

**What Makes for a Successful Brownfield Redevelopment?
Three Baltimore Case Studies¹**

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Abstract

This study tracks the remediation history and redevelopment on three brownfield sites in Baltimore, Maryland. The sites are Camden Crossing, Highland Marine Terminal, and Crown, Cork, and Seal. The first project, Camden Crossing, promises to turn previously industrial property into a town house development. Highland Marine Terminal and Crown, Cork, and Seal were industrial sites transformed into warehouse space. The proposed residential, Camden Crossing, project has met with continuous impediments and delays, and is now running more than eight years behind schedule. The two industry to warehouse sites can be characterized as successful, with profitable enterprises now operating on both. The factors that appear to compress risk and contribute to successful brownfield redevelopments are continuous industrial use, a strong market for the final use, and quick movement through the Phase I and Phase II testing, Maryland Department of the Environment approvals, and reuse. The continuous industrial use means that cleanup standards are not as stringent as for residential use, thereby speeding cleanup and lowering remediation costs. Moreover, an uncertain market for the final product increases risk. For example, the warehouse market in Baltimore is much stronger than the residential market. The weak residential market in combination with stringent cleanup standards undermines the profitability of Camden Crossing. Finally, the delays in Camden Crossing have both resulted in and been further aggravated by changes in the Maryland Department of the Environment staff. Over the eight years the project has been under discussion, the Maryland Department of the Environment has revised and made cleanup standards more strict.

What Makes for a Successful Brownfield Redevelopment?

Three Baltimore Case Studies²

A comparison of three brownfield development projects in Baltimore, Maryland casts light on the characteristics that make for successful public involvement and redevelopment of brownfield sites. Only three years from land purchase to profitable operation, officials from the City of Baltimore and the State of Maryland consider the Highland Marine Terminal (HMT) a model brownfield redevelopment project. The Crown Cork and Seal project was completed in even less time. In contrast, Camden Crossing is a brownfield redevelopment project that has confronted a series of obstacles. The project is on its second developer and running more than eight years behind schedule with no end in site. Highland Marine Terminal and Camden Crossing involved government subsidy. Crown, Cork, and Seal is a completely private venture. This paper introduces the three sites, their reuse plans, their environmental histories, and their redevelopment histories. By identifying similarities and differences, I draws lessons about the conditions that reduce redevelopment risk and contribute to successful brownfield redevelopment.

Camden Crossing

Camden Crossing is the latest incarnation of a public/private brownfield development in Southwest Baltimore. The Camden Crossing project promises to turn a once contaminated site into middle-income housing. The property sat vacant when the Koppers Co. closed their

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operation in 1986 until 1993, when the City purchased the site. The Baltimore branch of the Koppers Co. was a metalworking, chemical, construction, and engineering business that made carriages for rail cars, rail engines, cannons and smaller munitions. The City agreed to clean it, and in a competitive bid round exclusive to housing proposals, the City, awarded the project to Ryland Homes, who teamed with Otis Warren, a local builder. In 1997, the Ryland/Warren team backed out of the project, after the discovery of additional contamination, underground tanks and buried foundations and possibly uncertainty about the market for middle income housing at this location.. The following year, the City awarded the project to a new developer, Metroventures. Metroventures received the contract based on their proposal for a 144 residential townhouse development catering to young professionals. This project is still in negotiation and more than four years behind Metroventures's most original timetable.

The Site

The proposed Camden Crossing development lies between McHenry, Scott, Poppleton, and Clifford Streets in Southwest Baltimore.³ The eight-acre site is in walking distance of the Inner Harbor, B&O railroad museum, Camden Yards baseball stadium and Raven's football stadium. The site adjoins Barre Circle, a district of century-old rowhouses "homesteaded" in the 1970s; Roundhouse Square, with 44 houses built in 1988; and a cluster of 10 houses built along Pratt Street since 1987. The restored rowhouses in Barre Circle sell for about \$85,000 to \$100,000. The townhouses at Roundhouse Square sold from between \$95,000 to \$115,000, and

³Specifically the parcels include 301 Parkin Steet, 250, 393, and 400 Scott Steet, 877 Ramsey Street, 311, 313, 315, 317, and 325 S. Poppleton Street, 842, 850, 852 and 854 Ryan Street, and 815, 819, and 823 McHenry Street.

the houses on Pratt Street originally sold for \$90,000 (McCabe 1995). Other houses in the neighborhood sell for less. Most rowhouses sold for \$30,000 to \$40,000 in the 1980s, and sold for as little as \$15,000 in the 1990s (McCabe 1995).

The site is located in Pigtown, which takes its name from the days when pigs were herded through the streets to slaughter. Pigtown is a neighborhood in decline, with all of the attendant social problems, including; housing abandonment, high crime rates, high rates of poverty, and a shift from homeowners to renters.

The Koppers parcel is in a Federal Empowerment Zone. Thus home purchasers would be eligible for a number of subsidies, including the City's Housing Ventures Fund, which provides \$5,000 towards the down payment or settlement, and the State's Community Development Administration low-interest mortgage program. Some buyers may also qualify for incentives through the City Home Ownerships Institute's "Live Near Your Work Program", and Settlement Expense Loan Program.

