

**CHEMICAL LANE/MONSANTO**

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## **Chemical Lane/Monsanto, Everett MA**

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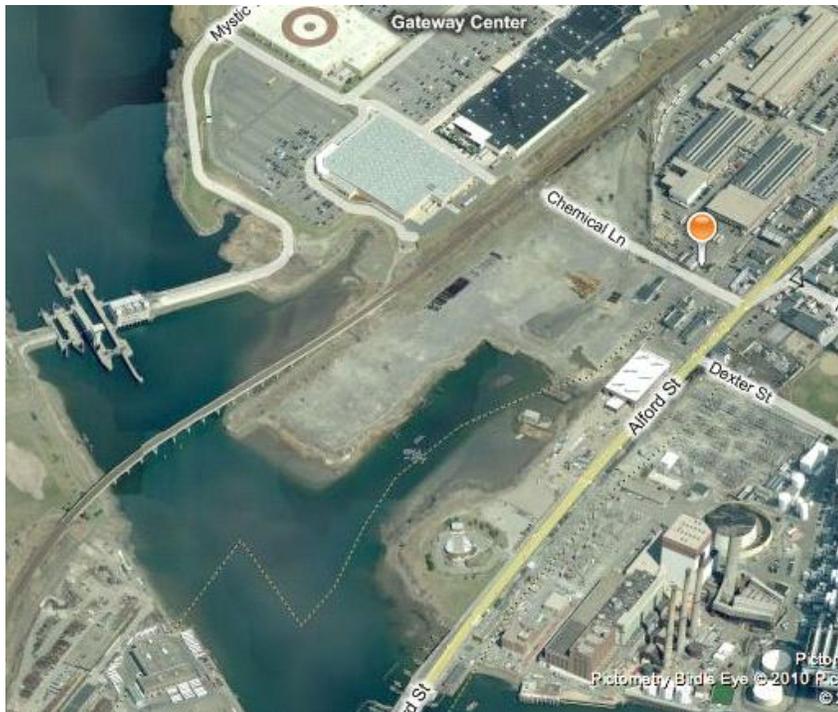


Figure 1: Overview of Chemical Lane/Monsanto in relation to city boundaries of Boston and Everett; as shown by the dotted line. Bing Maps, 2011.

### Introduction

With respect to nature, perfection only exists when our natural wonders are left to be. Once mankind gets his hands on such pristine beauties, conditions are, often for the long-term, far worse off.

There are few places on earth in which man has not left his mark. The Commonwealth of Massachusetts is certainly no

exception. One particular area in which man has degraded to the point where life is not sustainable is Chemical Lane/Monsanto in Everett, Massachusetts. Chemical Lane/Monsanto was occupied by a host of chemical manufacturers, hence its name, for a minimum of one century. The surrounding soil and area of the Mystic River was, and likely remains, contaminated with the remains of the chemical production and disposal of yesteryear.

Chemical Lane is not the specific name for the site at 22 Chemical Lane in Everett. In fact, there are many different names that reference this particular site, as well as many different addresses. Older generations may remember this parcel of land as the former Monsanto Chemical Company site due to the fact that it once was used as a chemical plant. However, recent generations call it Chemical Yard or Horizon Way. These titles refer to the street the site is on, and changed when major industry changed. Presently, it is known as Horizon Way due to the current name of the

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street. This parcel of land is easy to identify because it is the only site on Horizon Way that has a large undeveloped area.

### **Background**

The Chemical Lane/Monsanto site has an extraordinarily complex history. Before progressing any further, it should be noted that for the duration of this assessment, the site will be referred to solely as the East Side. This is because the parcel on the opposite side of the Mystic River was referred to as the West Side. The East Side parcel was once known as Monsanto Lane and later Chemical Lane (Johnston, 2010). To this day, the site is commonly referred to by both of these names. This makes finding the area on a map difficult because the official present-day documented name is Horizon Way.

As an aside, today, the West Side is capped off with ten feet of blue clay (Johnston, 2010). Atop the parcel sits the Gateway Mall, a popular outdoor shopping center. Vast amounts of chemicals leaked from the plants and seeped into the ground. Area groundwater and soil beneath the blue clay remains contaminated. This is certainly the case for the East Side. This is also the case for the West Side's land beneath Gateway Mall, despite the mask of landfill.

Chemical Lane's East Side is unique in its geographic arrangement. The site is mostly found in Everett. However, a small lot on the East Side rests in Boston (Figure 1). This lot remains in the hands of Boston because of the Tobin Bridge. Massachusetts law states that a city can collect the funds from a toll bridge as long as the bridge is within one thousand feet away from another city (Johnston, conversation). Chemical Lane is on the outskirts of the one thousand foot mark; hence, Boston still retains a hold on it. If Boston sold this tiny piece of land to Everett, then Everett would have the right to part of the toll collected. East Side is between the Amelia Earhart Dam and the Alford St. Bridge. Also, the only physical barrier that separates the East and West Sides is the MBTA's commuter rail tracks.

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### ***James W. Cochrane Chemical Company***

Reverting back to the East Side, the oldest known inhabitant of the East Side was the James W. Cochrane Chemical Company. Cochrane Chemical made use of the first dye house on the site. The site became famous during World War I. This is because Cochrane became well known for its production of war materials. Specifically, Cochrane Chemical was known in Everett for the producing the first hydraulic acid in the United States (Johnston, 2010). At this point of production, Cochrane Chemical held over 113 acres of land in Everett on both the East and West Sides and beyond. The site was comprised of approximately 50 buildings (Johnston, 2010). This land was soon sold to Merrimac Chemical Company, who held it for a little more than a decade.

