



**Recognizing the Past, Looking to the Future:**  
Reuse Planning Report for the Velsicol Chemical Corporation Superfund Site

**July 2004**

Superfund Redevelopment  
Initiative Pilot Project

*prepared for*  
The City of St. Louis  
St. Louis, MI

*prepared by*  
E<sup>2</sup> Inc.  
St. Louis Land Use Committee

*funded by*  
Superfund Redevelopment Initiative (SRI)  
United States Environmental Protection Agency

## Project Timeline

### 1983

EPA lists the Velsicol Chemical Corp. site (“the site”) on the National Priorities List (NPL)

### 2002

EPA’s Superfund Redevelopment Initiative provides the City of St. Louis with assistance for reuse planning process

### April 2003

Members of the project’s consultant team visit the site and meet with City of St. Louis City Council, EPA Remedial Project Manager Stephanie Ball, Michigan Department of Environmental Quality Project Manager Scott Cornelius, Custodial Trust representatives, and the Pine River Superfund Task Force

### July 2003

First Land Use Committee meeting held to introduce the project and identify site opportunities and challenges and reuse guidelines

### November 2003

Second Committee meeting held to discuss reuse strategy for the site

### April 2004

Public meeting and third Committee meeting held to discuss revised site reuse strategy and identify reuse resources

### July 2004

Project report created to summarize the reuse planning process, present the site reuse strategy, and highlight next steps



Dewatering Cells in the Pine River (2003)

## **Project Overview**

The U.S. Environmental Protection Agency (EPA)'s primary responsibility at Superfund sites is the protection of human health and the environment. Since 1995, it has also been EPA policy to consider reasonably anticipated future land uses when making remedy decisions at Superfund sites, so that the remediation of Superfund sites can allow for safe reuse for commercial, recreational, ecological, or other purposes. Since 1999, EPA's Superfund Redevelopment Initiative Pilot Program has been helping communities and stakeholders plan for reuse at more than 70 National Priorities List (NPL) sites across the country.

With forethought and planning, communities can help return sites to productive use without jeopardizing the effectiveness of the remedy put into place to protect human health and the environment. Across the nation, more than 330 former NPL sites are either in productive reuse or have plans under development for their reuse. The commercial and industrial use of these sites supports 15,000 jobs and a half-a-billion dollar increase in annual incomes. Other sites are providing more than 60,000 acres for ecological and recreational uses.

Reuse planning at NPL sites presents a unique set of obstacles, challenges, and opportunities. Superfund site designation represents a commitment from EPA that a site's contamination will be remediated and that the site will be made safe for human health and the environment. However, reuse considerations at these sites can be complicated by several factors, including the level and complexity of contamination, the regulatory and liability scheme used to enforce site remedies, and unclear or resistant site ownership, which can lead to a lengthy and contentious remediation process. Any successful reuse planning effort must be mindful of how a site's reuse and remediation will work together, must involve and expand the capacity of diverse stakeholders to meaningfully participate in the process, and must take into account the long time frames often involved in NPL site remediation.

The City of St. Louis, Michigan received assistance from EPA's Superfund Redevelopment Initiative in 2002 to undertake a community-based planning process to develop future land use recommendations for the 54-acre Velsicol Chemical Corporation NPL site. During the reuse planning process, the community worked closely with environmental consultants E<sup>2</sup> Inc., and with support from EPA and the Michigan Department of Environmental Quality (MDEQ), to develop reasonably anticipated future land use recommendations and a conceptual reuse strategy for the site. The recommendations and site reuse strategy are intended to inform the site's remedial design and implementation as well as future community planning efforts.

This report, prepared by the project's consultant team, presents the project's reuse guidelines and site reuse strategy, called a Conceptual Design Framework, provides an overview of the community planning process, and highlights key reuse considerations, opportunities, and challenges that the City of St. Louis, EPA, and MDEQ will need to keep in mind as the site is remediated and returned to use.

## Acknowledgments

E<sup>2</sup> Inc. would like to thank the following people and organizations for their hard work on the reuse planning process and for their valuable contributions to this report.

### *Land Use Committee Members:*

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Jan Bunting, Gratiot County Commissioner  
Jerry Church, St. Louis City Council  
Dennis Collison, St. Louis City Manager  
Randy Davidson, Business Owner  
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### *Consultant Team Resource:*

Julie Bargmann	D.I.R.T. studio
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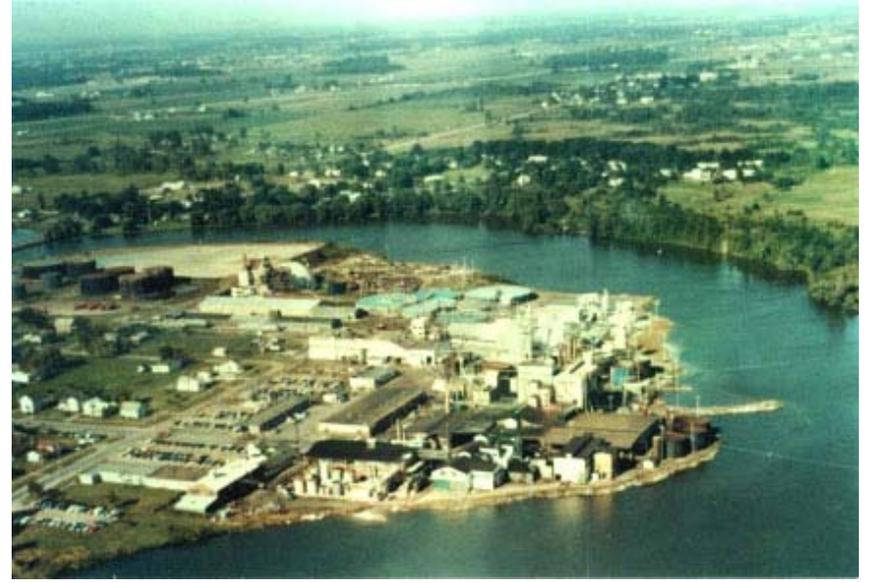
View of Site from Penny Park across the Pine River

## **Table of Contents**

Project Timeline	page 2
Project Overview	page 3
Acknowledgements	page 4
Introduction	page 7
Project Reuse Guidelines	page 9
Project Design Guidelines	page 9
Conceptual Reuse Framework for the Velsicol Chemical Corporation Superfund Site	page 11
Site Remedy and Reuse Implications	page 17
Site and Market Analysis	page 19
Key Reuse Considerations and Project Next Steps	page 20
Community Profile: St. Louis, Michigan, and Surrounding Region	page 23
Site History	page 25
The Velsicol Chemical Corporation Superfund Redevelopment Initiative Pilot Process	page 27
Conclusions: Future Roles and Responsibilities	page 29
<b>Appendices</b>	
Appendix A: Resources	page 30
Appendix B: Riparian Buffers	page 44
Appendix C: List of Project-Related Acronyms	page 46



Aerial Photograph of the Velsicol Chemical Corp. Site (1975)



Bird's Eye Photograph of the Velsicol Chemical Corp. Superfund Site (1970)



Aerial Photograph of the Velsicol Chemical Corp. Superfund Site (2002)



Bird's Eye Photograph of the Velsicol Chemical Corp. Superfund Site (1990s)

## Introduction

*Today, planning for the remediation of the 54-acre Velsicol Chemical Corporation Superfund site is underway.* EPA and the Michigan Department of Environmental Quality (MDEQ) are assessing the site's conditions and contaminants and developing remedial approaches for the site.