The site is also in the Washington Village Urban Renewal Area, which gave the city the power to acquire the site through eminent domain. Koppers, however, agreed to sell the property to the city prior to the condemnation process. The City purchased the property from Koppers for \$1.5 million.

Environmental History

The Kopper's Co. was the largest land owner on the site in 1986 and property has been used for industrial purposes since the mid 1800s. Portions of the redevelopment site have also been occupied by residents, a hay and corn warehouse, a barrel dealer, a rag dealer, a beverage distributor, a recycled paper dealer, wood storage, and a roofing business(Sanborn Maps 1890, 1915, 1953). In 1992, prior to the City's purchase of the land, Spotts, Stephens, and McCoy Inc. (SSM) was hired by the City to conduct a Phase I test on all 13 properties that eventually became

Camden Crossing. At this time, the Phase I included a visual review of existing conditions and an examination of the historical record, but no soil sampling and no consideration of the proposed use.⁴

SSM found asbestos in the building⁵, rags with oil, a paint booth, and three internal and three external transformers and fluorescent lights suspected of containing Polychlorinated Biphenyls (PCBs).⁶ Neither the transformers nor the fluorescent lights were damaged. On the basis of the Phase I, the City purchased the site.

The Baltimore Department of Housing and Community Development (BDHCD) contracted with SSM, who subcontracted with Clean Harbors for asbestos removal. When SSM and Clean Harbors went in to remove the asbestos in 1993, they discovered that in the interim since the original environmental assessment, vandals had entered the site and building and gutted the fluorescent lights and transformers for copper. Vandals spilled roughly 400 to 1,000 gallons

⁴ This 1992 study wouldn't satisfy current U.S. Environmental Protection Agency (EPA) standards. The EPA passed more comprehensive guidelines in *Guidance for Performing Site Inspection Under CERCLA: Interim Final*, September 1992.

⁵ Asbestos wraps on pipes and in roofing materials.

⁶ PCBs are used to transmit heat and as a plasticiser. PCBs are a suspected carcinogen if touched, breathed in, swallowed, etc.

of oil contaminated with PCBs.⁷ SSM alerted the City.

⁷ One lesson from this case is that once the government takes ownership of a property, they must maintain the same level of security as a private firm. In spite of seven years of vacancy, the Kopper's Company maintained security on the site. In the short six-month period between City purchase and the initiation of clean up, the lapse in security resulted in more than \$1 million in additional remediation expense.

In late summer, 1993⁸, the City contracted with SSM to evaluate the extent of the damage. With three-fourths feet of trash inside the Parkin Street building, the consultants had difficulty mapping the trail of the PCB contamination. Car and truck bodies, abandoned oil drums, trash, wire, and plumbing covered the building floor. SSM wiped and sampled the debris to determine the path and extent of the PCBs contamination. They located and charted the PCB trail, characterized both clean or contaminated garbage.

During the original Phase I testing, SSM observed a paint booth. Additional sampling was done at this time to measure paint-associated pollution. Around the paint booth, they found lead and Cadmium. The worst PCB contamination was found in a two foot by five foot pit, four feet deep on the first floor of the Parkin Street building. The floor and ultimately the building was removed, and the ground was cleaned down 12" to 14", to a clay lens where no further PCBs were detected. SSM scrubbed PCBs until there was no trace, both inside the building and out of doors almost to McHenry street. Cleanup stopped short of McHenry Street, from fear of hitting the gas trunk line that ran underneath the road bed. The PCBs were traced to McHenry St. through a 4" drain that ran from the pit to the storm drain in the street. At the street there was enough PCBs to be concerned, however at the outlet to the harbor, where the drains emptied, the levels were negligible. Altogether, the city paid \$1.5 million for cleanup of the PCB, lead, and cadmium contaminants.

The protocol for testing after a cleanup is to set up a grid and randomly select spots on the grid for testing. After testing, there was no evidence of PCBs and the site was approved for demolition. As a result, the construction rubble was disposed of as regular construction debris, not as hazardous waste. P&J Engineering was hired to carry out demolition, which raised which a whole new set of problems.

⁸ Tom Russ was employed by SSM on the project in October, 1993.

The construction company had a fixed fee to clear the site to 6 feet below grade and remove any debris. During the demolition, now in early 1996, crews found huge concrete footers and slabs that supported both the old factories and provided foundations for 19th century forge hammers. The plant had housed two five ton hammers and one ten ton hammer. In addition to the concrete foundation, contractors found underground storage tanks and a series of underground water, electrical, steam and fuel oil pipes. Much of this was impossible to remove and more than six feet below the surface. The crews also found small quantities of oil, toxic fluids, and soil contaminated with lead. The level of toxic contamination was not serious. The major anticipated costs now were with the removal of unknown concrete structures below the surface (Mirabella 1996).

