deferred to CRMC
Landfill Gas	Active methane venting system	DEM: Brownfield Office, Landfill program and potentially Air Quality	Extent and design of venting system.
Soil Contamination	Soil Cap	DEM: Brownfield Office	Generally forbid storm water infiltration
Stormwater Management	Basins and Swales	DEM: Water Resources	Generally encourage storm water infiltration

Office of Water Resources—the managing agency for a \$150,000 EPA grant underwriting the cost of the STB storm water system—encourages such infiltration as a best management practice for storm water.

Significant delays were caused because the two offices could not agree on whether to allow Save The Bay to infiltrate its storm water into the site, specifically in and around the bio-retention basins and swales. Preventing infiltration as Waste Management mandated would have required adding waterproof liners to the bio-retention system, while allowing infiltration, as the Office of Water Resources would prefer would necessitate unlined basins

and swales. Differing philosophies and regulatory mandates created a frustrating obstacle for Save The Bay. In the end a compromise was reached where some areas were lined and others remained unlined.

The issue of infiltration and locations of storm water basins and swales is further constrained by a second regulatory objective of CRMC – buffer preservation. An example of a conflict within CRMC involves a decision to mandate the elimination of a storm water bio-retention basin from the site plan because it fell within the coastal buffer zone. In this case, the problem involved a narrow definition of a coastal buffer zone without consideration of the larger storm water goals for the site. Because of the size and shape of the site, relocating the bio-retention basin was impractical. As a result, the final approved site plan eliminates the bio-retention basin and relies instead on the buffer zone to handle storm water on the waterside of the Save The Bay building. Unfortunately, the result has been significant erosion of the buffer zone directly into the Bay. This was clearly not CRMC's intent, yet its structure encouraged a narrow definition to prevail, even though a creative solution might have met multiple goals of creating a working buffer zone and minimizing storm water runoff.

One current initiative to provide more clarity and consistency to the urban coastal development process is the Metro Bay Special Area Management Plan's Urban Coastal Greenway Policy. When completed, this policy will address many of the conflicts discussed in the previous section. The existing coastal buffer policy calls for naturally vegetated buffers at the water's edge with widths varying by parcel size. This policy is oriented towards residential coastal development and ill suited to urban, industrial, or water-dependent uses. In the past, such proposed usages were handled on a case-by-case basis by approving variances. Acknowledging that the current buffer zone regulations were not designed for the urban setting, the CRMC sought to establish a new policy that would "integrate economic development, expanded public access along and to the shoreline and the management, protection and restoration of valuable coastal habitats."¹²

Developers can apply for design alternatives to reduce the buffer zone width requirements. Within defined parameters, reductions are possible in return for site or coastal resource enhancements such as improved public access or habitat conservation or preservation.

Once approved and implemented, the Urban Coastal Greenway Policy and the larger Metro SAMP process will have major implications on future development patterns along the Upper Narragansett Bay coastline and should make projects like Save The Bay's Fields Point project more streamlined and predictable.¹³

Lesson 8) Differing mandates within and between agencies need to be reconciled, rather than dealt with on a case-by-case basis.

Well-thought-out and consistent policies, such as design guidelines, addressing issues such as public access, storm water management and coastal buffer zones, make coastal development decisions more predictable and fair. They remove the need for lengthy case-by-case permitting variances by clearly defining the permitting requirements, the situations in which variances may be considered and what exchanges are possible.

SECTION IV

The Impacts of Liability and Capital On Brownfield Development

The need for liability protection and capital are critical for any brownfield project. Although sometimes seen as separate issues, the two are interdependent in multiple ways. Investors, banks and other financing institutions will not generally provide construction or long-term financing to a developer without first seeing a Brownfield Settlement Agreement that will protect the lending institution from future liability. However, in order to secure a Brownfield Settlement Agreement, a complete environmental site assessment should be conducted. While not required, a thorough site assessment allows the Brownfield Settlement Agreement to clearly define the existing contamination and provide a higher level of protection to the developer in order to satisfy the liability concerns of the project's financiers. This requires the investment of significant capital before banks and investors can be approached. In *Save The Bay's* case, the site assessment cost \$75,000, but was paid for by an EPA Targeted Brownfields Assessment Grant available to qualifying nonprofit organizations and municipalities. Since the legal mechanisms for providing long-term pollution liability relief are well established, access to capital becomes the key barrier to developers, particularly smaller ones.

Liability Protection

Brownfield development entails two kinds of additional risk. First, the short-term uncertainty about environmental contamination and cleanup costs impacts the feasibility and financial pro formas of a proposed project. Second, there is long-term pollution liability associated with future releases from existing contamination.

Protection against long-term pollution liability is generally a requirement for any brownfield developer. In Rhode Island, a Settlement Agreement and Covenant Not To Sue provide that protection. Without these documents, few developers faced with a choice between two properties would commit to acquiring a brownfield over a greenfield, which would make it, as the new owner, a "potentially responsible party."¹⁴ By leveling the playing field between greenfields and brownfields, protection from long-term pollution liability plays a crucial role in supporting the Smart Growth Principle to preserve open space, farmland, natural beauty, and critical environmental areas.

Recent changes in the Rhode Island Process for securing a Settlement Agreement illustrate some of the challenges and possibilities for streamlining what has historically been seen as a long and unpredictable process.

According to Rhode Island DEM, the rationale behind the change was to eliminate a known bottleneck in the internal DEM process and strengthen an important component in the brownfield program that had become eroded by years of negotiations. What started as a boilerplate document had evolved into a lengthy, complex one, involving intensive negotiations which added little value and became a significant drain on state and developer resources. The core principles in the settlement agreement that are maintained in the new structure are: 1) liability protection, 2) reservation of rights, 3) transferability and 4) a conceptual description of what remediation needs to take place. The resulting model is more in line with the federal, performance-based model.

The work done in recent years by DEM's Streamlining Task Force and Grow Smart Rhode Island rightfully place a significant focus on "streamlining" the permitting process. These changes should significantly reduce the time required to secure liability exemption and the accompanying Remedial Decision Letter. However, in considering further policy streamlining and regulatory changes, the differing goals and timelines of DEM and developers should be considered within the context of managing risk and impacting the developer's decision-making process.

Lesson 9) The permitting process should be streamlined with a focus on predictability in addition to speed.

Predictability has value in and of itself. Predictability allows developers to put a monetary figure on the time required to obtain approvals. These costs become part of the anticipated development costs and fundraising or investment calculations. Streamlining efforts have centered on reducing permitting delays and encouraging “fast-tracking,” in other words, reducing the time necessary to complete approval processes and pass permitting milestones. Reducing the processing time is an important improvement; however, focusing on predictability as well could reduce perceived risk and uncertainty more efficiently than a single focus on speed. For example, dates for completion of various milestones can be publicized, clarifying expectations for both the permittee and the permitting agency. Agency timelines can be shortened as institutional capacity increases. RI has statutes which allow state and municipal agencies to hold joint hearings or meetings, and this approach could also be used to rationalize the permitting process.