*Several years from now, the site's remediation will be complete.* The site's remedy will protect the long-term health and safety of community residents, and the site will be available for reuses that will help meet community needs and sustain the local economy.

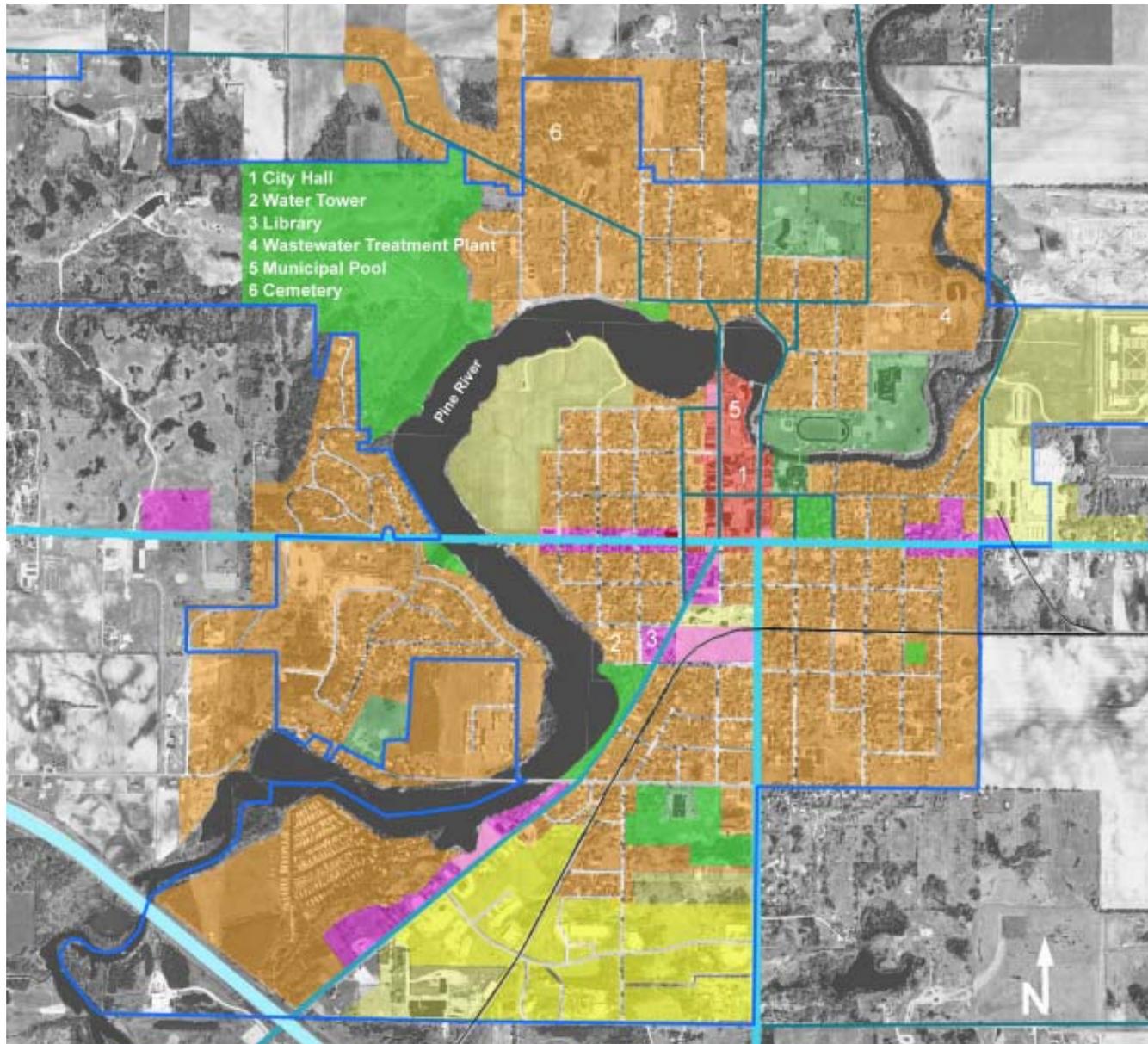
This report is the product of a twelve-month pilot community planning process conducted by the City of St. Louis to determine the community's reuse priorities for the Velsicol Chemical Corporation Superfund site. A 24-member, community-based Land Use Committee has managed the reuse planning process. Composed of community residents, elected officials, business owners, custodial trust representatives, City of St. Louis and Gratiot County staff, and representatives from community organizations like the Pine River Superfund Task Force, the Committee has met in St. Louis City Council Chambers since July 2003 to discuss reuse opportunities and challenges at the site and to develop a reuse framework for returning the site to successful use.

Over the past twelve months, the Committee has:

- researched the site's history, contamination, and current status;
- worked with the project's consultant team to assess local market conditions and the potential impacts of industrial, residential, commercial, and recreational reuses at the site; and
- developed reuse goals and a site reuse strategy.

Based on these analyses, discussions, and community input, the members of the project's Land Use Committee hereby present EPA, MDEQ, and St. Louis City Council with their reuse recommendations for the Velsicol Chemical Corporation Superfund Redevelopment Initiative Pilot Project.

The Committee recognizes that these recommendations represent an important step that will inform the remediation and eventual reuse of the Velsicol Chemical Corporation Superfund site. The Committee also recognizes that these recommendations represent a *first* step that will need to be followed up with sustained community interest and involvement, partnerships, and resources. Accordingly, this report includes a detailed assessment of partnership opportunities, resources, and next steps to ensure that this report serves as part of an active and ongoing community discussion and continues to inform EPA and MDEQ's remedial planning for the Velsicol Chemical Corporation site.



Composite Land Use Map: The Velsicol Chemical Corporation Superfund Site and the City of St. Louis

## **Project Reuse Guidelines**

To guide the development of the reuse framework for the Velsicol Chemical Corp. Superfund site, the project's Land Use Committee developed a set of reuse guidelines for the site. These guidelines document the Committee's reuse priorities and site-related concerns and highlight community considerations that will need to be kept in mind as the site is remediated and returned to use.