Concrete hardens with age – and turns blue. According to Tom Russ, an environmental scientist with SSM, “the foundations and slabs were hard and blue.” Furthermore, the contractor ran into two unanticipated concrete vaults, each four feet deep, and a concrete box twenty feet deep with a ladder.⁹ As agreed, the contractor cleared the site to six feet below grade and removed the PCB-cleaned rubble. The smaller vaults were removed and the larger one was filled in. Additional contamination in the form of a grey/yellow slag high in lead was found in the back fill at the vaults. The contractor collected the slag, disposed of it, and re-tested – levels were close to zero. The contractor also attempted to clean the paint, but could not eliminate it entirely. The engineers removed a foot of soil, eliminating the lead and cadmium from around the paint booth.

P&J Engineering never completed the demolition. They were awarded the project for a flat fee and when the problems escalated the company couldn't afford to finish the job. In addition to the remaining foundations, oil remained in the ground, caused by storage tank

⁹ The vaults were clean, except for uncontaminated gravel in the smaller vaults.

leakage. Because of the extensive debris below the six foot clearance and the expectation of continued settling on the property, a decision was made that any development would be pad on grade. The agreement with the developer is that there will be no basements because of the foundations still remaining below the six foot line.

In 1997, the site was given a letter of “No Further Action” (NFA). This was prior to the creation of the State of Maryland, Voluntary Cleanup Program, and the Brownfield Pilot Program. This 1997 NFA letter does not carry the authority of law. It is a policy letter and provides no legal protection from owner liability. In 1997, the City entered the site into the State of Maryland’s, Voluntary cleanup program, designed to give the developer legal non-culpable status. For reasons described below, the developer has still not received release from future legal liability.

In 1997, SSM followed the standard grid testing protocol. SSM tested some points on the grid and the Maryland Department of the Environment (MDE) sampled others. SSM found no PCBs. However, the MDE reported “ concerns about...PCBs that were present at certain locations on the site”. MDE also reported concern about Polycyclic Aromatic Hydrocarbons (PAHs). PAHs are an organic compound that can result from fires or oil and gas decomposition (MDE 2001). The levels posed no danger to adults, but were elevated high enough to be harmful to children with long term exposure. These levels were high enough to concern MDE officials. On April 17, 1997, the City received a letter from MDE confirming that MDE would accept a “three foot buffer of clean fill ...placed between existing on-site soils and finished grade in areas where exposure may take place, such as open space and residential yards west of Parkin Street” (Graham 1999, p. 3). It was at this point that the Ryland/Warren team backed out of the project.

Redevelopment History

1900 to 1993; Industrial Years and Abandonment

From 1901 to 1915, the site belonged to Bartlett-Hayward and Co., Engineers and Founders, black smithing operation. In 1953, it was transferred to Koppers Company, a division of Bartlett-Hayward. Currently, the company is Koppers Industries, a Pittsburgh based chemical, carbon materials, railroad, and utility products company. Koppers vacated their Baltimore location in 1986 and the property became an eyesore after a nine-alarm fire in 1986 consumed the old Koppers Co. warehouse and ripped through nearby homes. Also located at the site were Boston Metal Co., which sold and repaired marine and industrial equipment, Harbor Iron Works, and a rag factory. The site sat vacant, overgrown, and littered with splintered boards, mattresses and the grey metal ruins of a factory from 1986 until 1993 (Mirabella 1994a).

1993: City Purchase

The City purchased the parcel for \$1.5 million in 1993, and put the concept of a residential development on the site out for bid in November of 1993. The City agreed to clean the site, setting aside \$1.4 million for this purpose. Residents of Pigtown, the surrounding community, worked with City officials to establish guidelines for land use. Residents lobbied hard for a residential development that would bring new customers and new life to the depressed commercial development along Washington Boulevard and would infuse new energy into a neighborhood teetering on poverty. While some residents would have preferred jobs on the site, a plan for housing was adopted. “We are excited we won’t have a vacant lot there.” said Doc Godwin, president of Hearts of Pigtown, “But we’re hoping these people will interact with us rather than jump in their cars and go shopping other places. We want them to support the businesses and mom-and-pop stores” (*Baltimore Sun* 1994). The City’s goal is to expand the middle income tax base in the city, creating an affordable urban neighborhood that provides an alternative to the higher priced housing being built on Federal Hill and Fells Point.

Three developers competed for the right to develop the sites, Ryland Homes and Otis

Warren Development Inc., Worthington Properties of Baltimore, and Rodwell Industries Inc. of Washington. All three proposals included middle income housing in the \$100,000 per unit range. Development rights were awarded to Ryland/Warren joint ventures because of Ryland's financial strength and marketing ability (Mirabella 1994b). Ryland Homes is the nation's third largest homebuilder and this was the company's first major plunge into the Baltimore City housing market.