Capital

If the Settlement Agreement and Covenant Not-to-Sue—or similar protection—is considered a pre-requisite for acquiring a brownfield property, the largest remaining risk associated with developing a contaminated site is uncertainty around the capital requirements to cleanup a site. Uncertainty and capital expenditure are inversely related: as capital is used to assess the site, the uncertainty associated with cleanup costs decreases. The capital investment in the site assessment is required to properly evaluate the development opportunity, secure environmental insurance, execute a settlement agreement to protect against long-term pollution liability, secure loans or investment, and finally acquire the property. Ideally, by the time the Settlement Agreement is signed and the property acquired, the environmental related uncertainty has largely subsided.

Since most banks and investment institutions will not invest in a project until after a Settlement Agreement is signed, private developers generally bear the capital costs of site assessment. (Exceptions to this include public-private partnerships eligible for Targeted Brownfield Assessment Grants.) Thus a developer is most exposed to risk during the pre-Settlement Agreement phase. Without state or federal programs, a developer is forced to provide the capital (often cash) to fund the site assessment and insurance premiums. If a project fails to move forward, the monies spent on site assessment are lost. This dynamic does not exist with greenfields.

An environmental consultant who has done projects in both Massachusetts and Rhode Island illustrated the capital flow problem with an example from Rhode Island. The developer has not yet executed a brownfield agreement with DEM and has, therefore, been unable to secure external financing. All costs associated with the site assessment and creating a remedial action work plan have been paid by the developer. Every time DEM requests additional testing or monitoring or otherwise increases the scope of the assessment, the developer’s costs increase. Without any predictable end to the negotiations for a settlement agreement and without environmental insurance, the risk exposure is considerable.

In contrast to Rhode Island, Massachusetts Development has two programs: a site assessment loan program and a discounted environmental insurance program, both of which further reduce pre-settlement risk by providing access to capital and making total development costs more certain. The site assessment loans are available to private developers without partnering with municipalities or nonprofits. The loans, up to \$50,000, carry no interest, and payments do not start until construction financing is secured. If the site assessment yields information that causes the developer not to pursue the site further, the loan will be forgiven, provided the site assessment report and associated data are turned over to the Massachusetts Development database for future reference. This program significantly

reduces the risk of assessing a site. In a RI context, the assessment costs would become sunk costs.

The Massachusetts Brownfields Redevelopment Access to Capital (BRAC) program provides state subsidized environmental insurance that protects developers from unexpected cleanup costs and long-term liability. The consultant claims that the vast majority of private developers participate in the BRAC insurance program in some form. However, a December 2005 EPA study notes that even in Massachusetts, where policies are available for projects as small as \$500,000, premiums are still so high that environmental insurance is not affordable. Nonetheless, Massachusetts is perceived as an easier and less risky state for brownfields development, whether that perception is well founded or not.

Lesson 10) Centralized, easily accessible information about the entire landscape of brownfield-related programs and assistance is important in attracting and supporting smart development.

Readily available information describing existing site-specific environmental site assessment data, permitting information and financial incentives (such as capital or discounted environmental insurance, whether they are used or not) helps to erode the negative stigma and creates the perception that successful brownfield development is possible. Some communities go beyond this to seek out successful developers of projects in other communities that are seen as appropriate for local brownfield or infill projects.

Resources available in Rhode Island: The Impact of the Targeted Brownfield Site Assessment Program

EPA monies are available through the State and Tribal Response Program which funds investigative activities such as targeted assessment grants. Only nonprofits, municipalities and tribal entities are eligible for these grants, which are available in different forms from either DEM or RI Economic Development Corporation. Low-interest loans are also available to qualified private developers, but some doubts were raised by consultants about whether this is widely known among developers.

The implied requirement is that a private developer must partner with a nonprofit organization or municipality, but it is not clear how stringent this requirement is. Such partnerships could encourage developments to meet existing community needs, support economic development goals of the city, or conform to a long-term planning document. Numerous examples of successful public/private partnerships are visible in Rhode Island. However, to evaluate the real impact of the Targeted Brownfield Site Assessment Grants on development patterns, one must study not only successes, but those projects that failed to get off the ground.

In addition to the Targeted Brownfield Assessment Program, the following financial incentives exist:

RI Economic Development Corporation Brownfields Cleanup Revolving Loan Fund
No aid is available for pre-cleanup tasks such as site assessment or for building new facilities. But two kinds of low-interest loans are available for eligible developers to fund cleanup costs. Loans are for five years, with interest 2% above the Federal Discount Rate for governmental and non-profit borrowers and 1% below the Prime Rate for private borrowers. As in Save The Bay's case, non-profits are eligible for sub-grants up to \$200,000.

Rhode Island DEM Target Brownfield Assessment Program Rhode Island DEM provides Targeted Brownfield Assessment Grants using EPA funding through the State and

Tribal Response Program. The program is specifically targeted at government, municipal, tribal, and non-profit organizations who are not responsible parties. Private developers are not eligible, but often partner with an eligible organization to benefit from the program.

Mill Building Tax Credit A program managed by Rhode Island Economic Development Corporation provides a tax credit for the successful renovations of certified mill buildings. Owners and businesses located in a certified mill building and lending institutions financing their renovation are eligible to participate. Tax credits are granted up to 10% of the costs of a “substantial” rehabilitation. The credits, which can be carried forward up to seven tax years after completion of the project, apply only towards Rhode Island state taxes.

Historic Tax Credit Managed by the Rhode Island Historical Preservation and Heritage Commission, the Historic Tax Credit program provides a tax credit equivalent to 30% of the rehabilitation expenses of sites deemed of historic value. Owners of eligible commercial or residential income-producing buildings can carry the tax credit up to 10 years against Rhode Island state income tax. This tax credit subsidizes brownfield projects that also happen to be historic mills. This credit is currently under review.

Federal Brownfield Tax Incentive This program, managed at the state level by the Office of Waste Management at Rhode Island DEM, provided federal tax credits to the owners or lessees of eligible brownfield properties identified by EPA prior to 1997. It expired on December 31, 2005.

Lesson 11) The timing of funding and capital assistance programs should be designed to meet the different needs of a brownfield developer.

Capital is the lifeblood of any development project. For non-brownfield projects, the first major capital outlay is the acquisition of the site and permitting. In brownfield projects, the first major capital outlay is the environmental site assessment. Since a developer does not typically have access to bank financing until after they have completed a site assessment and received a Remediation Decision Letter and a Settlement Agreement, the developer ends up bearing all of the financial risk of the site assessment on a project which may not be undertaken. To make financial incentive programs such as revolving loan funds, site assessment grants and environmental insurance programs attractive, they need to be available at the right time in the capital need cycle and must also have predictable and timely application processes.