- The long-term protection of the health and safety of community residents should be the primary priority at the site. Any future uses at the site should ensure that the site's remedy remains protective of human health.
- The site should serve as a local and regional "destination" location for residents and visitors and serve as a center for community events.
- The site's reuse should include multiple uses and meet multiple community needs.
- The site should connect to the City's downtown business district. Future site uses should complement, rather than compete with, current activities and uses in the district.
- Site uses should be compatible and integrated with surrounding land uses. Industrial uses at the site would be incompatible with surrounding neighborhoods.
- Limited commercial development - particularly along M-46 - could be compatible with surrounding land uses and combined with other types of on-site development.
- Residential development could provide benefits, like tax revenues, but could also raise community health and safety concerns, require significant infrastructure investments, and would likely not be compatible with the site's remedy.
- Recreational uses at the site could meet local needs and provide regional benefits.
- The site should provide access to the Pine River and existing access points should be improved.

## **Project Design Guidelines**

After the Land Use Committee established the reuse guidelines, the project's consultant team developed *design* guidelines to be taken into consideration as the site's next use is actually designed and built. These include:

- The design and construction of the site's next use should ensure that the site remedy remain protective of human health.
- The design and construction of the site's next use should protect and enhance the quality of the Pine River.
- The design of the site's next use should integrate the site with its surroundings.
- The construction of the remedy and the construction of the reuse should be coordinated to be best extent possible.
- The design of the site's next use should create a flexible framework that can support multiple uses over time.



Velsicol Chemical Corporation Superfund Site  
 Conceptual Reuse Framework  
 E<sup>2</sup> Inc. - April 2004

## Conceptual Reuse Framework for the Velsicol Chemical Corporation Superfund Site

Based on the Committee's reuse guidelines, as well as ongoing analysis of the site's physical characteristics, contamination and remediation options, land use and market conditions in the City of St. Louis and Gratiot County, the project's consultant team worked with the Land Use Committee to develop a site reuse strategy, called a Conceptual Reuse Framework. The results are called a "framework" because they represent an early plan that is a flexible structure able to incorporate additional detail and information as the site's remedy is designed and implemented. The remediation of Superfund sites like the Velsicol Chemical Corporation site can take years, rather than months, so plans for the site's future use must be flexible enough to incorporate new information over time. The framework is also designed to allow the phasing of reuses on portions of the site over time, starting from today, so that site reuses can benefit the community as soon as possible. The project's consultant team presented a draft of the framework to the community at a public meeting in April 2004. The community's feedback has been incorporated into the revised framework presented in this report.

The Conceptual Reuse Framework includes four primary areas of activity—a commercial area, recreation area, community area, and education and commemoration area. Across all four areas, Committee members and the local community indicated strong interest in the planting of trees and shrubs to act as visual screens and provide an essential framework for the site's various land uses and potential remediation phasing. In particular, the placement of vegetation along the site's border with the Pine River would create a riparian buffer—layers of vegetation planted in a dense row that serve to slow and trap surface water runoff before it is released into a body of water. This planted area would also provide a shaded walking and biking corridor for the site's recreational trails, as well as benefits like wildlife habitat, flood protection, and erosion control. The planting of trees along the site's perimeter could also supplement the site's remedy by interrupting the flow of contaminated ground water, potentially facilitating the natural attenuation of the site's ground water contamination. EPA and MDEQ will need to work with the community to determine the feasibility of planting vegetation at the site as its remedy is developed. For more information on riparian buffers, refer to Appendix B.



Four Primary Areas of Activity



Riparian Plantings along a River's Edge



Commercial Area Diagram, illustrating site's connection with the existing M-46 commercial corridor and the City's downtown business district



Sports and Recreation Shop



Recreation Area Diagram, illustrating site's connection with area schools and recreation facilities



Sports Fields

### **Commercial Area**

This area, part of the site's southern edge along M-46, would extend the existing M-46 commercial corridor and connect the site directly with the city's downtown business district. The area would also serve as a western gateway entrance to St. Louis for both residents and visitors. Commercial uses could include a river shop or outdoor café that welcomes people into St. Louis, or a sports store to complement on-site recreational activities.

### **Recreation Area**

The Velsicol Chemical Corporation Superfund site is centrally located in the City of St. Louis and is surrounded to the east by single-family residences. The 21-acre recreation area, consisting of community sports fields and a recreational trail system in the central portion of the site, would provide residents and visitors with access to new opportunities for team sports, enjoyment of the area's natural beauty, and the use of the Pine River as a recreational resource. The area could be directly linked with existing recreation areas and local schools in St. Louis via the trail system. This area could provide space for multiple fields, including baseball and softball, soccer, field hockey, tennis courts or a running track. The trail along the edge of the river could also serve as a cross-country course.



Community Zone Diagram, illustrating site's location adjacent to residential neighborhoods



Amphitheater



Schematic Rendering of Remediation Education and Observation Wall in Penny Park

## Community Area

The site's reuse could include a community area designed to host a wide range of community activities. An amphitheater adjacent to the Pine River could stage plays and concerts, serving as a local and regional attraction. Adjacent to the amphitheater area, nine acres of open space along the site's northern edge could provide a location for festivals, an RV park, a seasonal farmers market, or other community celebrations – or serve as the location of a park for less structured recreational activities such as kite flying or frisbee. Land uses like the amphitheater and RV park could also help generate local tax revenues. The community area would also provide additional points of access to the site's recreational trail system and the Pine River.

## Remediation Observation/Education and Commemoration Area

During the site's ongoing remediation, Penny Park could serve as an area for community residents to observe and learn about the site's industrial history and the ongoing remediation of the Pine River. A temporary wall could be built that would serve to keep observers from the reclamation operations and act as a viewing station with panels for instructive drawings, maps and diagrams that tell the story of the site. Following the site's remediation, the education and commemoration area at the site could provide a permanent location for these panels and a place to recognize the site's history and remediation, and to celebrate the transformation of the site into a community resource. In addition, the existing on-site water treatment facility could potentially be reused as an ice hockey rink. This portion of the site would also be connected with the rest of the site and with surrounding neighborhoods, schools, and the city's downtown district by trails and pathways. A retention pond located in this area of the site could address stormwater management needs for the site as well as surrounding neighborhoods.

## Parking Areas

Two parking areas are delineated in the Conceptual Reuse Framework. The smaller area, located adjacent to the stormwater management pond, would provide parking for approximately 125 cars. The larger parking area, located between the existing neighborhoods and the proposed recreational area, would provide parking for approximately 250 cars. The use of porous pavement and vegetative swales in the parking areas can help with stormwater management, although further study will be needed to assess potential remedy impacts. As the framework is further developed, more study will be needed to determine the community's parking needs.