### ***Monsanto Chemical Company***

In 1929, Monsanto purchased an island stretching approximately thirty acres located on the Mystic River in Everett, Massachusetts (Johnston, 2010). These thirty acres were formerly a small portion of Merrimac Chemical Company's empire. Monsanto Chemical Company was, at this time, the largest chemical manufacturer in the nation. This land in Everett was one of Monsanto's largest chemical plants in the U.S., early in the company's history. While in the hands of Monsanto, the island was used to produce plasticizer, sulfuric acid, and polyvinyl butyral, as well as to store acids, aluminum, and dyes (O'Reilly et al. 1995; Johnston 2010). Monsanto also produced pentachlorophenol (PCP). Genealogist Jim Denning reports that the safe levels of PCP levels in the air were approximately 0.000072 parts per billion (ppb) prior to 1940. In Everett, Monsanto's level of PCP exceeded 2.0 ppb. (Denning, 2005)

### ***Additional Contaminant Sources***

At various times, Cochrane, Merrimac, and Monsanto Chemical companies owned the land comprising the East and West Side parcels. Nevertheless, these parties were not the only ones responsible for the atrocious condition along the Mystic River. The Massachusetts Bay Transit Authority (MBTA) also had, and continues to have today, though in a lesser degree, a presence

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in close proximity to the East and West Side parcels. The original Everett Station was near the Mystic River. Everett Station was the beginning of the orange line, prior to the construction of Oak Grove, Malden, and Wellington stations. In addition, an MBTA bus garage and maintenance facility is also located off of Alford Street/Route 99. It has been reported and is certainly true that MBTA property (soil, groundwater, air) was contaminated as a result of the pollution brought on by the area chemical companies. However, while the chemical companies are responsible for the majority of the contamination on the East and West Side parcels and much of the Mystic River, the MBTA holds responsibility as well. During our visit to the East Side parcel, we learned from Officer Patrick Johnson that the MBTA would discard unwanted, broken down subway motorcars and buses by dumping them into the Mystic River when the tide was low. The parts would be set ablaze and left to wash away and disintegrate over time.

In addition to the MBTA, from the 1800s on, container ships would travel along the Mystic River to deliver various chemicals to the chemical plants in order for them to produce more sophisticated chemicals. The predominant delivery was sulfur. This was primarily used to make sulfuric acid. The Mystic River can swell to approximately nine feet during high tide. As such, it was very easy for small ships to capsize (Johnston, conversation). Accidents often occurred and the cargo would spill into the Mystic River. The tidal effect would cause the spillage to not only wash into the river but to also overflow onto the land. The muddy contaminated sediment would also leech into the soil and groundwater.

#### ***Early Clean-Up Efforts***

There have been previous initiatives to clean up the site. For example, in 1995, Monsanto took the liberty in hiring O'Reilly, Talbot & Okun Associates, Inc. (OTO) to monitor and remediate the site. Under the Massachusetts Contingency Plan (MCP), firms are allowed to hire Licensed Site Professionals (LSPs) (O'Reilly et al. 1995) to serve as fiduciaries. This means to act in the hiring firm's best interests. As an LSP, OTO was responsible for establishing a plan to clean up the site and report the results back to the Massachusetts Department of Environmental Protection (MassDEP). The results were most certainly biased. After all, how can one expect Monsanto's fiduciary to report the reality of the conditions of the site?

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OTO's Monsanto Chemical Company Massachusetts Contingency Plan Compliance Project Summary is readily found on the internet (link located in Works Cited). As the reader scans the first few paragraphs of this report, it appears that all of the land located along the Mystic River in Everett that housed chemical manufacturers is included in remediation efforts. Reading further down the document, it specifically states that the efforts are only geared towards the West Side parcel. This is where the shopping center is now located. No mention of the East Side parcel is made.

Soil in various areas of the East Side parcel has been tested. Each of the areas has proven to have different levels of contamination. Some are naturally highly toxic while others have little contamination. The parties who test the soil in a less toxic area may opt to conclude that the site is not heavily polluted and recommend going ahead with developing the site. Of course, the regions of the site with different levels of contamination can change at any time, depending on a handful of factors: the amount of precipitation that falls and is stored as groundwater and wind and erosion that moves drier soil around.

### ***Turn of the Millennium Site Status***

November 1999 to February 2000 was a significant period where reportable action was taken to remediate the East Side parcel. An LSP was designated for the site. Two occurrences took place on November 17, 1999. This was the day that the LSP reported his finding to MassDEP. First, MassDEP declared a Potential Release or Threat of Release. This means that the site may contain a significant hazard and it may have to be reported to other affected parties. This could include the Cities of Everett and Boston. Of course, the hazard is only a possibility and would have to be investigated further before jumping to conclusions without obtaining all of the facts. Later that same day, November 17<sup>th</sup>, MassDEP orally approved a plan of action to remediate the site. The only details available are the fact that the orally approved plan was to issue an

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immediate response to the LSP and all affected parties that the site would be a priority investigation.

A series of filings were made with MassDEP during this three month window and the status changed each time. In January 2000, it was determined that asbestos from the Central Artery diversion, as part of Boston's Big Dig, was dumped at the East Side parcel. After further investigation, it was deemed that one pound of asbestos was present on the site. To go into greater detail about each of the site's designations, its reporting category was two hours. This means that once the asbestos was found on the site and later removed from the site, the LSP had two hours to report the findings to MassDEP. The presence of asbestos or any significant toxins that are harmful to life prevent unprotected contact with the site and must be reported and remediated as soon as possible. The East Side parcel was classified as A1. An A classification refers to the fact that "Remedial work was completed and a level of 'no significant risk' has been achieved" (MassDEP website). A1, more specifically, means that "A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated." (MassDEP website) The site was categorized as a Response Action Outcome (RAO). This means that "a site/release where an RAO Statement was submitted. An RAO Statement asserts that response actions were sufficient to achieve a level of no significant risk or at least ensure that all substantial hazards were eliminated" (MassDEP website).

Multiple key parties were involved during the removal of the asbestos and following the removal during the reporting period. The LSP at this time was William Swanson of Camp Dresser and McKee (CDM) of Cambridge, MA. The firm responsible for overseeing the removal of the asbestos was Modern Continental of Boston, MA. The hauler was EWT Contracting of Newton, MA. The final step was for EWT to transport the material to a landfill operated by Minerva Enterprises in Waynesburg, OH (MassDEP).