1994-1998: Ryland Homes' Barre Station

Ryland's development, named Barre Station, proposed townhouses with garages, optional fireplaces, decks, and other amenities desired by middle income buyers. As described above, City contractors cleaned up the PCB contamination, but during the early 1996 demolition, contractors discovered underground concrete slabs, columns, and tanks on the site, delaying construction plans for more than a year (MDE 1996). In January of 1997, Ryland and Warren announced they would break ground for the \$11 million project in April of that year. Prices were announced to range from \$80,000 to \$130,000 per unit, and there were 101 to 114 units anticipated (Wheeler 1997). The April target date passed, and the project did not begin as predicted.

The City had spent \$1.9 million in environmental clean up, and thought they were living up to their agreement. City officials believe they did all they could to alleviate Ryland/Warren's environmental concerns. Still, worries over environmental liability weighed heavily in Ryland's decision to back out. According to Jim Joyce of Ryland Homes, environmental conditions were a critical factor in Ryland/Warren's decision to abandon the project,

“If Koppers caused the [environmental] problem, obviously [I] am not liable. If the city caused a problem in their demolition, [I am] not liable. But what if there is a condition that by moving that dirt around on that site, once it had been adequately buried, and now bring it to the surface while I had title, now maybe I'm liable”. “And you know the reality is, if a suit got filed...who would you sue first? The public company, with the biggest name and the deepest

pockets..in this case it would be Ryland”(Nubgart 1998).

Ryland officials were also uncertain about the level of protection offered by the State of Maryland’s letter of NFA. In March of 1998, Ryland/Warren decided to abandon their plans to redevelop this site and released their option to purchase the site.

As part of their decision to abandon the Barre Station development, James Joyce from Ryland homes claimed “The site still contains concrete footers from the Koppers plant like Stonehenge” (Nubgart 1998). While city officials and the project’s environmental consultant proposed just building on the top of the them, without basements, Joyce said they couldn’t be buried and removing them would add between \$500,000 to \$800,000 to development costs, raising home prices from \$105,000 to \$125,000 to \$130,000. (Nubgart 1998). According to the *Baltimore Sun*, after four years and hundreds of thousands of dollars, the two developers decided that project wouldn’t be profitable and that it was impossible to be certain that the property was environmentally clean (Nubgart 1998).

Aside from the environmental uncertainties, Ryland developers noticed that houses in adjacent neighborhoods, such as Barre Circle, were selling in the \$79,000 range with sluggish sales activity. That began to convince them that even at \$100,000, Barre Station would be a tough sell (Nubart 1998). Thus, most likely, worries about the financial returns played a role in the decision to abandon the project after more than four years of work.

A third factor in the back out may have been the transfer of key Ryland personnel. The original team, who was familiar with the risks of central city re-development, left and the replacement Ryland official had been a suburban developer. He was less comfortable with the risks of a central city development. Thus a change in management may have also played role in the decision to give up on the project.

Otis Warren was skeptical another developer could succeed stating,

“Why would we spend a couple hundred thousand dollars and four years of our lives and this is what we do...just walk away? It doesn't make sense...Maybe someone else can afford to take that risk. People jump out of airplanes, but I don't” (Nubgart 1998).

Some observers blamed the city. “The City has reneged on its promise to the developers to deliver the land buildable” according Joseph Brown Jr., a board member of an adjacent local homeowner's association and a neighbor to the site (Klein 1998).

1998 - Present: Metroventures' Camden Crossing

Although early estimates were that four developers would submit proposals in the City's new round of bid requests (Gunts 1998a and b), only two proposals were received. One from the Baltimore Streetcar Museum on Falls Road, who proposed to relocate to the parcel so it could promote itself and the B&O Railroad Museum as one destination for rail enthusiasts. The second bid came from Metroventures, proposing “Scotts Landing”, an \$18.6 million community with 144 townhouses priced at no more than \$105,000. The Streetcar Museum proposal wasn't given serious consideration because the BDHCD preferred a residential development on the site (Gunts 1998a).

The site was re-advertised in April of 1998, and in September of 1998, the City awarded the project to Metroventures. Metroventures proposed to build middle-income housing for employees working nearby at the University of Maryland at Baltimore, the University of Maryland Medical Center, and Baltimore City. Metroventures is a twelve-year-old Columbia, Maryland based real estate development firm and one of the largest most successful African American owned development companies in the country. This new developer changed the project name from Barre Station to Scotts Landing and finally to Camden Crossing to underscore the community's proximity to the stadiums and the rest of downtown and to show that a new team is involved in the development (Gunts 1999).

At the time of sale, the property was assessed by a private independent assessor at between \$339,000 (Hernandez 2000) and \$450,000 (Penn 2000). The land disposition agreement, i.e., contract of sale, has been approved by the City Board of Estimates, and the developer had 18 months after November 1999 to complete the contract. After May of 2001, the contract could either be voided or extended. The agreed upon sales price for the land is \$15,000 (Hernandez 2000).