SECTION V

Lessons Learned for Developing New Coastal Brownfield Policies

The purpose of this document is to inform policy makers about aspects of the brownfield redevelopment process that either inhibit or encourage responsible redevelopment of coastal brownfields. The following observations represent areas which policymakers should consider while evaluating existing and future policies governing coastal brownfield development in Rhode Island.

Based on the preceding analysis, we gleaned a series of lessons for policymakers, regulators, municipal authorities and developers about the relationship between this regulatory context and their efforts to foster targeted, sustainable, and ecologically sound coastal development.

The first set of these lessons highlights the importance of incorporating Smart Growth strategies and creating structures that foster a comprehensive approach to coastal brownfield development. The second set focuses on ways to attract the right developers and projects to a region. The third set points to ways in which changes in the permitting process can support and stimulate brownfield redevelopment.

Bringing Positive Economic, Environmental and Health Benefits to Coastal Brownfield Development

1) Smart Growth principles can provide guidance and structure to coastal communities seeking to shape development and related policies. A comprehensive approach to coastal development, coupled with strong financial and regulatory incentives helps to focus development and protect areas better suited to less intensive or ecologically important uses. Smart Growth strategies help communities ensure that growth and development supports multiple community goals.

2) The redevelopment of a brownfield site offers significant environmental benefits. Reusing a brownfield provides an alternative to developing open space or farmland. The clean-up relieves the community of a potential environmental or public health threat. If the brownfield is then developed in a way that supports economic, community, environmental and public health goals, the benefits are compounded. Compact, mixed-use and walkable redevelopment of a brownfield site can provide fiscal, environmental, community, and public health benefits.

3) The water-typing scheme created under the Rhode Island Coastal Management Program is a powerful tool for shaping development patterns along the coast. This is a challenging and dynamic area for policy development because changes in the intensity and nature of permitted activities can have far-reaching and controversial impacts. Such a scheme must also be developed so that there is consistency between the water typing under the coastal management program and the water quality standards required by the Clean Water Act. Inconsistencies can hinder projects that support broad community, economic, environmental and public health outcomes.

4) States can use coastal management structures established under the Coastal Zone Management Act to create a broader regional view of planning, zoning and growth management. Important determinants of regional development patterns, such as density and land use, are driven by municipal zoning regulations. As a result, there needs to be an effort to coordinate zoning regulations among neighboring coastal communities. The Coastal Zone Management Act provides a framework within which states and municipalities can plan together by creating and implementing Special Area Management Plans (SAMPs). A coastal zone management program can promote integrated planning among coastal municipalities and increase the capacity to serve multiple community goals, such as regional

economic growth, coordinated environmental protection and improved quality of life. State, municipal and federal officials can use these tools to align their multiple fiscal and environmental goals.

Attracting the Right Development Projects

5) Consider developer experience and the differing needs of sophisticated and unsophisticated brownfield developers when developing programs. The creation of successful regulatory initiatives requires feedback from all stakeholder groups. Unsophisticated brownfield developers, like Save The Bay, perceive and react to risk and uncertainty differently from more sophisticated developers who have completed multiple brownfield projects. It is, therefore, important to include developers with little or no brownfield experience in the stakeholder policy discussions. Even those developers with no brownfield experience make significant brownfield development decisions if they simply decide not to proceed or pursue a brownfield project, discouraged by risk and uncertainty. The equalizing factor for unsophisticated developers is information and transparency. The result is an increase in the pool of potential brownfield developers.

6) Consider the needs of small mission-driven project developers, particularly in urban infill areas. The impacts of policies and regulations (and the incentives and disincentives that they create) are normally measured in economic terms: impact on property values, taxes, jobs, square footage, return on investment, etc. These are critical measures, but may not always capture the value to the community of successful projects undertaken by public and social organizations. The level of commitment that these groups bring and the level of organizational risk that these groups take on should not be underestimated.

Small mission driven projects often don't have the funding to overcome the challenges associated with brownfield redevelopment. They may also be less likely to seek or able to collect site specific information at critical early points in the process. However, these organizations are often an integral part of a good community revitalization effort and the type of developer that municipalities can least risk losing.

7) Differing perspectives create unexpected dynamics between the regulator and the regulated. Government agencies with a broad mandate to protect public health and safety, to assign risk and liability, and an interest in building a broad base of information about brownfields, approach the permitting of a particular project with a different orientation than the developer. Areas of difference are likely to include alternative methods of evaluating risk, the value attached to collecting different types of information, clean-up requirements, and the assignment of continuing liability. Procedures designed to fulfill the needs of one group may be seen as unnecessary or burdensome by the other.

Supporting the Development Process

8) Differing mandates within and between agencies need to be reconciled rather than dealt with on a case-by-case basis. Well-thought-out and consistent policies, such as design guidelines, addressing issues such as public access, storm water management and coastal buffer zones, make coastal development decisions more predictable and fair. They remove the need for lengthy case-by-case permitting variances by clearly defining the permitting requirements, the situations in which variances may be considered and what exchanges are possible.

9) The permitting process should be streamlined with a focus on predictability in addition to speed. Predictability has value in and of itself. Predictability allows developers to put a monetary figure on the time required to obtain approvals. These costs become part of the anticipated development costs and fundraising or investment calculations. Streamlining efforts have centered on reducing permitting delays and encouraging "fast-tracking," in other words, reducing the time necessary to complete approval processes and

pass permitting milestones. Reducing the processing time is an important improvement. However, focusing on predictability as well could reduce perceived risk and uncertainty more efficiently than a single focus on speed. For example, dates for completion of various milestones can be publicized, clarifying expectations for both the permittee and the permitting agency. Agency timelines can be shortened as institutional capacity increases. RI has statutes which allow state and municipal agencies to hold joint hearings or meetings and this approach could also be used to rationalize the permitting process.

10) Centralized, easily accessible information about the entire landscape of brown-field-related programs and assistance is important in attracting and supporting smart development. Readily available information describing existing site-specific environmental site assessment data, permitting information and financial incentives (such as capital or discounted environmental insurance, whether they are used or not) helps to erode the negative stigma and creates the perception that successful brownfield development is possible.

Some communities go beyond this to seek out successful developers of projects in other communities that are seen as appropriate for local brownfield or infill projects.