Exactly three months later, MassDEP concludes its investigation. A Response Outcome Action is declared. MassDEP seeks approval from the LSP to release the official Notification Form to

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affected parties with the results of the investigation. The result is deemed Reportable. The reportable status is that the condition of the site was hazardous and has been remediated by removing the asbestos (MassDEP website). Massachusetts law mandates that this information be released to the public.

### **Project Goals and Objectives**

The East Side of Chemical Lane is a considerably vast open space with much potential. Deciding what to do with this open space presented challenges. For example, due to its location near functioning chemical plants, the site may be deemed undesirable to residents and visitors alike. Furthermore, access to the site is challenging given that the only present entranceway is behind a car wash and a gas station. Nevertheless, if development on this site is successful, it may be a gateway to other successful clean-up sites along the Mystic River.

Before deciding on what to do with this parcel of land, weekly meetings were organized. Every Wednesday afternoon, the researchers of this site met in order to organize thoughts and discuss plans. Plans included short- and long-term goals, as well as objectives. For short-term goals, it was imperative that progress was made each week. Informational databases were searched out during these weekly meeting. For instance, a visit to the Massachusetts Archives in Boston was held. While the visit did prove this resource to be very informational, not much of its content was relative to the project. To elaborate, Massachusetts Archives had maps on the boundaries of Chelsea and Everett, the channels near the boundary of Boston and Everett, and the planned proposed sewer systems in 1885 for Everett and Malden among others. While valuable, these and other maps were not helpful. Since the maps covered a large amount of area, Chemical Lane became too small compared to the rest of the map, thus most of the details were lost. Another database that was explored frequently was the Mystic River Watershed (MyRWA) website and the MassDEP website. While these resources were obviously related to the site, where to begin searching became the problem. At this point, since it was not known what to do with the site, these databases were set aside for later use.

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For a long-term goal, people and agencies that were associated with Chemical Lane would be contacted. Provided by Dr. Anamarija Frankic, a report written by Officer Patrick Johnston was obtained. Officer Johnson's report, titled "The Former Monsanto Chemical Company Site – 'East Side' Everett, Massachusetts," was a brief yet detailed description on the history of the site as well as its condition. The report was a very useful tool and was the perfect backbone for deciding on what to do with the site. A short-term goal pertaining to Officer Johnston was to speak with him in order to discuss his report and gather more information.

However, before Officer Johnston was reached, EkOngKar Singh Khalsa was contacted. Mr. Khalsa is currently the executive director of the Mystic River Watershed Association. It was imperative that one of our short-term goals was to make an appointment with him and speak with him in person. Since he is the executive director, we were confident that he could provide more history about the site as well as any existing plans regarding what to do with the parcel of land.

A long-term goal was to frequently visit the site. At least once a month, an outing was arranged in order to see the site at various stages of the seasons, perhaps with someone who knew the site, such as Officer Johnston or Mr. Khalsa. Regardless of who came, it was still important to drive to the site and see the state of it due to the limitations of what pictures can capture.

Based on the short and long-term goals, a final objective was created. The objective of making these goals, and essentially, the intent of the project, was to figure out what to do with the site given its location and history. From the beginning, it was well known that the site was contaminated and had a rich history of one chemical company after another occupying the site. It was also well known that the site was not in a prime location, given that smokestacks from the chemical plant across the street could be visibly seen from the site. Deciding on what to do with the site that would not only benefit the community, but also the environment, became the ultimate goal.

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### **Methodology**

To complete our assessment of Chemical Lane's East Side parcel, we employed a variety of means to broaden our understanding of every dimension the site. We began our research at the very beginning back in early February. We hit a number of obstacles along the way and often felt significantly behind compared to the progress and level of depth displayed by our classmates. In addition to that, during a particularly snowy winter, it was difficult to travel to and actually see the site because it was covered with snow and ice.

We commenced the project by reading Everett Police Marine Unit Officer Patrick Johnston's detailed document outlining the history of Monsanto/Chemical Lane. His paper is built on a combination of first-hand knowledge of growing up and living in the area and of detailed research. Following us learning about the history of the site, we decided to it was time to visit Chemical Lane. We knew exactly where it was in Everett in relation to other landmarks. Yet, while traversing Alford Street, it was difficult to find. That is because Chemical Lane is off of a small road located between a Dunkin Donuts parking lot and a car wash. It wasn't what we expected. On arrival, we were disappointed to find that the site was all fenced off and that we could not gain access. From the angle in which we saw it, the site looked very small and it was still snow-covered. Our initial thoughts were that it would be very difficult to come up with a plan for the site given the size and level of accessibility. Accessibility meaning proximity to residential zones and business zones frequently inhabited with pedestrians. This is not particularly true for this section of Alford Street. The area is predominantly industrial with some commercial businesses and residential dwellings on side streets across the opposite side of Alford Street.

Our next step was to contact EK Khalsa, the Executive Director of the Mystic River Watershed Association. Scheduling a meeting with him was challenging due to him being out of the office. Just when we were feeling particularly defeated, he contacted us and we were able to meet with him the following week. Our meeting with Mr. Khalsa proved to be highly beneficial. As a result, we had a number of tips for progressing with our research. For starters, we learned about how we could access the site from the West Side. This would allow us to see the site for what it

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actually is. We also learned about the Massachusetts Contingency Plan (MCP) and the requirements for site remediation and reporting issues of contamination on sites of this condition. Mr. Khalsa explained MassDEP's File Review process. This entailed visiting the MassDEP Northeast Regional office in Wilmington to obtain all of the written records on file about Chemical Lane. We requested an appointment to examine the files pertaining to the site, but have yet to hear back at the time of the completion of our research and the semester. Contacting the City of Everett's Inspectional Services office proved to be worthwhile. We learned from the Building Department that the area is a mixed use zone. The office extended an invitation to us to come in at any time during business hours to view files related to the site. We did not take them up on this offer because we had already requested an appointment with MassDEP. We were confident that MassDEP would prove to be far more helpful with respect to the contamination on the site. This is what we were aiming to discover. The City of Everett would be geared more to the history of who owned the site and what it was used for and when. Finally, most helpfully of all, Mr. Khalsa gave us the specific contact information for Officer Patrick Johnston.