The currently proposed housing units start in the mid-\$100,000s for three story homes with 1,800 sq. ft. of living space and a garage. The proposal includes 3 bedroom, 2 ½ bathrooms, with a monthly mortgage payment about \$800 to \$1,000. The annual household income needed to purchase one of the homes is about \$42,000. The *Baltimore Sun* reported on May 16, 1999, that Metroventures would start construction at the end of 1999 on the “largest piece of land available for residential construction near downtown Baltimore” (Gunts 1999). Nations Bank has agreed to provide the construction financing.

By July 1999, Metroventures application to the Voluntary Cleanup Program and their request for inculcable status was accepted by the MDE (Metz 1999). The developer was seeking “inculcable status” which offer them legal protection in the event the future contamination or repercussions for existing contamination are exposed. But by February of 2001, Metroventures had not received a letter of NFA, in part because there appears to be continued confusion over whether Metroventures has submitted an acceptable “Response Action Plan”(RAP) - a plan for dealing with remaining contamination. On May 18, 2000, Metroventures indicated that they were under the impression that a RAP had been submitted. However, a July 11, 2000 memo from MDE to Metroventures claimed that an acceptable RAP had not been submitted (MDE 2001) and as of June 7, 2002, MDE officials reasserted that Metroventures never submitted a

RAP (Kahlbacher 2002).¹⁰

Furthermore, there is confusion over what is an acceptable remediation strategy. In April 17, 1997, correspondence, the MDE stated “that a reasonable alternative work plan would be to ensure all exposed soil areas have at least three feet of clean fill for the final grade” (MDE 2001). This recommendation was incorporated in all future work plans for the site and was the basis for the site development drawings that approved by the developer. As late as early 2000, the MDE confirmed that the three foot clean soil cap with a membrane was an acceptable remediation strategy. However, on July 11, 2000, the Maryland Department of Housing and Community Development reports correspondence from MDE denying the adequacy of the soil cap method “noting that the remediation plan needs to comply with the current MDE guidelines for residential development of brownfield sites.” (Maryland Department of Housing and Community Development 2000, p. 2 and 3).

¹⁰ Upon reading the draft of this paper, the MDE official said “There is no confusion. Metroventures has not submitted a RAP”.

Therefore, as late as April 17, 2000, the developer and BDHCD were operating under the assumption that the MDE was still requiring the replacement of two feet to three feet of top soil over a membrane to remediate the PAHs found on the property during the 1997 tests.¹¹

¹¹ Metroventures proposed a plan to use tax revenues from first phase of development to clean up and pay for further site preparation expenses. Approval for this process, called a “Certificate of Participation” was denied by the MDE.

At a December 13, 2000 meeting, the MDE refined their policy and asked the developer to bury the contaminated portions of the site under parking lots or commercial space. This would leave 80% of the site in residential space, with the remaining 20% in common parking or commercial development. The developer responded with a proposal to cap the backyards of all residences with four inches of concrete, claiming this will add \$400,000 to the total cost. MDE's objection to the concrete proposal is that with third party ownership there will be nothing to prevent owners from disrupting the paving in their yards and coming in contact with contaminated soil (MDE 2001, p. 6).¹² Metroventures objects to the transfer of 20% of the site to commercial use, because market studies indicate no demand for additional commercial activity in this neighborhood. In fact, existing and better located commercial activity at Mt. Clare is not doing well economically (Paull 2001). Metroventures objects to MDE's proposal for communal parking because parking would not contribute sufficiently to the project's bottom line. A ground breaking scheduled for April 1, 2001 passed with no action.

Rather than comply with MDE requirements, Metroventures pulled out of the Voluntary Cleanup Program in January of 2002. To cope with the environmental issues on site, Metroventures will rely on the 1997 NFA letter and has proposed deed restrictions that notify each home purchaser of the contamination issues on the site and forbids digging more than two

¹²Some charge as well, that current MDE officials are setting clean-up standards too high, that there is little science to back it up, and that a sophisticated site assessment would demonstrative that the MDE is overly protective and setting standards so high as to prohibit the redevelopment of any brownfield sites for residential use.

feet into the three feet of new fill. A homeowners association will inspect and enforce the covenants (Metroventures, Declaration of Deed Restrictions 2002). Key to this new Metroventures approach, is the fact that the lender has agreed to back the project even without a NFA letter from the State's Voluntary Cleanup Program. According to Suzanne Graham this approach has been piloted in brownfield redevelopment projects in Philadelphia. Moreover, the three feet of fill and the proposed covenants would make this site safer than most in the City. Metroventure's most recent timetable calls for a ground breaking in the summer of 2002 (Graham, Nelson and Powell, 2002). In spite of the delays and obstacles, it is too early to call the Camden Crossing project a failure. Metroventures continues to remain committed to the project and confident of success..

The Highland Marine Terminal

The City of Baltimore and State of Maryland, Department of the Environment (MDE) consider Highland Marine Terminal (HMT) a model brownfields redevelopment project. HMT is a profitable, privately initiated project, subsidized by the State of Maryland and the City of Baltimore. The 32 acre site is located in the heart of Southeast Baltimore's port industrial district.