11) The timing of funding and capital assistance programs should be designed to meet the different needs of a brownfield developer. Capital is the lifeblood of any development project. For non-brownfield projects, the first major capital outlay is the acquisition of the site and permitting. In brownfield projects, the first major capital outlay is the environmental site assessment. Since a developer does not typically have access to bank financing until after they have completed a site assessment and received a Remediation Decision Letter and a Settlement Agreement, the developer ends up bearing all of the financial risk of the site assessment on a project which may not be undertaken. To make financial incentive programs such as revolving loan funds, site assessment grants and environmental insurance programs attractive, they need to be available at the right time in the capital need cycle and must also have predictable and timely application processes.

Footnotes

1. The Costs of Suburban Sprawl and Urban Decay in Rhode Island, Prepared for GrowSmart Rhode Island by H.C. Planning Consultants, Inc. December, 1999

2. Getting to Smart Growth, ICMA and Smart Growth Network, March, 2002

3. Smart Growth Network. Smart Growth Principles. www.smartgrowth.org.

4. To address the different challenges faced by coastal communities in planning smart development, recent work by The Coastal Resources Center (Pam Rubinoff) and EPA (Lynn Richards) on Aquidneck Island have resulted in the adaptation of some of the existing Smart Growth principles for coastal communities. Three examples from their work include:

Smart Growth Principle

Adapted to Coastal Context

Mixed Land Uses

Water zoning that advances the goals for recreation, economic development, and environmental priorities.

Create a Range of Housing Opportunities

Enhance working waterfronts and prioritize water –dependent uses.

Create Walkable Neighborhoods

Maintain and enhance physical and visual access to the shore.

5. 16 U.S.C. § 1452 (1972), as amended through P.L. 104-150, The Coastal Zone Protection Act of 1996.

6. Rhode Island Department of Environmental Management, Water Quality Regulations, amended June 23, 2003

7. RI GEN LAWS §46-23-6(vi)(B)(4)(ii) (1971)

8. RI GEN LAWS §46-23-6(vi)(B)(4)(iii) (1971)

9. See *Town of Warren v. Thornton-Whitehouse*, 740 A.2d 1255 (R.I. 1999) and *Champlin's Realty Associates, L.P. et al. v. Marc Tillson*, in his capacity as Building Official for the Town of New Shoreham et al, 823 A.2d 1162 (2003).

10. Austin Becker, Coastal Resources Center

11. INTERESTING NOTE: Both DEM and the consultant referred to above mentioned the same developer when discussing how the permitting process should work. The consultant spoke highly of the developer because they seemed to understand the value of the site assessment information in making smart business decisions. DEM noted that the developer met regulatory requirements and generally agreed on remediation strategy with DEM, and as a result rarely had unnecessary delays. This developer not only understood the value of information in managing risk and reducing his uncertainty, but also understood the value of sharing information with DEM as the agency worked to manage its risk and minimize its uncertainty.

12. Urban Greenways Policy Draft, Coastal Resources Management Council, April 17, 2006

13. Links to the latest drafts of the Urban Coastal Greenways Policy are available at:
<http://www.crmc.ri.gov/samp/metrobay.html>

14. RI DEM defines Potentially Responsible Parties to be any or all of the following: 1) The Owner or Operator of a Contaminated Site. 2) Any Person who, at the time of storage or disposal of any Hazardous Material, owned or operated a Contaminated Site. 3) Any Person who, by contract, agreement, or otherwise, directly or indirectly, arranged for the disposal of Hazardous Materials at a Contaminated Site. 4) Any Person who accepts or accepted any Hazardous Materials for transport or disposal or treatment facilities or Contaminated Sites selected by such Person and from which location there is a Release or a threatened Release of Hazardous Materials. 5) The Person or legal entity controlling a Contaminated Site or activity that contains or led to a known or suspected Release.

Appendices

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Phoenix Awards, Denver, 2006

A Year in Providence, New Commons, Providence

The Power of Place, Smart Growth Conference, Providence, May 12, 2006

RI DEM Brownfield Stakeholders Meeting, Save The Bay, May 16, 2006

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Redevelopment & Investment Tools for Vibrant Communities, The Power of Place Summit, Providence, RI, May 2006

Rubinoff, P., Fugate G., Crean, T., and Horsley, S. *Coastal Smart Growth Principles*, The Power of Place Summit, Providence, RI, May 2006

Appendix II:

From Landfill to Landmark: The Building of The Save The Bay Center

In the early 1900s, the area south of downtown Providence known as Fields Point was bustling with activity. It served as a popular getaway for Providence residents, who often strolled the length of a boardwalk and ate along the shore at Captain Atwood's Clambake, watching ships enter the Providence River. If those same people had returned in 2002, they would have found a dramatically altered and degraded shoreline, due to decades of use as an industrial site and later as a city dump. They would also have risked exposure to concentrations of methane gas, lead and arsenic dramatically exceeding the EPA's direct exposure limits for residential sites.

In the late 1990s, after 35 years of environmental protection and advocacy work, Save The Bay partnered with Johnson & Wales University to assemble the financial means, political will and engineering expertise to clean up this historic site and return it to a safe and vibrant community-oriented use.

Fields Point is one of many brownfield sites located along the Providence waterfront. Encompassing over 20 miles of shoreline with thousands of acres of adjacent property, the waterfront has long been a premium resource for supporting commerce and industry. Now, as a result of improving water quality and changing patterns of economic activity, the waterfront is regarded as a prime location for residential, recreational and mixed uses as well.

Smart Growth principles provide a valuable framework to balance economic, environmental and community goals throughout the Narragansett Bay watershed, and to highlight the benefits of redeveloping brownfields in urban coastal areas. Simply reusing a vacant brownfield in lieu of developing land elsewhere significantly reduces the impact on the environment by preserving alternative sites and promoting the use of existing infrastructure such as roads and sewers. Remediating or cleaning up a brownfield before development represents a second major benefit by eliminating a current and future environmental threat to the community and the surrounding watershed. If a brownfield is then developed in a way that further supports economic, community, environmental and public health goals, the benefits are compounded yet again.

Despite the benefits, there are significant obstacles that inhibit brownfield development. Completing the Save The Bay Center in 2005, Save The Bay learned firsthand about the additional effort and costs of acquiring the permits, community support, and financial resources necessary to redevelop a coastal brownfield site.

BACKGROUND

In the mid-1990's, Save The Bay recognized that it had outgrown its rented space in a decades-old former bank building. A study conducted in 1998 by a strategic consulting firm concluded that a new building would allow the organization to increase its operating efficiency and meet its growing commitment to Bay education and urban outreach.

A facilities committee was established to identify the organization's opportunities and requirements to meet its advocacy, outreach, and educational aspirations in a new administrative headquarters and visitor/education center. The committee delivered its report in October 1999, recommending that an environmentally responsible location and design be pursued to reflect Save The Bay's mission.