We also had the privilege of meeting with Officer Johnston and touring the site with him and Dr. Frankic. We began at Gateway Mall, the old West Side parcel. Here, we were able to get a beautiful view of the Mystic River, the Amelia Earhart Dam, and a very noticeable plug (from where we were standing). We learned that the plug, which remains visible today, was placed into the outfall by Greenpeace to try to prevent Monsanto from releasing combined sewer output (CSO) into the Mystic River. Greenpeace attempted this feat twice and failed both times. However, the plug is a permanent feature. We then traveled around to the Alford Street entrance

of Chemical Lane.

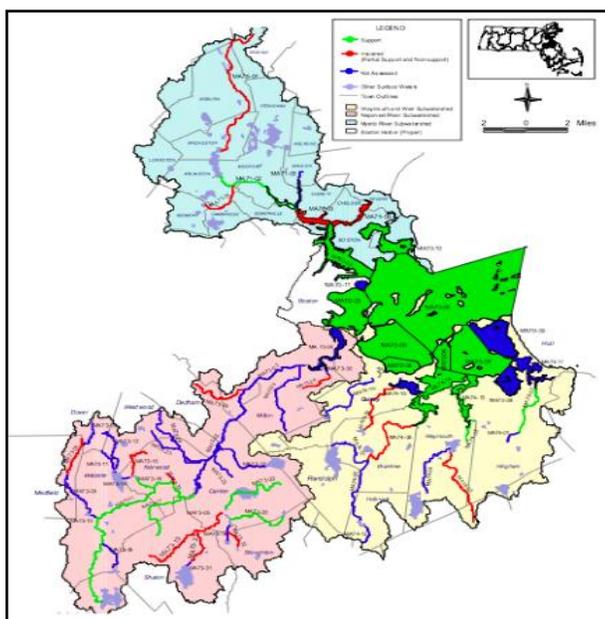


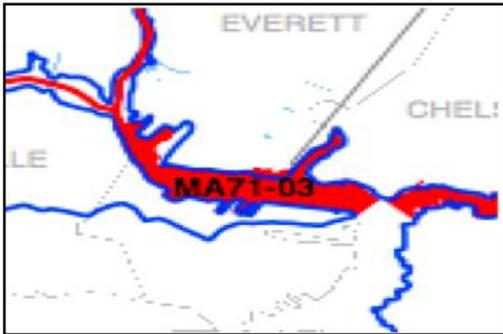
Figure 2a: Segment MA71-03 of Mystic River, which includes Chemical Lane/Monsanto. O'Brien et al. 2002.

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### Findings

#### *Water Quality*

Since the East Side parcel has the potential to be built into something beneficial to the community, water quality should be measured in order to ensure the site would be safe for visitors. The MassDEP's Division of Watershed Management (DWM) took the liberty of assessing different parts of the Mystic River watershed among other watersheds. The DWM



assigned the water around Chemical Lane as “Segment MA71-03,” (O’Brien et al. 2002). This segment includes the “Amelia Earhart Dam, Somerville/Everett to confluence Chelsea River, Chelsea/Charlestown/East Boston,” and includes Island End River (Figure 2a-b) (O’Brien et al. 2002; Carr 2010). The segment length is approximately

Figure 2b: MassDEP’s Division of Watershed Management segmenting the three rivers in the Boston area for water quality assessment. O’Brien et al. 2002.

0.49 square miles and is classified as having a sandy bottom with a combined sewer outflow, or “SB(CSO),” (O’Brien et al. 2002; Carr 2010).

There were two reports from the DWM obtained from the MassDEP website. The first report, titled “Boston Harbor 1999 Water Quality Assessment Report,” was published in 2002; the other titled “Mystic River Watershed and Coastal Drainage Area – 2004-2008 Water Quality Assessment Report,” was published in 2010. The reports were presented as “a summary of current water quality data/information used to assess the status of designated uses as defined in the Massachusetts Surface Water Quality Standards,” (O’Brien et al. 2002). Even though they are named differently, they both contain the same types of assessments for the same watersheds. The assessments included testing the water quality for aquatic life, fish consumption, shellfish, primary contact, secondary contact, and aesthetics for each of the sites along the watersheds. For each assessment, labels were given to

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describe whether or not the water was safe for that activity. The labels included support, partial support, non-support, not assessed, and impaired (O'Brien et al. 2002; Carr 2010). Also, the contaminants in the water, in any, were identified.

#### ***Comparing Water Quality Tests***

Comparing the tests, both found that there were “priority organics, metals, unionized ammonia, other inorganics, organic enrichment/low dissolved oxygen, pathogens, oil and grease, taste, odor and color,” in MA71-03 (O'Brien et al. 2002; Carr 2010). At first, these results show the tests are consistent. However, looking deeper, what this means is the contaminants that were there in 1999 were still there in 2008. There is basically historic pollution on the site.