Detail of Remediation Observation and Commemoration Area



Seasonal Farmer's Market in Community Area



Carnival in Community Area



Pine River Boating



Future Hockey Arena at Existing Water Treatment Facility

## Site Remedy and Reuse Implications

The Velsicol Chemical Corporation Superfund site is currently in the remedial investigation and feasibility study (RI/FS) phase of EPA's pipeline of activities. The remedial investigation at the site, which provides EPA and MDEQ with the information needed to fully assess the site's conditions, contaminants, and extent of contamination, as well as the contamination's risk to human health and the environment, was completed in October 2003. The Feasibility Study, which consists of the agencies' detailed analysis of different cleanup options for the site, is projected for completion in summer 2004.

During the site's ongoing RI/FS, drafts of the Conceptual Reuse Framework have been informing U.S. EPA and MDEQ's development of the remediation plan for the site. In turn, findings from the RI/FS have informed the development of the Framework. Over time, the Framework will need to be updated to include new site information as the site is remediated.

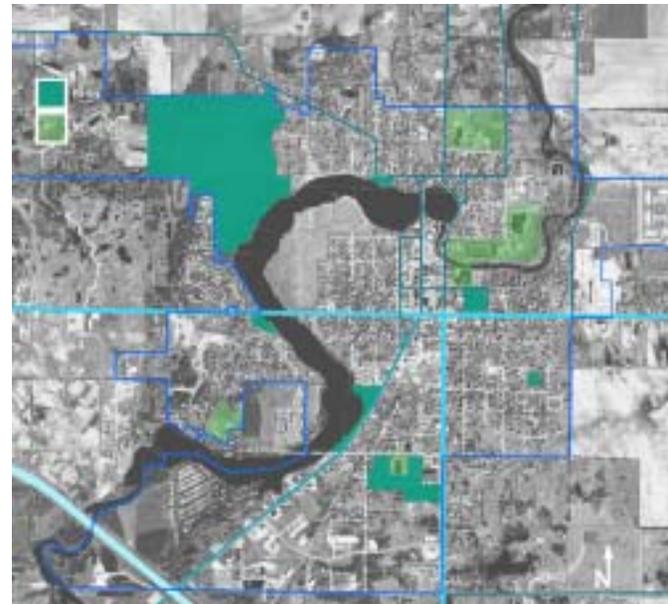
Key RI/FS considerations with implications for the reuse of the Velsicol Chemical Corporation Superfund site include:

*On-Site Buildings:* New buildings located on-site, like the commercial area proposed in the Conceptual Reuse Framework, may need to be built on construction pads, rather than relying on pilings for structural support, to ensure the protectiveness of the site's remedy. Engineering studies may also be needed to evaluate the potential for subsidence underneath new buildings. Depending on the findings of the site's feasibility study, the design of new on-site buildings may also need to take indoor air quality standards into account.

*Recreational Areas:* The remedy for the landfilled portion of the site will likely include a protective cap to prevent site users from coming into contact with contamination. The cap may require land contouring to ensure an adequate slope for surface water drainage. The land contouring will inform the location and layout of recreational fields, the community amphitheater, recreational trails, and community park outlined in the Conceptual Reuse Framework.

*Stormwater Management:* The remedy for the site will likely include stormwater management, including the use of drainage systems and retention basins. Following completion of the site's remediation, stormwater management needs for the site's next uses, including new buildings and parking lots, may be able to be integrated with the site's existing stormwater management system.

*Water Treatment Facility:* EPA remedial contractor Environmental Quality Management, Inc. (EQM) owns the existing water treatment facility at the site. The facility may need to be relocated as the site is remediated. Following completion of the remediation of the Pine River, the facility is scheduled for removal. The reuse of this facility as a hockey rink located in the northeastern portion of the site, as outlined in the Conceptual Reuse Framework, will likely require either an agreement between the site's future owner and EQM or the construction of a new facility.



## Site and Market Analysis

The development of the site's Conceptual Reuse Framework was also informed by ongoing analysis of the site's physical characteristics and land use and market conditions in the City of St. Louis and Gratiot County. The project's market and site analyses helped ensure that the Land Use Committee's identification of reuse guidelines, opportunities, and challenges were grounded in an understanding of the site and its local and regional surroundings.

Key findings included:

- The Velsicol Chemical Corporation site is centrally located in the City of St. Louis and zoned for industrial land uses. The site's zoning reflects historical land uses at the site and will likely need to be changed to reflect current community land use needs.
- Industrial land uses at the site would likely be incompatible with surrounding residential land uses.
- Residential land uses are the predominant land use in the city and border the site's eastern edge. Accordingly, these adjacent residential areas will need to be integrated with future land uses at the site.
- The city's downtown business district is located in close proximity to the site and connected via M-46, a major transportation corridor.
- Based on review of city planning documents, realtor information and interviews, and Census data, the city's economy can be described as stable, with minor commercial, residential, and residential growth.
- Significant amounts of land are available for commercial, industrial, and residential development in the City of St. Louis and in area cities, townships, and Gratiot County. As a result, there appears to be minimal market demand for the industrial, commercial, or residential reuse of the Velsicol Chemical Corporation site.
- Despite general market conditions, the southern portion of the site could offer commercial opportunities. The reuse of the southern portion of the site would extend the city's existing commercial corridor, connecting the site to the City's downtown business district. The area also serves as a high-visibility "gateway" to the city.
- The site could offer significant opportunities for new parks and recreational facilities, and could also link existing parks, schools, and city neighborhoods together. Parks and recreational facilities could help make the City of St. Louis a "destination" location, drawing new residents and visitors.

The maps on the adjacent page highlight the Velsicol Chemical Corporation site's central location and proximity to the city's existing land uses. Industrial land uses are highlighted in yellow, commercial land uses are highlighted in purple, residential land uses in the city are highlighted in orange and existing city parks and recreational facilities are highlighted in green. The composite land use map on page 8 of this report overlaps the existing land uses in the City of St. Louis.

## **Key Reuse Considerations and Project Next Steps**

1. *Institutionalize and sustain the community's reuse planning capacity for the Velsicol Chemical Corporation site over the long-term.*

The reuse planning process for the Velsicol Chemical Corporation site represents an important first step that will inform the development of the site's remedy and the site's eventual reuse. In the years to come, as EPA and MDEQ remediate the site, the reuse planning process will need to focus on updating and implementing of the project's reuse guidelines and Conceptual Reuse Framework, with the City of St. Louis helping to steward the site back into successful use.

The project's Land Use Committee recommends that, with St. Louis City Council serving as the convening authority, the Committee continue to meet on a semi-annual basis in City Council Chambers to manage the reuse planning process for the Velsicol Chemical Corporation site. The Committee will pursue land transfer opportunities and available resources, update the project's reuse guidelines and Conceptual Reuse Framework, and coordinate with EPA and MDEQ on an ongoing basis to ensure that the latest available site information is incorporated in the community's reuse planning process.