In many ways, location was as important as building design. Several factors led Save The Bay to the Fields Point site: First, proximity to the Bay was a strategic priority because it would provide Save The Bay with a means of running its water-based Bay education and habitat restoration programs. Second, reclaiming an urban brownfield reinforced Save The Bay's commitment to Smart Growth and sustainable development, and put Save The Bay close to the urban population whose connection to the Bay is so critical to long-term efforts to protect Narragansett Bay. Finally, being one of Providence's first coastal brownfield redevelopment projects allowed Save The Bay to make a statement and set a standard for Bay-friendly development.

Save The Bay actively searched for and considered several potential sites along the upper Narragansett Bay shoreline and the Providence River, finally selecting the Fields Point location off

Harborside Boulevard in Providence, adjacent to Johnson & Wales' Harborside Campus. Securing development rights was made possible through a partnership with Johnson & Wales. In return for a long-term, \$1-per-year lease, Save The Bay committed to cleaning and developing the site.

SITE HISTORY

Once an island called Sunshine Island, the Fields Point site is located less than three miles from downtown Providence on the southern tip of the former Fields Point Municipal Landfill. Used as a dump during the 1950s, 1960s and 1970s and then paved over as part of a drive-in theatre, the site is part of a larger 60-acre parcel owned by Johnson & Wales.

The Save The Bay parcel consists of 6.07 acres situated in an industrial setting, bounded to the east and south by the Providence River; to the north by a metal recycling facility and a chemical distributor; and to the west by a vacant lot.

Based on a review of historic aerial photographs, the earliest dating from 1939, it is evident that, during the dump's operation, approximately 22 acres of the Providence River were filled in with refuse dumped directly into the water. The photographs document that the area between the historic shoreline and Sunshine Island, which was previously located 500 yards offshore, was filled by 1965.¹

In 1999, the pre-redevelopment topography of the site was relatively flat with a slight grade sloping downward to the west, and steeply sloping grades (15-20 ft. elevation differences) from the eastern and southern portions of the site down to the Providence River. Demolition debris was clearly visible along the slopes, with the remainder of the site overgrown with grasses and shrubs. No buildings or structures were present. Groundwater occurred from approximately 10-12 ft. below ground surface, and was classified as GB, presumed not suitable for human consumption without treatment. The site is located within the flood zone associated with Narragansett Bay.

PREVIOUS ENVIRONMENTAL INVESTIGATIONS (1987 TO 1992)

In August 1988, the US Environmental Protection Agency (EPA) listed Fields Point City Dump on its list of potential hazardous waste sites as part of the Superfund identification process. In 1990, the Rhode Island Department of Environmental Management (DEM) performed a Preliminary Assessment, including a file review of historical inspection reports, aerial photographs, and a limited site visit. No sampling was performed at that time. The Preliminary Assessment found indications of various types of wastes including household, commercial and industrial waste, demolition debris, junked vehicles, incinerator ash, and wood. The site visit identified piles of solid waste at the site including wood, plastic, papers, wire, tires, bricks, and empty rusted drums. Piles of asphalt, concrete, soil, steel grindings, and several junked cars were also documented. The Preliminary Assessment recommended completion of a full Site Inspection to more accurately assess potential hazards.

DEM subsequently completed a Site Inspection in December 1992. The Site Inspection included a file review, site visit, and four soil samples. The soil samples contained concentrations of polychlorinated biphenyls, semi-volatile organic compounds, and metals at levels exceeding the current Rhode Island State Industrial and Commercial Direct Exposure Criteria.

The 1992 Site Inspection Report recommended further investigative work under the Comprehensive Environmental Response, Compensation and Liability Act in order to more accurately assess the site's potential hazard. There was no further activity associated with the site until 1998.

SAVE THE BAY BECOMES INVOLVED WITH THE SITE

In 1998 Johnson & Wales University executed an option to buy the 60-acre parcel from then-owner David Friedman. Shortly thereafter, Save The Bay approached the University about the possibility of buying or leasing Lot 257 and building a new headquarters and education center. Johnson & Wales, having struggled with DEM over a settlement agreement, saw Save The Bay's interest as an opportunity to partner with an organization that could add momentum and a new perspective to the permitting process.

In 1999, Save The Bay was awarded an EPA Targeted Brownfield Site Assessment Grant. Knowing it would clarify the environmental problems and create the basis for estimating cleanup costs eliminated much of the risk associated with reaching a formal agreement with Johnson & Wales. In January 2001, Johnson & Wales and Save The Bay signed a 50-year lease. Save The Bay received the development rights to the property, but also committed to funding the clean-up and development of the coastal brownfield site.

The Targeted Brownfield Assessment conducted in May 2001 included taking soil samples from 22 test pits and five soil borings. Four of the soil borings were used as landfill gas screening wells, and one was used as a groundwater monitoring well. The soil samples revealed the widespread presence of contamination at the site in the form of Total Petroleum Hydrocarbons (TPH); Semi-Volatile Organic Compounds (SVOCs); arsenic and lead; manmade fill or landfill material; and landfill gas containing methane. In August 2001, additional landfill gas screening wells were drilled. As a result, methane “hotspots” were identified in the west-central and northeast portions of the site.

FINAL CLEANUP SOLUTIONS

To receive final approval from Rhode Island Department of Environmental Management, Save The Bay’s environmental consultants prepared a Remedial Action Work Plan outlining the site remediation design documents, specifications and safety plans. The two main environmental concerns identified during the Site Assessment were soil contamination, particularly from lead and arsenic, and methane gas from decomposing organic fill material.

Soil Cap

To protect future users from direct exposure to contaminated soil, the entire site is “capped.” The engineered cap is composed of a geo-textile “marker layer,” six inches of clean dredge spoils, six inches of clean loam or top soil and a vegetated layer composed of plants selected for their shallow root systems that will not penetrate into the contaminated soils over time.

Methane

At various concentrations methane gas can have an unpleasant odor, be explosive or displace vital oxygen. Three systems were installed to protect the Save The Bay buildings from methane infiltration. The primary defense is an active venting system comprised of a matrix of perforated pipes connected to a large vacuum pump that draws methane out from underneath the building’s foundation 24 hours per day. The second layer of defense is a spray-on rubber liner isolating the building’s foundation and interior spaces from the methane-containing soils. If the vacuum pump were to fail because of a power outage, for example, the rubber liner would prevent methane from entering the building. The final level of protection is a methane detection system that would sound the building alarm if methane concentrations in the building were to exceed the safety benchmarks.

SITE HIGHLIGHTS

Storm Water Management: The six-acre site incorporates a number of innovative techniques to capture, filter and retain storm water. Pervious materials were used in the parking lot to reduce runoff. The lot is surrounded by bioretention swales and basins. This system captures and filters storm water that would otherwise flood the parking area and mix with road salts, oil and nutrients. The plants within the basins consume water and nutrients. Any remaining water eventually evaporates.