While the pollutants in 1999 were still there in 2008, there was significant improvement as well as disappointment in the amount of contaminants over time. For instance, in the Boston Harbor report, the assessment for aquatic life was labeled as non-supported due to “priority organics, pHs, metals, other inorganics,” and “contaminated sediments,” in the water (O'Brien et al. 2002). However, in the Mystic River Watershed report, aquatic life was deemed impaired from “contaminated sediments,” (Carr 2010). For fish consumption, Boston Harbor report assessed it as non-supported from “primary organics;” while Mystic River Watershed report labeled it non-assessed (O'Brien et al. 2002; Carr 2010). The shellfish was non-supported in the Boston Harbor Report, and impaired in the Mystic River Watershed report due to fecal coliform in the water (O'Brien et al. 2002; Carr 2010). Primary and secondary contact was partially supported in the Boston Harbor report due to pathogens; the Mystic River Watershed deemed it as supported (O'Brien et al. 2002; Carr 2010). Finally, as for aesthetics, the Boston Harbor report did not support this aspect due to “odors” and “oil sheens” in the water (O'Brien, 2002). The Mystic River Watershed report did not assess this area (Carr 2010). Tables 1 & 2 show a summary of the Boston Harbor report and the Mystic River Watershed report, respectively.

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**Table 1:**

Summary of the Boston Harbor 1999 Water Quality Assessment Report

<b>DESIGNATED USE</b>	<b>USE ASSESSMENT</b>	<b>CAUSES</b>
Aquatic Life	Non-support	Priority organics, pH, metals, other inorganics, contaminated sediments
Fish Consumption	Non-support	Primary organics
Shellfish	Non-support	(No causes provided)
Primary Contact	Partial Support	Pathogens
Secondary Contact	Partial Support	Pathogens
Aesthetics	Non-support	Odors, oil sheens

**Table 2:**

Summary of Mystic River Watershed and Coastal Drainage Area – 2004-2008 Water Quality Assessment Report

<b>DESIGNATED USE</b>	<b>USE ASSESSMENT</b>	<b>CAUSES</b>
Aquatic Life	Impaired	Contaminated sediment
Fish Consumption	Non-assessed	(No causes)
Shellfish	Impaired	Fecal coliform
Primary Contact	Support	No hazards that would cause restrictions on primary contact
Secondary Contact	Support	No hazards that would cause restrictions on secondary contact
Aesthetics	Non-assessed	(No causes)

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However, with the documents, reoccurring problems arose: the number of tests was limited, sporadic in time, very vague, and missing details. To begin, the number of tests was inadequate. There were only two tests on the MassDEP website. Not only that, but they were published far from each other and years later than the tests were conducted. For example, the tests for 2002 were conducted in 1999, while the tests for 2010 were conducted during 2004 through 2008. This leads to a second problem. The first set of tests was for one specific year, while the second set of tests was for four years; thus they were sporadic. A third problem is that they are very indistinct and missing detail. For example, the reports list certain aspects as unsafe due to pathogens, yet they do not specify what kinds of pathogens there are. Furthermore, while both tests assessed the water for aquatic life, fish consumption, shellfish, primary contact, secondary contact, and aesthetics, the reports do not give the specific areas where the tests occurred. Thus, the reader does not know how thorough the reports are. Moreover, there could be errors in the studies. Despite the drawbacks, at least this site was assessed; and while not thorough, these reports give some insight of the state of Chemical Lane.

## **Results**

Given the location and water quality, The East Side of Chemical Lane has the potential to become a marina, an environmental research center, or a park if the site is properly cleaned up. Even though East Side's lot is about 34.9 acres, the designs for each of the plans are able to accommodate this limited space. Also, all the plans fit into the flow of the site, as well as benefit the community.

### ***Marina***

The first option for East Side would be to build a marina. This marina could introduce the public to the rich resources the site holds. With respect to the shape of the land with water surrounding it on three sides, this site is geographically perfect to hold a marina. The site is also figuratively begging to have some water related activities, since there are none anywhere near the site.

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A marina would fit perfectly into the space. Just imagine looking out to the water with the entire East Side in front. Picture a clean plot of land. Visualize all the contaminants gone, the cement barriers taken away, (Figure 3) the beer cans picked up, and the trash bags in the water scooped away. Just start with a clean slate. Now imagine looking to the left where the spit of water reaches into land. That would be a perfect spot for docks to start to wrap around the peninsula.



Figure 3: Cement barriers (right) on East Side.  
Photograph by Kristen Queenan.

However, before leaving the left side, picture a boat storage rack on land. This boat rack would be useful in the winter where boaters could house their vessels. Not only could this boat rack be used for seasonal purposes, but also for aesthetics. The boat rack could potentially hide the industrial plant in the background for those who find the plant unappealing.

Moving towards the right, more docks for boats would hug the coast. On land, there could be a harbor walk with benches every few feet following the water's edge. Moving inland, there could be seafood cuisine restaurants or ocean-themed restaurants. Also, there could be one or two gift shops that embrace Everett and honors the city as a diverse and historic landmark of Massachusetts. These restaurants and gift shops would not only provide desperately needed jobs for the city, but also support the local economy. This is especially critical as the state of the economy in the next several years remains highly uncertain and potentially volatile. Finally, to the right of the peninsula, there could be water recreational activities for the non-boater. For example, a short pier for fishing or a shack to rent kayaks and canoes would be ideal.

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To be eco-friendly, the buildings could have solar panels or gardens on top of the roofs (green roofs). The docks could be made out of recycled materials. Green areas with trees should be prominent wherever possible. This marina could emphasize this eco-friendly aspect to make it stand out from the other marinas in Massachusetts.

While this sounds good on paper, an argued point against the marina is how it would be built so close to the adjacent chemical plant. Chemicals in the soil are relatively easy to clear away. However, an unsightly view of smokestacks and flashing red lights could possibly be unattractive for tourists and boaters. Nevertheless, while this argument may have a valid point, the history of Providence, Rhode Island, should be brought to attention.

Providence was once an area heavily populated with industrial plants, more so than Everett is today. By 1830, Providence was home to the leading manufacturers of cotton textiles, woolen textiles, base metals and machinery, and jewelry and silverware (City of Providence, 2006). Big industry names like Brown & Sharpe, Nicholson File, and Gorham Silverware dominated the city for decades (City of Providence, 2006). It was not until recently, around early 1970, when the city switched gears away from the manufacturing industries to more people-friendly neighborhoods. However, instead of forcefully shutting out the city's past, the community embraced it. For example, the city used old historic buildings for apartments or market squares. Specifically, Davol Square, at one point, was the industrial complex of Davol Rubber Company (City of Providence, 2006). Today Davol Square uses the rubber company's old buildings and transformed them into a contemporary marketplace and office center (City of Providence, 2006).