2. *Transfer the ownership of the Velsicol Chemical Corporation site to the City of St. Louis or a specially designated public authority to facilitate the site's reuse.*

The LePetomane III, Inc., Custodial Trust currently owns the Velsicol Chemical Corporation site, following the Velsicol Corporation's bankruptcy filing. Any future use of the site will require the transfer of the site's ownership from the Custodial Trust to another property owner, as the Trust is required to divest its holdings. Representatives from the Trust have served as members of the project's Land Use Committee and indicated that the Trust would be willing to transfer ownership of the site to the City of St. Louis or a specially designated public authority.

The project's Land Use Committee recommends that the City of St. Louis or a specially designated public authority accept ownership of the Velsicol Chemical Corporation site. Public ownership of the site would qualify the City for state, federal, and private sector funding resources, allow the City to steward the site back into successful use, and enhance the City's capacity to guide the updating and implementation of the site's Conceptual Reuse Framework.

Transfer of ownership need not take place immediately, allowing adequate time for planning, and could likely be coordinated with the completion of the site's remediation. Potential site liability concerns have been addressed by the federal 2002 Brownfields Revitalization Act, which provides the City with blanket liability protection as a bona fide prospective purchaser.

3. *Prioritize opportunities for the community to engage with the Velsicol Chemical Corporation site and, to the extent possible, phase the site's remediation so that portions of the site can be returned to use sooner rather than later.*

The Education and Commemoration Area outlined in the project's Conceptual Reuse Framework provides an immediate opportunity for community residents and visitors to learn about and participate in the remediation of the Velsicol Chemical Corporation site. The Area, which would be located across the Pine River in Penny Park, would include educational panels, maps, and photographs highlighting the history of the site, the status of the site's remediation, and potential future uses at the site. Ideally, the Area would be designed and built as soon as funds are available.

Once the site's remediation is complete, the panels could be relocated to the site near the proposed community park and could provide a place for commemoration of and community education about the site's industrial history and how it was transformed from a toxic landscape into a community asset. As part of this process, the site's granite marker would also be removed and photographed for display as part of the site's history. EPA will need to specifically address the removal of the site's granite marker as part of the site's Record of Decision.

EPA has indicated that Agency funding is available for the Education and Commemoration Area. The project's Land Use Committee recommends that the Committee work closely with EPA and the project's consultant team to design and install the area as soon as possible.

4. *Ensure active engagement among the community, EPA, and MDEQ as the site's remedy is developed and implemented.*

In the months ahead, EPA and MDEQ will be responsible for integrating the Committee's reuse guidelines and Conceptual Reuse Framework with the selection and design of the site's remedy. The potential for different future uses at the site depend on the agencies' innovative analyses and capacity to consider multiple remedial alternatives.

The project's Land Use Committee recommends the creation of a liaison communication link among the City of St. Louis, EPA, and MDEQ to ensure ongoing information-sharing and community outreach. The communication link could take the form of conference calls, designated Committee contacts, email updates, or other means.

5. *Plan for the development of the portions of the Conceptual Reuse Framework that are located off-site.*

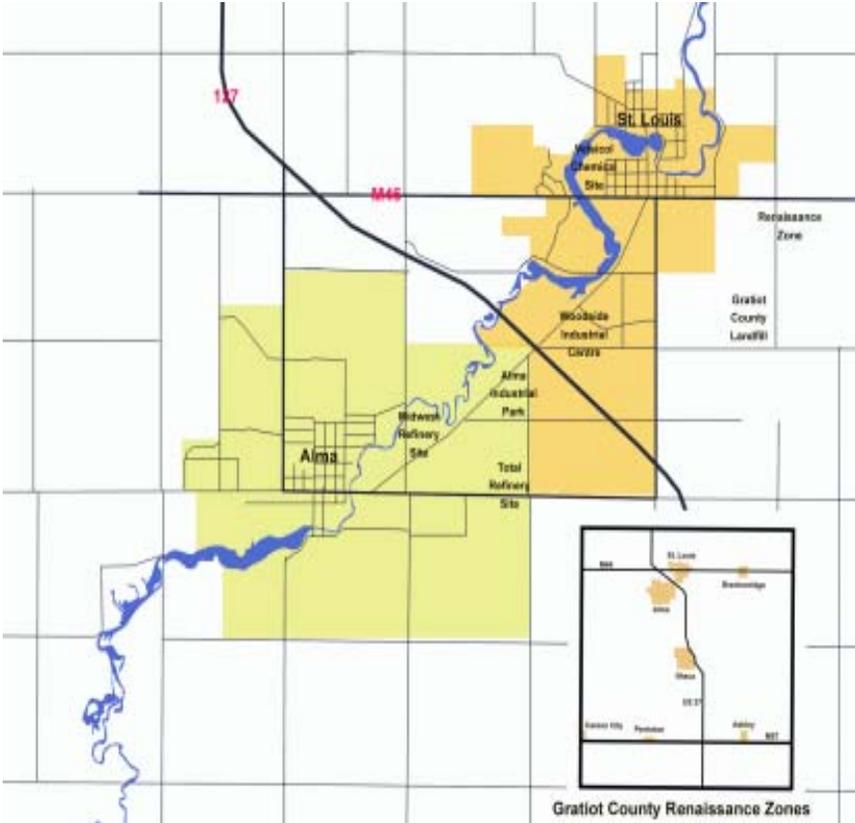
The Conceptual Reuse Framework highlights opportunities for pathways and trails that will connect the site with area schools, parks, and the City's downtown business district. The project's Land Use Committee recommends that the community's ongoing reuse planning process include planning for the development of these off-site connections, ensuring that the connections will be in place when the site's remediation is completed.



Downtown St. Louis, 1920s



Downtown St. Louis, 2003



Regional Context Map

Gratiot County Renaissance Zones

## **Community Profile: St. Louis, Michigan and Surrounding Region**

The City of St. Louis was founded in 1853, when Joseph W. Clapp followed an Indian trail that led to the five-year-old Bethany Lutheran Indian Mission. Having reached the mission, which still stands near Main Street Bridge, Clapp built the first home in what was to become the City of St. Louis. Surrounding Gratiot County, named after Brigadier General Charles Gratiot, was created by an Act of the state legislature on February 3, 1855.

The Pine and Maple rivers provided the first main transportation routes into St. Louis and Gratiot County until railroads began serving the area during the 1870s. The famous 32-mile-long plank road connecting St. Louis and Saginaw was also completed in 1870. By 1870 farmers, merchants, and a stagecoach line traveled daily between Saginaw and St. Louis. The road later became M-46.

Lumbering was the area's first major industry, with sawmills processing timber harvested from vast woodlots and shipping the processed wood across the state. The area's first sawmill was built along the Pine River in present-day St. Louis in 1855. As the area's forests were cleared in the late nineteenth century, farming increasingly became the area's economic backbone. Sawmills gave way to flour and grist mills. Sugar beet processing plants were built in Alma and St. Louis, and several crops, including corn, wheat, and beans, flourished. In the 1870s and 1880s, St. Louis was also home to the Magnetic Mineral Springs Bath House at the Park Hotel and Sanitarium, which attracted clients from across the country, drawn by the healing powers of the city's mineral springs.