Public Access: The Save The Bay Center provides a public access point to connect the Bay and the surrounding community for the first time in almost 100 years. Thousands of visitors enjoy Narragansett Bay from this former brownfield and landfill site through our education programs, organized tours or by simply visiting the site to fish or picnic anytime between dawn and dusk.

Habitat Restoration: Save The Bay created a salt marsh and planted a coastal buffer of 20 different species of native shrubs, trees and grasses to act as a demonstration for both coastal brownfield property owners and coastal homeowners. Over 3500 cubic yards of landfill from one-half of the site’s shoreline were removed to create intertidal salt marsh habitat. A protective stone structure was placed at the seaward side of the salt marsh to reduce wave energy at this highly exposed site. Staff and volunteers planted salt marsh vegetation and annually monitor and maintain the plantings.

Save The Bay protects and restores salt marshes because they are an invaluable habitat for many animals including commercially important fish and shellfish, they protect shorelines from erosion and they trap sediments and pollutants that would otherwise end up in the Bay.

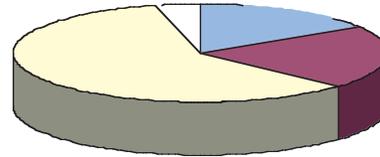
Green Building: The Save The Bay Center is a special building with a special mission. It provides classrooms for Bay educational programs as well as community meeting spaces. The building itself represents Save The Bay’s approach to promoting environmentally smart building design. The vegetated roof reduces storm water runoff by absorbing rainwater. The building’s southern orientation maximizes natural daylight, reducing the amount of energy we consume from interior lighting. Additional energy efficiency features mean that we consume half as much energy as a comparable structure built to current building standards.

CHALLENGES

Redeveloping an urban coastal brownfield presents many challenges. Save The Bay negotiated the complex state and federal permitting process, addressed long-term pollution liability issues, secured the necessary capital and long-term financing and grappled with the technical and engineering challenges associated with a coastal brownfield site. As an inexperienced developer with a social mission, Save The Bay learned many lessons the hard way, through trial and error. Our experience has been analyzed and documented in *From Landfill to Landmark: Highlights of Policy Lessons from the Coastal Brownfield Development of Save The Bay Center*, also available from Save The Bay.

COST SUMMARY

Design, engineering and consulting fees:	16%
Environmental Cleanup and Site Costs:	21%
Building Construction Costs:	59%
Salt Marsh Restoration:	4%



- Design, Engineering, Consulting
- Environmental Cleanup and Site Costs
- Building Construction
- Salt Marsh Restoration

Total Project Cost: \$7 Million

Funding sources for Save The Bay Center project

NOAA National Ocean Service
NOAA – Restore America’s Estuaries
EPA – Brownfield Cleanup Revolving Loan Fund Administered through the RI Economic Development Corporation
U.S. Department of Agriculture Natural Resources Conservation Service
Rhode Island Coastal Resources Management Council - Corporate Wetlands Restoration Program
Generous Corporate, Foundation and individual support

Funding for this case study and additional brownfields policy research provided by EPA, U.S. Department of Environmental Protection, Development, Community, and Environment Division through Cooperative Agreement No. PI-83233701

¹ *Project Summary,*

Save The Bay Brownfields Redevelopment Project, EA Engineering

Appendix III:

Additional Background on the Coastal Zone Management Act, the Clean Water Act and the RI Brownfields Program

Coastal Zone Management Act

As a result of the increasing pressure of over-development on the nation's coastal resources, Congress enacted The Coastal Zone Management Act (CZMA) of 1972¹ which established a voluntary program giving coastal states the funding and opportunity to develop and implement plans to manage their own coastal resources. To encourage participation, the Act makes federal financial assistance available to any coastal state or territory, including those on the Great Lakes, willing to develop and implement a comprehensive coastal management program. The Secretary of Commerce delegated the administration of the CZMA to the National Oceanic and Atmospheric Administration (NOAA), whose Office of Ocean and Coastal Resource Management (OCRM) administers the individual state programs. OCRM has established a flexible framework that enables states to develop strategies that meet their specific needs within their state governmental structure. In addition to resource protection, the CZMA specifies that coastal states may manage coastal development by giving states the authority to review federal projects, federally financed projects, and projects receiving federal licenses and permits, to ensure that they abide by state laws, regulations, and policies. A state with an OCRM-approved program can deny or restrict any development that is inconsistent with its coastal zone management program.²

Rhode Island was one of the first states in the nation to create a coastal resources management program. Prior to the enactment of national coastal zone legislation, the Rhode Island Legislature, in recognizing that the "coastal resources...are of immediate and potential value to the present and future development of this state," instituted a policy in order "to preserve, protect, develop, and where possible, restore the coastal resources of the state for this and succeeding generations through comprehensive and coordinated management designed to produce the maximum benefit for society from these coastal resources."³ In 1971, the Coastal Resources Management Council ("CRMC")⁴ was expressly created to deal with shoreline issues. Pursuant to the CZMA, the General Assembly thereby directed the Council to exercise effectively its responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone.⁵

The RI CRMC was created to serve "as the principal mechanism for management of the state's coastal resources." Rhode Island encompasses only twelve hundred square miles and yet four hundred twenty miles of shoreline are managed by the CRMC. The State Legislature has determined the CRMC is "authorized to approve, modify, set conditions for, or reject" any proposed "development or operation within, above, or beneath the tidal water below the mean high water mark."⁶ The state's authority over that land is limited by Article I, section 17, of the Rhode Island Constitution, which provides that the people shall continue to enjoy the 'privileges of the shore', including the right to gather seaweed, fish, swim, and to pass along the shore.⁷

The CRMC's enabling act sets forth the Legislature's determination that protection and preservation of the state's coastal resources were "essential to the social and economic well-being of the people of Rhode Island and that such preservation was necessary to protect the public health, safety, and general welfare."⁸

The RI CRMC is an independent state regulatory agency administered by a Council and full staff. The Council consists of 16 members of the general public and state and local government who have been appointed by the Governor, the Senate Majority Leader or the Speaker of the House.⁹ The staff composed of an Executive Director, environmental scientists, biologists, engineers, policy analysts, etc., is responsible for administration, permitting, policy and planning and enforcement. The Council serves as the principal mechanism for management of the state's coastal resources and therefore, relies on the staff's expertise in decision-making.