The residents of Everett could embrace the city's history and present condition like the residents of Providence did. The view around the marina cannot be changed, at least for now. Yet, the city could just accept the reality as it is and use Providence as a role model.

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### ***Environmental Research Center***

Another option for East Side is to build a research facility specifically designed for environmental projects. This facility could have multiple uses for different ages and groups of people. Essentially, the facility could mimic the New England Aquarium. The New England Aquarium's main focus is to educate the public about marine life. Most of the aquarium caters to school groups and tourists, while behind the scenes there are research projects, interns, and nonprofit organizations.

Although creating a facility for the general public is a definite possibility, this facility could focus more on research projects instead of the public. For instance, it could house research projects for graduate students in the environmental fields. It could also be another hub for government agencies like MassDEP or the Everett Police Department's Marine Unit. The facility can also incorporate some area that could be used for school-aged children. For example, the facility can have an interactive touch tank that teaches children about the local wildlife and how it is very fragile to pollution and contaminants. Also, for children, there could be tours given to educate them about how the environment is assessed and monitored, while introducing them to environmental jobs.

The facility has an infinite amount of possibilities of what it could look like. However, it should incorporate numerous science labs and abundant office space. The facility should hold at least one conference room to hold presentations. Also, there should be an area completely designated for education where the touch tank and classrooms would be held.

Since this facility would be specifically built for the environment, it is imperative that the building(s) incorporate(s) some green aspects. Like the marina, the facility could have green roofs or solar panels. Not only would these green aspects help the environment, but they could also be learning tools for the school groups. It is also important to have a park somewhere on the lot. This park would not only be aesthetically pleasing, but focus attention on the environmental

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aim of the site. Students can learn outside or researchers could have lunch there. If the park was large enough, it could possibly attract other workers in the area to use the resource.

As with any plan, there are drawbacks. First, this site may be too far out of the way for schools to visit. Not only that, but it could be too far away for government agencies as well. The government agencies may not be able to visit their sites in an efficient amount of time. In other words, the workers of the agencies may spend more time driving to a site than working on it. Despite the drawbacks, this facility would be an important tool to help the environment and educate the public.

### *Park*

A third alternative plan for the area would simply be to construct a park. This park could mimic Pope John Paul II Park in Boston. Pope John Paul II Park would be a perfect role model because the plot of land this park sits on is extremely similar to East Side. For instance, Pope John Paul II Park is located next to a river, specifically the Neponset River. Also, the Southeast Expressway, Interstate 93, wraps around the other side of the park (Figure 4). As for East Side, the Mystic River surrounds this area. Not only that, but Alford St., also known as Route 99, follows along one side of East Side (Figure 5). Thus, both plots of land are encompassed by a river and have a major roadway next to them.

Looking at Pope John Paul II Park for inspiration, this park has lengthy walking paths, gazebos with picnic tables to have lunch under, and open grassy fields for

Figure 4: Pope John Paul II Park in Boston surrounded by Southeast Expressway and Neponset River. Inspiration for East Side Park. Bing Maps, 2011.

playing  
fetch  
with  
dogs.



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Somehow, people have accepted the fact that there is a noisy highway right over their shoulders and that the cars on this highway could be polluting the air they breathe. Nevertheless, people still come to use the park. They could be enjoying the park partly due to the fact that there are not many areas in Boston designated for parks. Where there are parks, they are sporadic and given a shape that best fits in with the construction around it. Thus, another reason to build a park on East Side: there are too few of them in and around the Boston area.

The park on East Side could be similar to Pope John Paul II Park with some minor changes. Imagine looking at East Side covered in naturally made green grass, without pesticides of course. Then, picture a paved path that swerves throughout the park. This path could sometimes dip along the shoreline, while other times cut across the area. Ideally, this path would be long enough for runners to feel as though they had a proper workout and walkers feel as though this path was not overwhelming. Benches could be placed periodically along the side of the path like Pope John Paul II Park has. Trees would be planted for shade; imagine children resting under them for relief from hot summer days. Also, like Pope John Paul II Park, picture gazebos with picnic tables under them. This would be a perfect place for workers around the area to have their



Figure 5: East Side surrounded by Alford St. and Mystic River. Bing 2011.

lunch break. Going one step further than Pope John Paul II Park, a small pier could be added for people who want to enjoy the water from a closer distance. The pier could also be used for the avid fisher. Another option would be to add more than one pier, similar to the Charles River. Along the river are small docks that people can walk on. Sometimes people kayak along the Charles and park their vessels for a short break. This same set up can be used for East Side. Essentially, like any park, this place could be a safe haven for people who want to get away from the busy lifestyle of the city.

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An unexpected plus to this park would be that it could connect to the existing park on the West Side. The West Side contains a relatively large park that is set between the Malden River and the West Side's Gateway Center. This park has a paved path as well. If East Side was converted into a park, then it could connect its path with the existing one on the West Side, thereby making one large park in Boston/Everett (Figure 6). This would be a prodigious step in making Boston more nature friendly.

As with any plan, this proposal has imperfections. While this site might be similar to Pope John Paul II Park in more ways than one, there is a big difference between them. That is, of course, East Side has an unattractive chemical plant in the background. People might accept the unsightly view and the air pollution

coming from Route 99, as in Pope John Paul II Park. However, they may not be so willing to accept pollutants coming from a chemical plant. Therefore, extensive testing would have to be completed in order to ensure toxic levels of contaminants, if any, are not in the air from the chemical plant. As a result, more money and time would be spent in order to ensure the safety of the public.