American Smelting and Refining Co., a copper processing plant operated on the site from the early 1900s to 1977. They left behind metal contamination that was remediated with the help of a State of Maryland subsidized loan, a loan guarantee, and a letter of "No Further Action" and \$40,000 in grants from the City of Baltimore. The redeveloped site currently has 1 million sq. ft of fully leased warehouse and office space.

The Site and Developer

The site is at 1601 South Highland Ave, in the heart of Baltimore's port related industrial area. The developer, P.F. Obrecht and sons, is an experienced Baltimore developer, and they currently own and manage about 2 million sq. ft. of commercial space, much of it in the city limits of Baltimore¹³. At the time of project initiation in 1995 and up to today, low-cost warehouse space near the port is in short supply. After tests determined the site "wasn't glowing" Obrecht and his partners concluded the property was worth the risk (Kline 1996). This was one of the City's first brownfield projects, and market demand and State and City support compensated for the risks associated with owning a contaminated parcel.

Environmental History

American Smelting and Refining Co. (ASARCO) processed copper on the site beginning in the early 1900s. ASARCO moved out in 1977 and the property was sold to Parker Realty Company. Petroleum Fuel and Terminal Service Corp bought the property from Parker in 1981 and the Obrechts purchased the property in 1995. In the years after ASARCO ceased production, the property sat partially vacant and scavengers removed everything from the site that was of value. In 1995, the property was covered with rusting metal warehouse roofs and piles of trash. Sewage flowed straight into the harbor.

Prior to their 1995 purchase, Obrecht consultants conducted a Site Characterization and Remediation Feasibility Study (Kozema 1995). The report indicated primary site contamination from the metal used in the refining and processing of various ores during the ASARCO years. Lead, arsenic, antimony, beryllium, copper, nickel, silver, and selenium levels exceeded the U.S.

¹³In 1998, they owned twice this number, before putting 50% of their holdings up for sale in 1998 (Harrison 1998).

Environmental Protection Agency standards, but it was the nickel, silver, and selenium levels that were of major concern (Kozera 1995).

With the agreement of MDE, the developers used a soil fixation method to resolve the contamination problems. A 5" layer of contaminated soil over 2 ½ acres was dug up and mixed with Portland cement via a pug-mill to achieve a soil/cement mixture. Approximately 4,000 cubic yards of material were processed and placed in the eastern portion of the property and capped with asphalt. Obrecht agreed to monitoring of the treated soil every six months for a period of two years after treatment; and quarterly monitoring of ground water for five years. Asbestos, lead paint and PCBs were removed from buildings, and the underground sewage system was rerouted to prevent sewage from pouring into the harbor (Kline 1996, Kozera 1996, Obrecht 2000, MDE 1997). The agreement between the Obrechts and MDE was finalized in November of 1995 and the soil fixation and capping of the contaminate soil was completed in September 1996. Aside from the environmental cleanup, the Obrechts had to remove 250 truck loads of trash and raze obsolete buildings.

Redevelopment History

The Obrecht company paid \$5 mill to buy the land and spent an additional \$7 mill to develop the parcel. The developer received a \$20,000 grant from the City of Baltimore to conduct environmental tests and another \$20,000 from Maryland Board of Public Works to begin renovations (Daily Record 1996). One-half of the \$11.5 million project financing came from a single private investor. Mercantile bank provided another \$5 million, of which \$3.5 was guaranteed by the state. Another \$1 million was put in by the State of Maryland in low interest, 5.64% loans. Clean up costs totaled \$1 mill.

This was the State of Maryland's first brownfield project, initiated and completed before the State's 1997 Voluntary cleanup law. The developer received a state issued "No Further Action (NFA) letter, releasing them from liability, once the agreed upon cleanup standard had been reached. Even with the "NFA" letter it would have been difficult if not impossible to get private financing without the state loan guarantee. The developer approached seven banks and were turned down by six (Tom Obrecht 2000). Approximately 100,000 sq. ft. of buildings were razed and replaced. Other buildings were renovated, and others are original. The current charge for warehouse space is from \$2.75 to \$4.00 per sq. ft, with the higher price for the space in the newer buildings.

By November, 1996, the project was 95% pre-leased, including 733,000 sq. ft. of space and seven acres of outside storage (Bowie 1996). Today the project is currently fully leased (Tom Obrecht 2000).

Crown, Cork and Seal

Crown, Cork and Seal is a privately financed brownfield redevelopment project, initiated by Wells and Tom Obrecht. Once, a machinery manufacturer, making bottling and canning equipment, Crown, Cork, and Seal sold out to a group of employees, Crown Simplimatics, who then phased out the Baltimore production altogether in January of 1998. The Obrechts took ownership in January of 2000 and, without subsidy, conducted the environmental testing and cleanup to the Maryland Department of the Environment's standards. The current warehouse space is nearly 100% occupied.

Environment History

The Obrechts hired for Phase I and Phase II testing early in the purchase negotiations. Tests indicated the site was contaminated with PCBs - from a leaking transformer and ballasts, metals, solvents, oil and asbestos. Obrecht did not want to take title of the property before he had legal protection. Therefore he negotiated with the seller for help with remediation, and cleanup of the PCBs and decontamination was carried out jointly by the seller and purchaser before the land changed title and before entrance into the MDE Voluntary Cleanup Program.