The RI CRMC is authorized to formulate policies and plans and to adopt regulations necessary to implement its various management programs. The regulatory framework consists of several mechanisms. The RI Coastal Resources Management Program (RI CRMP, also known as the “Red Book”) is CRMC’s primary tool in managing the state’s coastal resources. The Red Book details activities requiring a Council Assent and sets forth prerequisites, policies and standards “that must be met by all persons who undertake alterations and activities under the Council’s jurisdiction.”¹⁰ Brownfields and Smart Growth strategies are not specifically addressed in the Red Book; however, certain sections have most likely influenced such development decisions. Section 200 of the Red Book categorizes the state’s tidal waters into six prioritized Water Types, ranging from Conservation areas to Industrial Ports. These designations have helped shape the nature and location of coastal development. For example, RICRMP §300.3D prohibits industrial operations and structures in Type 1 and Type 2 waters or on shoreline features abutting these waters, thereby forcing such development projects to a concentrated area on the Providence River. In several sections, the Red Book recognizes and encourages the use of the *Rhode Island Soil Erosion and Sediment Control Handbook*¹¹ and the *Rhode Island Stormwater Design and Installation Manual* as containing appropriate Best Management Practices (BMPs) for use within the RI CRMC’s jurisdiction. These BMPs are used to reduce pollutant loadings and other negative impacts associated with urbanization and other changes in land use.

The RI CRMC has exclusive jurisdiction below mean high water out to the state’s three mile territorial limit.¹² However, the Council’s authority over upland areas is “limited to two hundred feet from the coastal physiographic feature or to that necessary to carry out effective resources management programs.”¹³ As such, municipalities have claimed concurrent jurisdiction pursuant to their zoning power with respect to these areas above mean high water.¹⁴

One way the Council has worked in conjunction with towns and cities, as well as other state agencies, to achieve the CZMA’s “coastal zone enhancement objective” is through the development and implementation of Special Area Management Plans (SAMPs) for activities located within critical coastal areas.¹⁵ SAMPs are part of the CRMC’s ongoing responsibility under both Rhode Island General Laws and the CZMA.

The CZMA defines a “special area management plan” as a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in specific geographic areas within the coastal zone.¹⁶ SAMPs are designed to address the diversity of issues on a watershed scale by recognizing how water quality, land use, habitat and geology all interact on an ecosystem level to affect the health of the watershed and coastal resources.

This agency-municipality partnership, along with community participation, is a concept that began with the development and use of SAMPs in the 1980s. Since then, there have been federal, state and local regulation and management changes which have had impacts on land development, including the permit approval process and natural resource protection. As required under the 1990 Amendments of Coastal Zone Reauthorization Act, known as section 6217, Rhode Island promulgated a Coastal Nonpoint Pollution Program to strengthen coordination between the federal and state coastal and water quality management programs. The pollution control measures apply to urban development (septic, roads, bridges) and marinas.

Throughout the years, a number of SAMPs have been developed in Rhode Island and have predominantly concerned areas in South County and along the West Passage of Narragansett Bay, representing approximately one-third of the state’s shoreline area. Over time, some SAMPs have had revisions using CRMC’s strategy to enhance resource management in accordance with such CZMA Section 309 requirements (16 USC §1456b). The revisions are determined after reassessing issues addressed in the original SAMPs and considering new knowledge and development trends. Most have also been modified to reflect surface watershed boundaries. Other policies, standards and recommendations that have been updated and revised include: density control measures, other regulatory requirements to better manage non-point source pollution, cumulative and secondary impacts (resulting in habitat loss, erosion and sediment control problems), stormwater impacts and groundwater contamination from sewage disposal systems; and public access, wetlands protection, dredging, recreational boating, breachway modifications and storm hazards. The central purpose of SAMPs is ‘to coordinate a management strategy to which all previously independent regulatory programs would contribute’. The CRMC has specified land use designations and associated policies and prohibitions that govern development within these determined poorly flushed areas. Therefore, SAMPs have the potential to be used as tools for effective land-use management by addressing the need for

growth management within a region.

Through water area use zoning as set out in the Red Book, and specific SAMP guidelines, the CRMC has influenced growth and development in Rhode Island. Over eighty percent of the water areas adjacent to the shore are designated for conservation or low intensity use (Type 1 and Type 2). Whereas, only fifteen percent of the state's coastal area is designated for high intensity recreation and marinas, commercial and recreational waterfront and industrial waterfront uses (Types 3, 4, 5 and 6). Most of the industrial uses have been focused in the Providence area. CRMC is in the process of developing a Metro Bay SAMP in order to implement both brownfield redevelopment and smartgrowth strategies within a region that had previously been dominated by industrial uses. The new SAMP will not only update the original Providence Harbor SAMP, but will allow for a shift to revitalization with water type designation changes and policies to promote balanced coastal management with smartgrowth and economic development.

Funding and management opportunities are not the only incentives the CZMA provides for states to voluntarily implement their own coastal management program. §307 of the CZMA (16 USC § 1456), called the federal consistency provision, is a powerful tool allowing states to review federal projects, federally financed projects, and projects receiving federal licenses and permits, to ensure that they abide by state laws, regulations, and policies, creating a balance between state programs and federal activities.

Federal agency activities that are reasonably likely to affect any land or water use or natural resource of the coastal zone must be consistent to the maximum extent practicable with the enforceable policies of the state's federally approved coastal management program. Direct Federal agency activities are activities, including development projects, performed by a federal agency, or a contractor for the benefit of a federal agency, such as mooring buoy installation by the National Park Service; fisheries management plans by the National Marine Fisheries Service; naval exercises; the disposal of excess federal land by the General Services Administration; U.S. Army Corps of Engineers navigational dredging and beach nourishment projects; OCS oil and gas lease sales by the Minerals Management Service; improvements to military bases; and naval disposal of radioactive or hazardous waste performed by a private contractor.

Federal license or permit activities and federal financial assistance activities that have reasonably foreseeable coastal effects must be fully consistent with the enforceable policies of the state's program. Federal license or permit activities are activities proposed by a non-federal applicant but require federal authorization such as U.S. Army Corps 404 permits; Interstate Commerce Commission water carrier licenses; U.S. Army Corps permits for use of ocean dump-sites; Nuclear Regulatory Commission permits for nuclear power plants; and de-licensing of nuclear facilities by the Nuclear Regulatory Commission. Federal financial assistance activities are proposed by state agencies or local governments applying for federal funds for activities with coastal effects.

Rhode Island's approved coastal zone for federal consistency purposes includes the area encompassed by the state's seaward boundary (three miles) to the inland boundaries of the state's 21 coastal communities. See RI CRMP §400. Federal consistency is a method of ensuring greater protection of coastal uses and resources, as well as facilitating cooperation and coordination between the State and federal agencies.

The Clean Water Act

The Federal Clean Water Act, 33 U.S.C. § 1251 et. seq. ("FCWA") sets out a national goal of achieving the restoration and maintenance of the chemical, physical and biological integrity of the Nation's waters through a water quality-based pollution control program. Water quality standards are the program's foundation by defining the goals and objectives for individual waterbodies. A water quality standard consists of four basic elements:

- (1) **designated uses** of the water body (e.g., recreation, water supply, aquatic life, agriculture),
- (2) **water quality criteria** to protect designated uses (numeric pollutant concentrations and narrative requirements),

(3) an **antidegradation policy** to maintain and protect existing uses and high quality waters, and

(4) **general policies** addressing implementation issues (e.g., low flows, variances, mixing zones).