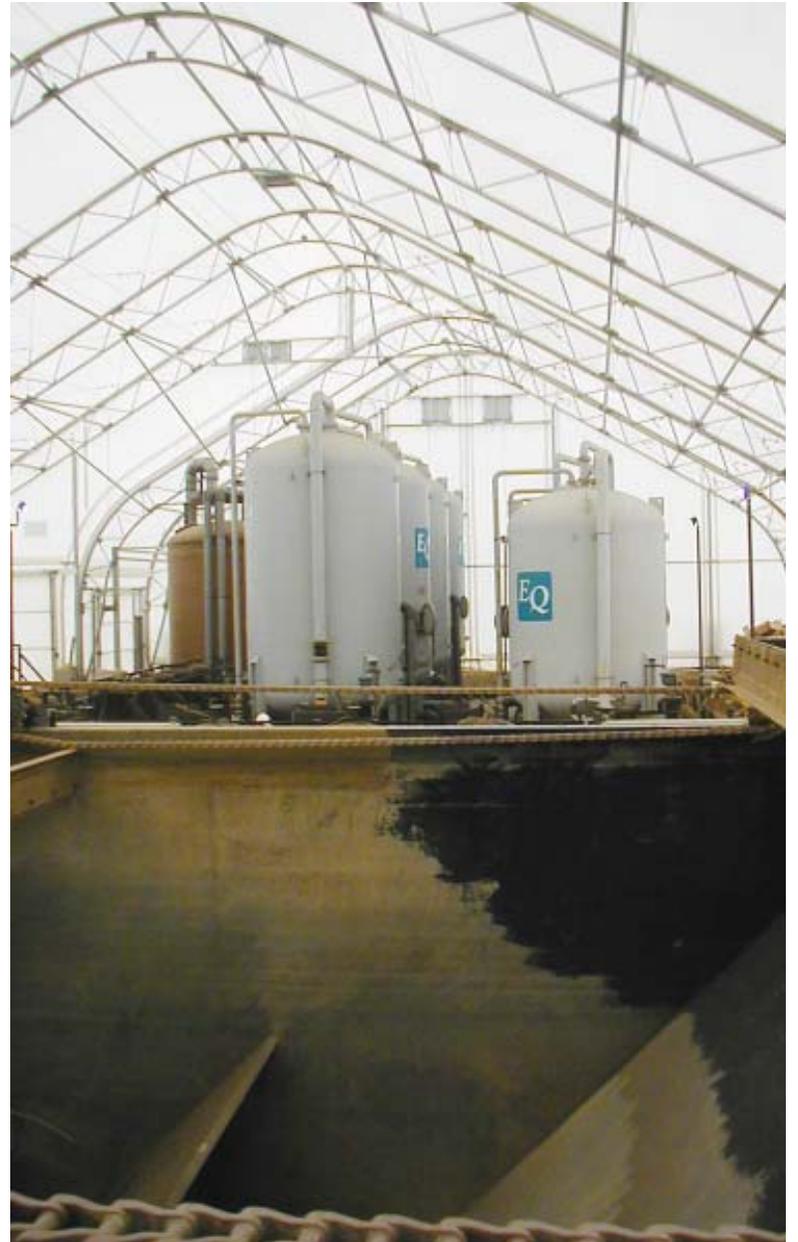
Over the past hundred years, the City of St. Louis and Gratiot County have both changed over time and retained a strong sense of community heritage. Gratiot County, for example, continues to sustain a strong agricultural sector, with agriculture accounting for approximately 70 percent of all land uses. New local industries include automobile and mobile home manufacturing, petroleum production, aircraft engine component manufacturing, pontoon boat production, and grain-cleaning equipment and plastics manufacturing. Today, St. Louis hosts two commercial and industrial parks, Michigan Department of Corrections facilities, and a diverse range of small businesses in its downtown commercial district. The City's population has grown to 4,494 and residents enjoy access to a network of community parks.

As illustrated by the map on the facing page, the City of St. Louis and the Velsicol Chemical Corporation Superfund site are also part of a regional context that includes the Cities of Alma, Breckenridge, and Ithaca townships, and Gratiot County. The site's regional context also includes an additional Superfund site, the Gratiot County Landfill site, as well as two large brownfield sites, the Midwest Refinery site and the Total Refinery Site.

The County is located within the Pine River watershed, which drains a 427-square-mile area. The Pine River flows northeast toward Midland for 20.5 miles where it discharges into the Chippewa River and then into the Tittabawassee River. The Tittabawassee then flows southeast toward Saginaw where it discharges into the Saginaw River. The Saginaw River flows north where it empties into Saginaw Bay in Lake Huron.



Velsicol Chemical Corp. Superfund Site during Remediation



Interior of Water Treatment Facility at the Velsicol Corp. Superfund Site (2003)



Existing Entry Gate to the Velsicol Chemical Corp. Superfund Site

## **Site History**

### *Industrial History*

Between the 1850s and 1977, lumbering, oil refining, and chemical manufacturing and processing activities took place at the Velsicol Chemical Corporation Superfund site. Chemical manufacturing and processing activities began in 1936, when Monzanite sand was stored and processed at the site. From 1956 to 1977, pesticide production, flame retardant production, and cattle feed supplement production facilities operated at the site. Manufacturing byproducts and wastes were burned and disposed of on-site and at the former Gratiot County Golf Course and Gratiot County Landfill.

### *Site Ownership*

Between the 1850s and 1977, the land within the boundaries of the Velsicol Chemical Corporation Superfund site was owned by various companies, including a lumber mill, an oil refinery, the Michigan Chemical Corporation (MCC), and the Velsicol Chemical Corporation. EPA identified Velsicol Chemical Corporation as the site's potentially responsible party (PRP). Today, the site is owned by the Lepetomane III, Inc. Custodial Trust, following the Velsicol Corporation's 1999 bankruptcy filing.

### *Contamination and Remediation*

Chemical manufacturing activities at the Velsicol Chemical Corporation site resulted in the contamination of the Pine River and the site's soils and ground water with polybrominated biphenyls (PBBs) and tris-phosphates (flame retardants), DDT, and magnesium oxide (a cattle feed supplement).

In 1977, the Michigan Department of Natural Resources (MDNR) discovered elevated contaminant levels at the county golf course, county landfill, and on-site at the Velsicol chemical manufacturing facility. In 1982, Velsicol signed a \$38.5 million Consent Judgment with EPA and MDEQ (formerly MDNR). As part of the agreement, Velsicol agreed to clean up the main facility, the Gratiot County Golf Course, and the Gratiot County Landfill. The agreement provided for the demolition, salvage, and removal of on-site building materials and scrap, on-site consolidation and burial of wastes from the golf course and landfill, construction of a two-foot thick slurry wall ground water containment system around the main facility site, construction of a clay cap over the entire facility site, installation of a ground water collection system with deep well injection, and implementation of a long-term site operations and maintenance program. The site's remediation was completed in 1985.