Furthermore, a reoccurring theme for this site is its inaccessibility. Runners and walkers may not want to drive to the site just for a short one or two hour stay. The only people really benefiting from the site would be the workers; that is, if the weather permits. Consequently, it may be a better choice to build something on the site that could be used year-round by everyone, rather than a nature friendly park for a select few.



Figure 6: West Side park (top left).  
Bing Maps 2011.

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### **Discussion**

#### *Choosing a Plan*

Building a marina, an environmental research center, or a park seem like reasonable, adequate plans for the site. However, deciding on which plan would work best for both the public and the environment is challenging. All three plans have pros and cons. To summarize, the marina would be a place for boater enthusiasts alike to meet up as well as to boost Everett's economy. The environmental research center would not only educate the public about the environment, but also benefit government agencies. The park would be a safe haven for the public to escape from harsh city life.

There are reoccurring disadvantages for the site; that is, the site's location and unsightly view. As for the marina's case, while people may embrace the view in Providence, a working chemical plant is much different than converting factory plants into office buildings. With the environmental research center, the site is out of the way for school groups and workers. As for the park, the view destroys the beauty of nature.

Given both sides of each plan, the best course of action would be to pursue the environmental research center. The environmental research center is the perfect example of taking something completely contaminated, cleaning it up, and building something that commemorated what happened in the past to ensure it does not happen again in the future. This facility will help prevent people from abusing the environment and will educate future generations on the effects of such abuse.

Also, an environmental research center would benefit a wider range of people than a marina or park would. The research facility can accommodate graduate students, governmental workers, teachers, and school-aged students. The research projects of the graduate students and government workers can benefit the present community and future generations. The marina, on

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the other hand, is geared towards boaters, tourists, residents, and adventure seekers. While these demographics are important, there is not a definite certainty that they will come year-round, if at all. The research facility would be open year-round since the jobs provided there are not seasonal.

Like the marina, a park would only be used by a select few. Workers of the area, runners, walkers, fishing enthusiasts, and boaters would mostly be the main users of the site. Again, these demographics are important. However, the park cannot be used year-round due to the harsh New England winter weather. Hence, it is arguable the site is not being used to its full potential.

In short, an environmental research center appears to be the best option for the site. This does not, however, rule out the other plans. All that is being stated is if a plan would be chosen, an environmental research center would be the best plan because it benefits the most people.

#### ***Uncertainties about Developing the Site***

Despite the fact that three ideas, the marina, the research center, and the park all exist, it may not be possible to go ahead with any of these plans at this time. The reason behind this is the fact that the current status of the condition of the site is unknown. It remains in the hands of a local, private developer. However, just how contaminated the site remains is unknown. The only documentation of clean-up efforts from MassDEP is asbestos removal in 2000. The reason for the clean-up at this time was because it was known that the asbestos was dumped there as a result of the Central Artery Project. This was part of the Big Dig. Despite the fact that we walked on the site just a few weeks ago, there may be contaminants that remain in the soil. It is not known what they are exactly and how lethal they may be to life.

Another key reason exists as to why any of these plans may not be able to go forward. The gentleman who presently owns the site may have bought the land for a specific reason, as opposed to simply cleaning up and turning it around to make a quick buck. He may have a

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precise idea in mind. For example, he may want to establish a mixed-use community comprising office space and shops with high-rise luxury apartments above. He may opt to turn the site into another shopping center with a giant parking lot. He may want to turn nearly all thirty-five acres into housing. Finally, he may have the idea of returning the site back to its roots: more chemical manufacturing facilities. Of course, in 2011, he would have to do this with a twist: full compliance with Massachusetts site preservation regulations and proper disposal methods.

### **Impressions and Feelings**

When we first learned that we would be spending our semester learning about Chemical/Monsanto Lane, we were very excited about all that was yet to come. We knew very little going into the project. Our lack of knowledge made it all the more mysterious. For a brief time, we were not enthralled with the whole process. This was because we reached a point where we came to a standstill. We were having a hard time getting touch with our MyRWA contact person and were on the verge of speaking to another knowledgeable person when he came through for us after being on an extended vacation. We were very much relieved because this individual was indeed our go-to guy.

As a result of weekly snowstorms, we were delayed in being able to visit our site. While the site was somewhat MBTA accessible, we opted to drive because we were not comfortable walking around the neighborhood. When we reached the site, we were somewhat disappointed by what we saw. We both wore boots and had anticipated being able to walk directly onto the site. Little did we anticipate that it would be all fenced off. We were completely surrounded by a six-foot chain link fence. This monstrosity was separating us from the land that we so greatly wanted to explore in its entirety. While we were tempted to see if we could make it over the fence, we decided that we hardly needed to have a criminal record so close to finishing college and as one of us is actively applying for work to launch her full-time career. Fortunately, we were able to take some fantastic photos of what we could see of the site. We also took some silly shots of

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ourselves. While this seemed to be as close as we could get at this time, the best was yet to come later on (Figure 7 & 8).



Figure 7: Kristen Queenan at East Side. Alford St. view. Photographed by Kristen Babicz. 2/16/2011

After visiting the site and a long well-worth-the-wait, we finally had the privilege of sitting down with Mr. EK Khalsa, Executive Director of the Mystic River Watershed Association. Mr. Khalsa provided us with an abundance of resources for us to utilize as we progressed with our project. Mr. Khalsa was the one whom directed us to contact the City of Everett regarding zoning restrictions in the area of the site. He also guided us how to go about setting up an appointment at the MassDEP's Northeast Regional Office to conduct a File Review. This