The Environmental Protection Agency (“EPA”) is the statutorily designated agency to oversee the FCWA; however, this authority has been delegated in several states. Rhode Island is such a state and has promulgated the Rhode Island Clean Water Act, G.L. 1956 § 46-12-1 et. seq. (“RICWA”), whereby the Department of Environmental Management (“DEM”) is the lead agency.

The FWCA as amended in 1977 encouraged states to prioritize receiving waters and required them to complete a review process of water quality standards in polluted areas by 1984. DEM’s Office of Water Resources (OWR) implements the state’s Water Quality Standards Program. The Water Quality Standards Program is responsible for ensuring compliance with the FCWA. The purpose of this program is to restore, preserve, and enhance the water quality of Rhode Island waters, to maintain existing uses and to protect the waters from pollutants so that the waters shall, where attainable, be fishable and swimmable, and be available for all designated uses and thus assure protection for the public health welfare, and the environment. Water quality standards are developed to define water quality goals for state’s waters by deciding what their uses will be (designated uses) and by setting criteria necessary to protect those uses.

EPA encouraged DEM to prioritize receiving waters and required them to undertake a reviewing process of water quality standards in polluted areas. The FCWA requires that states maintain continuing effort to update and amend pollution control plans, as well as §303 requirements that states adopt and regularly revise water quality standards, which are based on designating specific uses to each part of a water body and then developing the water quality criteria required to support those uses.

The Clean Water Act as amended in 1977 encouraged states to prioritize pollution receiving waters and required them to complete a review process of water quality standards in polluted areas by 1984. Rhode Island’s resulting Water Quality Standards Program implemented by the DEM Office of Water Resources (OWR), is responsible for ensuring compliance with the federal Clean Water Act. Its purpose is to restore, preserve, and enhance the water quality of Rhode Island waters, to maintain existing uses and to protect the waters from pollutants. The goal, where attainable, is to assure that the water is fishable and swimmable and available for all designated uses and thus assure protection for public health and welfare, and for the environment. Water quality standards are developed in accordance with designated uses; criteria are established to protect those uses.

The original uses were designated during 1983-1984 after collaboration between CRMC and DEM, along with the Coastal Resource Center, the Office of Statewide Planning and researchers at the Environmental Protection Agency (EPA). The uses were based on:

- Character of receiving water conditions and pollutant discharges
- Water quality required for each use
- Severity of pollution problems and interaction among them
- Designations adopted following public education, discussion and consideration of alternatives
- Petitions to reclassify water body, if required

EPA requires DEM to update pollution control plans regularly by adopting and revising water quality standards based on specific uses to each part of a water body.

Regulation of Coastal Brownfields in Rhode Island

The Comprehensive Environmental Response, Compensation and Liability Act, known as CERCLA or Superfund provided the basic framework for the regulation and clean up of contaminated sites when it was passed in 1980. The bill established broad federal authority to respond to releases of hazardous substances, a regulatory framework for closed or abandoned hazardous waste sites, and a trust fund to provide for clean up of hazardous sites.

CERCLA was amended by the Superfund Amendments and Reauthorization Act in 1986 which increased the State role in the program. The following description of the RI Program can be found on the Rhode Island DEM website and provides links to additional sources of information.

The mission of the DEM Program is to ensure proper investigation and clean up of brownfields properties and to actively support their reuse and redevelopment. In order to meet this mission the Brownfields Program will:

- Oversee projects to ensure they comply with applicable regulations and standards, and serve as the single point of contact when multiple regulatory requirements apply;
- Work with residents, municipalities and community groups to identify, investigate, clean up and promote the use of Brownfields sites;
- Provide assistance and work closely with interested parties to investigate and clean up sites in an efficient and cost-effective manner; and
- Actively promote the tools available and the successes of the program.

DEM's Office of Waste Management is the primary regulatory agency overseeing the investigation and cleanup of Brownfields sites. The regulations allow for different cleanup standards depending on the future use of the site as long as the public health is protected. They also allow for Performing Parties who follow the regulations to protect themselves from liability associated with the prior known contamination.

On the funding side, the Office has been granted EPA funding for site assessments which may be available to municipal and non-profit redevelopment authorities (see Financial Assistance).

The Department's Office of Customer and Technical Assistance stands ready to provide technical assistance to Brownfield project sponsors.

RIDEM Brownfields Program Office of Waste Management 222-2797

Footnotes to Appendix III

1. 16 U.S.C. § 1452 (1972), as amended through P.L. 104-150, The Coastal Zone Protection Act of 1996.
2. See generally <http://www.eh.doe.gov/oepa/laws/czma.html>. Last visited on December 1, 2005.
3. *Champlain's Realty Associates v. Tillson*, 2001 WL 770810 (R.I. Super).
4. RI GEN LAWS §46- 23-1 (1971).
5. See RI GEN LAWS §46-23-15 (1973) where "The coastal resources management council for the purposes of the federal Coastal Zone Management Act, 16 U.S.C. § 1451 et seq., is the coastal zone agency under §§ 301 through 313 and §§ 318 and 6217 of said act."
6. *Town of Warren v. Thornton-Whitehouse*, 740 A.2d 1255, 1260 (R.I. 1999).
7. See *Town of Warren* at 1259, quoting *Jackvony v. Powel*, 21 A.2d 554, 558 (1941).
8. *Town of Warren* at 1262 (R.I. 1999), citing *Town of Glocester v. R.I. Solid Waste Management Corp.*, 390 A.2d 348, 349 (1978).
9. A Separation of Powers Amendment to the RI Constitution, which was passed in 2004, specifically prohibiting legislators from serving on executive boards and commissions, is expected to trigger changes in the composition of the Council.
10. RICRMP p. 2 (1999).
11. Published jointly by the Rhode Island Department of Environmental Management and the United States Department of Agriculture, Natural Resources Conservation Service.
12. RI GEN LAWS §46-23-6(vi)(B)(4)(ii) (1971)
13. RI GEN LAWS §46-23-6(vi)(B)(4)(iii) (1971)
14. See *Town of Warren v. Thornton-Whitehouse*, 740 A.2d 1255 (R.I. 1999) and *Champlin's Realty Associates, L.P. et al. v. Marc Tillson, in his capacity as Building Official for the Town of New Shoreham et al*, 823 A.2d 1162 (2003).
15. See RICRMP §325.A.1. (1983)
16. 16 U.S.C. §1453(17) (1972) and 16 U.S.C.