As new owners of a contaminated site, the Obrechts determined that if they purchased the un-remediated land, applied to the MDE's Voluntary Cleanup Program, submitted the required "Remediation Action Plan" (RAP) for approval, conducted the site cleanup, and then applied for the NFA letter the process would have taken 8 months to a year. Delays are the result of the need for posting of signs, public meetings, and negotiations over cleanup standards in the RAP process. The advantage of cleanup with the cooperation of the existing owner was that the Obrechts could skip the RAP phase and apply directly to the Voluntary Cleanup Program for a NFA letter.

After the cleanup and taking title to the land, the Obrechts applied to the State of Maryland's Voluntary Clean Program and received the NFA letter in four months. Both remediation and receipt of the "No Further Action" letter took between six to eight months. Clean up costs totaled about \$150,000 (Wells Obrecht, May 28 and June 14, 2002)..

Development History

The site is located in the Canton industrial area, near the port of Baltimore. The profitability of the nearby Highland Marine Terminal was a factor in making Crown, Cork and Seal an attractive development project. The site totals approximately sixteen acres, with a

350,000 square foot building footprint. Fifty sq. ft. is in office space and 270 sq. ft. in warehouse space.

The Obrechts purchased the property for \$4.3 million, and spent \$3.5 on renovations. The financing was provided by a banker accustomed to dealing with historically industrial properties. No government subsidies were involved. Currently, their warehouse space is at full occupancy. According to both Tom and Wells Obrecht, “without the States brownfield program we would not have done it. The environmental issues would have deterred us, the project would not have been done or been done by someone with deeper pockets”.

Lessons

Comparing the successful HMT and Crown, Cork, and Seal projects with the troubled Camden Crossing project puts some of the barriers as well as some of the conditions responsible for success in relief. Market, environmental, regulatory, administrative, and political risk all plays a role in brownfield redevelopment outcomes.

First, HMT and Crown, Cork, and Seal faced a more certain market for their final product. In Baltimore, there is a strong market for port-related warehouse space. In comparison, Southwest Baltimore’s residential housing market is fragile. In the mid 1990s, the vacancy rate for warehouse space was running about 4% lower in Southeast Baltimore than in the Baltimore suburbs (Howland and Dubroff 1997). In contrast, current estimates are that there are 12,259 abandoned houses and 24,259 additional unoccupied houses (well kept but without tenants) in Baltimore and 1,152 abandoned and an additional 1,483 unoccupied houses in the

Southwest area of the City (McMahon 2001).¹⁴ This housing surplus in City and the neighborhoods surrounding Camden Crossing undermines the profitability of a new residential development and makes it even harder to justify the climbing cleanup costs and outlays resulting from development delays.

Second and importantly, HMT and Crown, Cork and Seal retained the same industrial to industrial use, whereas Camden Crossing is shifting from an industrial to residential use. A switch to residential use increased the project risk. An invariant industrial use means that the land does not have to be as clean and public officials are not as jittery over the appropriate clean-up standards and methods. In the case of both HMT and Crown, Cork, and Seal, MDE officials quickly accepted the proposed clean-up levels and strategy. In Camden Crossing, where children may come into contact with the soil, MDE officials have been less precise about clean-up remedies, and in fact have modified and tightened the standards mid-course. An added advantage for HMT and Crown, Cork and Seal is that the sites are not proximate to residential areas, which would have added to government concerns over cleanup standards, future liability risks, and citizen protests which can cause delays. As a result, the approval process was quicker and cleanup standards less stringent for HMT and Crown, Cork, and Seal than for Camden Crossing.

Third, the character and level of contamination also influences the risk and probability of success. The higher costs at Camden Crossing are not only due to the planned residential end

¹⁴ The *Washington Post* (May 9, 2002) puts estimates of vacant houses in Baltimore at 42,481.

use. At Camden Crossing, in addition to toxic contaminants, planners ran into unexpected underground infrastructure that has proved costly to remove. The costs of cleanup are already 6 times higher at the Camden Crossing Site than the HMT site, and 40 times higher at Camden Crossing than Crown, Cork, and Seal. Contamination remediation at Crown, Cork, and Seal was \$150,000 and was \$1 million at HMT. Cleanup costs at Camden Crossing have topped \$6 million and estimates are that another \$3.5 million is needed to finish the job. Higher cleanup costs require either greater public subsidies or higher private profitability. Where the remediation expenditures come from public subsidies, especially in the form of direct subsidies rather than loan guarantees, the project will attract tax payer attention, scrutiny and potential resistance. In Camden Crossing, public officials are finding it difficult to justify larger subsidies than they have already invested and residential market demand doesn't seem to justify additional private costs.