In 1996 and 1997, EPA and MDEQ sampled sediments in the Pine River and detected high levels of DDT. DDT levels in fish doubled

between 1989 and 1998. The original cleanup of the Velsicol site had not addressed contaminants in the Pine River. Natural attenuation was the remedy selected for river sediments. In 1998 and 1999, EPA performed a time-critical removal action in the Pine River. Sediments containing 3,000 ppm total DDT or greater (the hot spot) were dredged, treated with a stabilizing/drying agent, and disposed of off-site. The remediation of the Pine River, referred to as the site's second Operable Unit (OU), is ongoing – its completion is projected for 2009.

As identified in EPA's 1999 Record of Decision (ROD) for the Pine River, contaminated sediments are being removed from the Pine River. Temporary cofferdams have been constructed in the river, the river water is pumped out, and the sediments are excavated. A stabilizing/drying agent is added to the sediments, which are then disposed of off-site. The water pumped out of the cofferdams is treated on-site, prior to discharge into the Pine River.

In Fall 2001, contaminant leaks in the site's original slurry wall were identified, indicating a partial failure of the site's original remedy. A DNAPL (dense non-aqueous phase liquid) consisting of 28 percent DDT and two NAPLs have been found seeping into the Pine River. As an interim management measure, EPA has installed collection trenches around the site (Operable Unit 1) to collect the liquid.

#### *Current Site Status*

EPA and MDEQ are currently working on the site's Remedial Investigation and Feasibility Study (RI/FS). The remedial investigation at the site, which provides EPA and MDEQ with the information needed to fully assess the site's conditions, contaminants, and extent of contamination, and the site contamination's risk to human health and the environment, was completed in October 2003. The Feasibility Study, which consists of the agencies' detailed analysis of different cleanup options for the site, is projected for completion in summer 2004.



View across the Pine River to the Velsicol Chemical Corporation Superfund Site (2003)

## **The Velsicol Chemical Corporation Superfund Redevelopment Initiative Pilot Process**

The Velsicol Chemical Corporation Superfund Redevelopment Initiative Pilot Project was established as a twelve-month, community-based reuse planning process. The process was managed by the project's Land Use Committee, a 24-member body that met three times and hosted a public meeting to share the project's findings with the larger community.

Funded by a pilot grant from EPA's Superfund Redevelopment Initiative (SRI), the City of Elkhart's City Council served as the project's sponsor. The project's consultant team, from environmental consultants E<sup>2</sup> Inc., organized public outreach efforts, provided research, analysis, and design services, facilitated committee and public meetings, and developed and revised the project's site reuse framework.

This section of the report describes the project's structure and timeframe in greater detail.

### *The Land Use Committee*

The Committee was created to represent the community's priorities and perspectives regarding potential future land uses at the Velsicol Chemical Corporation Superfund site. The Committee also provided a forum for the community to learn about the site's contamination and remediation and, in turn, to provide EPA and MDEQ with the community's guidance and reuse recommendations to inform the development of the site's remedy.

The Land Use Committee included a diverse range of interests. Besides a general interest that the Committee represented community characteristics such as age, race/ethnicity, and economic level, the participation of the following specific interests were also targeted:

- residents and property owners adjacent to the site
- residents and property owners from across the City
- local business interests
- local government officials
- local community organizations, including the Pine River Superfund Task Force
- the Lepetomane III, Inc., Custodial Trust

The project's structure included "resource" members that could provide expertise but did not have a stake in the project's outcome

and were not involved in determining the Committee's reuse recommendations. Project resource members included representatives from EPA Region 5 and the Michigan Department of the Environmental Quality.

Following design of the Committee's structure, participation goals were developed for potential Committee members. In order to serve as a member of the Committee, potential members were asked to be willing and available to:

- Participate in three Committee meetings and a public meeting over the course of the twelve-month process;
- Represent the interests of the City as a whole rather than any single specific interest; and
- Consider a wide range of potential uses for the site.

During the first Committee meeting in July 2003, the project's consultant team worked with the Committee to clarify the group's roles and responsibilities. The Committee revisited these roles and responsibilities throughout the project, serving as guidance for the Committee's discussions and decision-making:

- Listening to the local community throughout the process and incorporating its perspectives into the Committee's discussions;
- Learning about the Superfund program, reuse opportunities, and the Velsicol Chemical Corp. NPL site;
- Providing City of St. Louis, US EPA, and MDEQ with future land use recommendation(s); and
- Serving as ambassadors and information resources for the community.

The Land Use Committee also worked with the project's consulting team during the project's first Committee meeting to establish ground rules and a decision-making structure for the Committee's discussions. Ground rules identified by the Committee include:

- Committee discussions should be an open, friendly process where different opinions are welcome and respected;
- Clear, understandable language should be used in Committee discussions. Any time an acronym is used, it should be explained; and
- The project should be an interactive process that reaches into the community to provide information and to receive input.

The project was established as a consensus-based process, with Committee members agreeing to work together to develop reuse recommendations for the Velsicol Chemical Corporation Superfund site. If full agreement was not possible, Committee members determined that an accurate description of group preferences, along with the pros and cons of various options and areas of agreement and disagreement, would be reported to the City of St. Louis, EPA, and MDEQ.

## **Conclusions: Future Roles and Responsibilities**

In this project report, the project's Land Use Committee has presented EPA, MDEQ, and St. Louis City Council with its reuse recommendations for the Velsicol Chemical Corporation Superfund Redevelopment Initiative Pilot Project.

Beyond the publication of this report, the Committee intends that EPA and MDEQ incorporate its reuse recommendations into the evaluation and selection of the site's remedy. The Committee recognizes that EPA and MDEQ's analysis of site data is ongoing, that additional information about the site's contamination is forthcoming, and that this information could impact the types of land uses allowed at the site in the future. In this case, the Committee requests that EPA and MDEQ report back to the City of St. Louis and the community to discuss potential implications and updated approaches to facilitate the reuse of the Velsicol Chemical Corporation Superfund site.

The Committee also requests that EPA and MDEQ continue to work closely with the City of St. Louis and community residents in the future to address community concerns and work with the community to remediate the Velsicol Chemical Corporation Superfund site and return the site to successful use. In the months ahead, EPA and MDEQ will be responsible for integrating the Committee's reuse guidelines and Conceptual Reuse Framework with the selection and design of the site's remedy. The potential for different future uses at the site depends on the agencies' innovative analyses and capacity to consider multiple remedial alternatives.