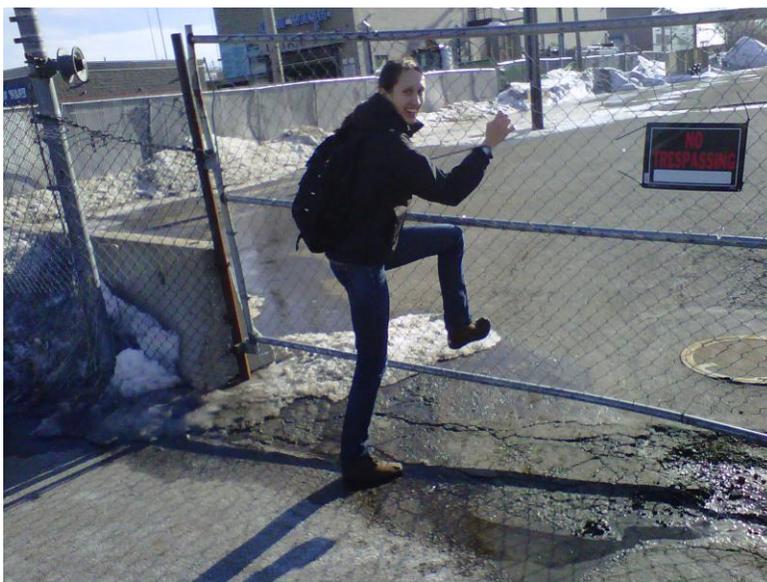


Figure 8: Kristen Babicz at East Side. Alford St. view. Photographed by Kristen Queenan. 2/16/2011

would have allowed us to obtain every piece of information that existed on record about the site.

Regrettably, after making the appointment, we were never contacted about coming in. That worked out for the best because of two reasons. First, considering we were only able to find limited information on the MassDEP website, our visit to the Wilmington

office may have proved to be pointless if the only recorded data is simply regarding asbestos removal.

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Second, we didn't even need to visit the regional office because Mr. Khalsa also provided us with the contact information for Officer Johnston. For this, we are extremely grateful. Because of Officer Johnston, we were able to put together the remaining pieces of the puzzle and learn some valuable fun (or not so fun) facts about Chemical Lane/Monsanto.

Several weeks later, we contacted Officer Johnston and set up a meeting time where he would accompany us along with our professor, Dr. Frankic, to a different area of the site. Officer Johnston took us behind Target at Gateway Mall. From there, we were able to see the actual site from across the Mystic River. From here, we got to see an aerial view of just how expansive the land area actually is. Later on, Officer Johnston took us over to the Alford Street entrance. This is where we were when we initially visited the site. Next came the most gloriously wonderful part of the whole project. We were positively shocked, stunned, and thrilled when Officer Johnston unlocked the gates and drove us all onto the actual site! The idea that we were standing on the site of the once-largest chemical manufacturer in the country along with the significance of the level of pollution that was once on (and may still be to an extent) the site was mesmerizing. Being in that moment truly felt as though we were part of history for just a brief time. One of us was truly able to imagine what it was like when there were fifty buildings on the site all filled with potentially deadly chemicals. Officer Johnston was a wonderful resource and guide as we put the finishing touches on our research. When we left him that day, we were mesmerized at what we had just seen, walked on, and learned about. We were astounded at the fact that so much contamination, illegal activity (by today's standards), and history had literally occurred in our own backyards.

### **Conclusion**

At the end of the day, we have achieved a much greater understanding of Everett's Chemical Lane/Monsanto East Side parcel. We hope that our audience walks away with that same understanding. From the extensive (albeit not complete) history of the site dating back to the 1800s to learning that it was not only the chemical companies that were responsible for the

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degradation of the soil and region of the Mystic River, there was a lot to comprehend about the site. Given that our project was only for a semester and that we encountered some hurdles along the way, we are both surprised and proud of the fact that we were able to uncover as much as we did about the site. Certainly, if this were a year-long project or longer, there is no telling how much more information we could have acquired.

Given how much information we acquired from Officer Johnston about the history of the site, it is our hope that what we have assembled may be the basis of the research of future scholars. Most certainly, within the next five to ten years, we look forward to seeing the site properly decontaminated in its entirety. Following clean-up, it will certainly be wonderful to see how the site is developed. To have it transformed into a place where the beauty of nature can be appreciated by all will truly be a sign that the malicious practices of a not-yet-forgotten past can finally indeed be history.

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### **Works Cited**

Bing. 2011. Bing Maps. Retrieved from: <http://www.bing.com/maps/>

Carr, J.W. 2010. Mystic River Watershed and Coastal Drainage Area 2004-2008 Water Quality Assessment Report. Massachusetts Department of Environmental Protection Division of Watershed Management. Retrieved from:  
<http://www.mass.gov/dep/water/resources/71wqar09.pdf>

City of Providence, Rhode Island. 2006. History and Facts – America’s Renaissance City. Retrieved from: <http://www.providenceri.com/history/centuries2.html>

Denning, Jim. “Cochrane Chemical Company-Everett Ma” Rootworks.2005. Retrieved on April 17, 2011 from <http://archiver.rootsweb.ancestry.com/th/read/MAMIDDLE/2005-03/1111114840>

Johnson, Patrick. “The Former Monsanto Chemical Company Site ‘East Side’ Everett, Massachusetts ‘The unique parcel that slipped through the cracks.’” October 26, 2010.

Marinas.com. 2011. Oyster House Marina. Retrieved from:  
[http://marinas.com/view/marina/4025\\_Oyster\\_House\\_Marina\\_East\\_Providence\\_RI](http://marinas.com/view/marina/4025_Oyster_House_Marina_East_Providence_RI)

New England Aquarium. 2010. Visit Planning. Retrieved from:  
[http://www.neaq.org/visit\\_planning/index.php](http://www.neaq.org/visit_planning/index.php)

O’Brien, K., M. Weinstein, & R. McVoy, PhD. 2002. Boston Harbor 1999 Water Quality Assessment Report. Department of Environmental Protection – Division of Watershed Management. Department of Environmental Protection Division of Watershed Management. Retrieved from: <http://www.mass.gov/dep/water/resources/70wqar1.pdf>

**Chemical Lane/Monsanto, Everett**

O'Reilly, Talbot & Okun.Monsanto Chemical Company MCP Compliance Report.Retrieved on April 18, 2011 from <http://www.oto-env.com/projects/Monsanto-Everett-MA.pdf>.