Fourth, the local experience of the developer plays a role in project success. The HMT and Crown, Cork, and Seal developers are familiar with the local market. Both are Obrecht projects and the Obrecht Company has a long history of developing and owning land in the Canton and Baltimore industrial land market. In contrast, both Ryland Homes and Metroventures, the first and second developers for Camden Crossing, are novice central city developers and new to the Baltimore market. Lack of confidence in the project's profitability contributed to Ryland's pullout.

Fifth, all delays in implementation add to the legal and administrative risks. The Crown, Cork and Seal project finished within the year and the HMT project occurred, start to finish, within a three-year period.. Thus these projects began and ended with essentially the

same MDE and City staff. The Obrechts, therefore, avoided changes in policy that can occur when there are changes public sector staff. In contrast, the Barre Station /Camden Crossing project has been in the works for approximately nine years, and during this time, key MDE staff departed and new staff - with different levels of risk averseness - have arrived. Consequently, the current Camden Crossing developers are now facing cleanup standards and requirements different from those that existed when they took on the project.

Sixth, sites near residential communities face greater political barriers and risks. In the case of Camden Crossing, which is located in the midst of existing residential neighborhoods and a commercial district, citizen groups lobbied for uses that served their interests. Citizen input led city officials to exclude competing commercial activities and favor adding clientele for existing businesses, i.e. residential. A pure market assessment might have suggested another land use. In the cases of HMT and Crown, Cork and Seal, the surrounding industrial uses and distance from any residential areas meant that there were few political constraints on these site's future uses.

Finally, privately initiated projects are more likely to be successful than projects that are initiated by public agencies. This not a critique of the public-sector's initiation of brownfield redevelopment efforts, but only a comment about which types of projects are more easily implemented. It is, however, completely appropriate for the City to initiate the more difficult, riskier, less profitable projects that the private sector will not tackle alone. In the Camden Crossing case, the site remained idle and vacant for seven years with no interested buyers on the horizon. This vacant eight-acre parcel created a major eyesore for the surrounding residential and commercial community. HMT and Crown, Cork, and Seal sat on the market for less than a

year and private developers initiated the projects after they saw the possibility for profitability.

In summary, market, environmental, legal and administrative, and political risks play a role in brownfield redevelopment successes and obstacles. The three cases examined here highlight a number of lessons for successful brownfield development. First, when the ultimate land use is determined solely by market profitability, as was the case for HMT and Crown, Cork and Seal, risks are smaller. When a project calls for a transfer from a contaminated industrial use to a residential use, redevelopment is more costly than an industrial to industrial reuse. Where a residential use is proposed, the economic conditions have to be more favorable to justify the higher cleanup costs. Moreover, it is important for private developers and city officials to move quickly to avoid changes in city and state agency personnel, which can cause cleanup standards and strategies to become a moving target. Finally, the more complex the pollution, the more favorable a project's social and private economics have to be to compensate for the risk of unsuspected additional cleanup costs. In the case of Camden Crossing, the project has all four strikes against it.

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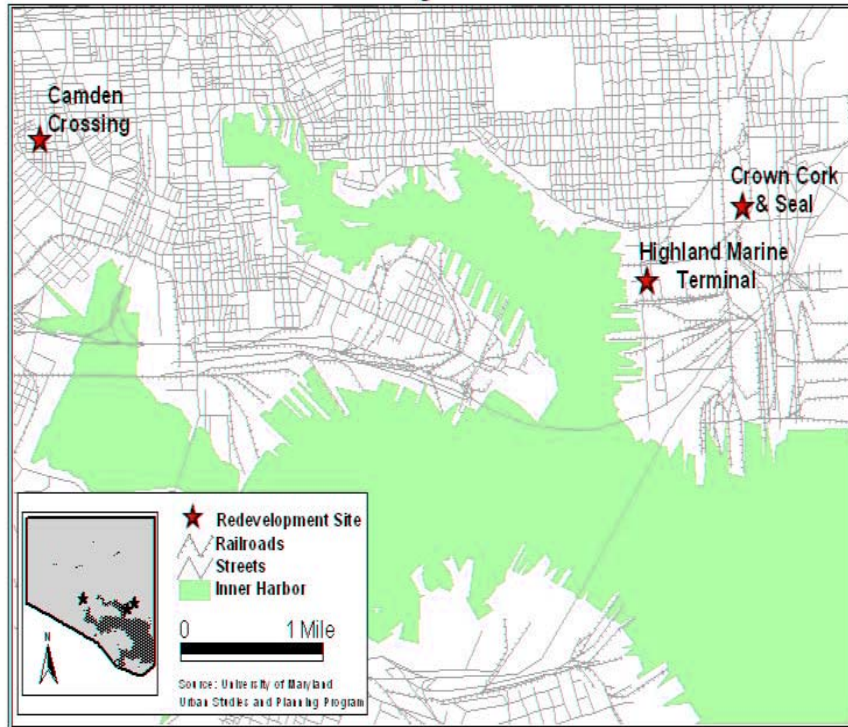




Photo 5: Portion of old building foundations on southern portion of site



Photo 6: Portion of old building foundations on southern portion of site