The Committee also intends that St. Louis City Council endorse and incorporate its research and reuse recommendations into future city planning efforts and documents, including the city's Comprehensive Plan and zoning ordinance, and serve as the convening authority for ongoing reuse planning efforts. The Committee requests that the City of St. Louis continue to work closely with community residents, EPA, and MDEQ to ensure that the Velsicol Chemical Corporation Superfund site is remediated and returned to successful use.

The Committee recognizes that this project report and the project's reuse recommendations represent an important step that will inform the cleanup and eventual reuse of the Velsicol Chemical Corporation Superfund site. The Committee also recognizes that these recommendations represent a *first* step that will need to be followed up with sustained community interest and involvement, partnerships, resources, and the transfer of the ownership of the site from the LePetomane III, Inc., Custodial Trust to a new public- or private-sector landowner.

## Appendices

### **Appendix A: Resources**

The project's consultant team has identified a range of public and private sector resources that can provide funding, technical assistance, and training to help facilitate the implementation of the reuse framework developed for the Velsicol Chemical Corporation Superfund site. Resources are available to help the community return the site to successful use as a community resource.

### **Resource Conservation and Recreation**

#### ***Federal-Level:***

- **Recreational Trails Program**  
**The U.S. Department of Transportation, Federal Highway Administration**

The U.S. Department of Transportation's Federal Highway Administration provides matching funds to states to develop and maintain recreational trails and trail-related facilities for both motorized and non-motorized recreational trail users. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles. In Michigan, the Department of Natural Resources administers the program and develops its own procedures to solicit and select projects for funding.

#### **U.S Department of Transportation Federal Highway Administration**

Stevens T. Mason Building  
PO Box 30452  
Lansing, MI 48909-7757  
[www.fhwa.dot.gov/environment/rectrails/  
rbroch.htm](http://www.fhwa.dot.gov/environment/rectrails/rbroch.htm)

*Contact:*  
Jim Radabaugh  
State Trails Coordinator  
Michigan Department of Natural Resources  
T: 517-373-1276

- **Rivers, Trails, and Conservation Assistance Program**

*National Park Service*

The National Park Service's Rivers, Trails, and Conservation Assistance Program works with community groups and local and State governments to conserve rivers, preserve open space, and develop trails and greenways. Technical assistance, provided by the program's national network of 90 conservation and recreational-planning professionals, includes assessing resources, developing concept plans, identifying potential sources of funding, and providing conservation and recreation information. The program is administered on a regional basis.

### **National Park Service**

National Park Service  
9922 Front Street  
Empire, MI 49630  
[www.nps.gov/ncrc/programs/rtca/  
contactus/cu\\_offices.html](http://www.nps.gov/ncrc/programs/rtca/contactus/cu_offices.html)

*Contact:*

Barbara Nelson-Jameson  
Rivers, Trails, & Conservation Assistance  
T: 231-334-3130  
F: 231-334-3135

- **Land & Water Conservation Fund**

*National Park Service*

The Land & Water Conservation Fund provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities. The program is intended to create and maintain a nationwide legacy of high-quality recreation areas and facilities and to stimulate non-federal investments in the protection and maintenance of recreation resources across the United States. Any unit of government, including Native American tribes, school districts, or any combination of units in which authority is legally constituted to provide recreation, is eligible. Local units of government, school districts, and local authorities must have a Michigan Department of Natural Resources-approved community recreation plan to be eligible. Application materials will next be available in January 2005 and the applications will be due by April 1, 2005.

### **National Park Service**

111 South George St.  
Cumberland, MD 21502  
[www.nps.gov/ncrc/programs/lwcf/  
index.html](http://www.nps.gov/ncrc/programs/lwcf/index.html)

*Contact:*

Jim Wood  
Chief of Grants, Contracts, and Customer  
Systems  
T: 517-241-2480

- **Partners for Fish and Wildlife Program**

*U.S. Fish and Wildlife Service*

The U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program provides technical and financial assistance to private landowners who voluntarily restore wetlands and other fish and wildlife habitat on their land. It encourages funding from other organizations to help complete projects. Private landowners, often in partnerships with conservation groups and government agencies, are eligible for assistance. Landowners must sign an agreement to retain the restoration projects for at least 10 years, but otherwise maintain full control of their land.

### **U.S. Fish and Wildlife Service**

2651 Coolidge Road  
East Lansing, MI 48823  
[partners.fws.gov/](http://partners.fws.gov/)

*Contact:*

Jim Hudgins  
State Coordinator  
T: 517-351-4230  
F: 517-351-5419

- **Resource Conservation & Development Program (RC&D)**

*U.S. Department of Agriculture Natural Resource Conservation Service*

The RC&D Program aims to accelerate the conservation, development and utilization of natural resources, as well as improve the general level of economic activity and standard of living in designated RC&D areas. The program works to enhance the capability of state, tribal, and local units of government, as well as local nonprofit organizations in rural areas to plan, develop, and carry out programs for resource conservation and development. Current program objectives focus on improvements in quality of life through natural resources conservation, sustainable community development, prudent resource use, and the management of natural resources. RC&D areas are locally sponsored regions designated by the Secretary of Agriculture for RC&D technical and financial assistance program funds. The City of St. Louis is located in the Saginaw Bay RC&D Area.

### **U.S. Department of Agriculture Natural Resource Conservation Service**

301 Commerce Dr.  
Ithaca, MI 48847-1602  
[www.mi.nrcs.usda.gov/programs/  
rc&d.html](http://www.mi.nrcs.usda.gov/programs/rc&d.html)

*Contact:*

Jim Hergott  
Saginaw Bay RC&D Coordinator  
T: 517-684-5650

- **Wildlife Habitats Incentive Program**

*U.S. Department of Agriculture Natural Resources Conservation Service*

The Wildlife Habitats Incentive Program (WHIP) is a voluntary program designed to provide technical and financial assistance to landowners for the establishment and improvement of fish and wildlife habitat. Ranking criteria are used to select applicants with conservation plans that will create, enhance or protect wildlife. Applications are accepted through a continuous sign-up process.

**U.S. Department of Agriculture  
Natural Resources Conservation  
Service**

3001 Coolidge Road, Suite 250  
East Lansing, MI 48823  
[www.mi.nrcs.usda.gov/programs/whip.html](http://www.mi.nrcs.usda.gov/programs/whip.html)

*Contact:*  
Shannon Zezula  
WHIP Coordinator  
T: 517-324-5259  
[shannon.zezula@mi.usda.gov](mailto:shannon.zezula@mi.usda.gov)

**State-Level:**

- **Michigan Natural Resources Trust Fund**

*Michigan Department of Natural Resources (MDNR)*

The Michigan Natural Resources Trust Fund provides assistance to local governments, school districts, and MDNR to purchase lands for outdoor recreation and/or the protection of natural resources and open space. The fund also assists in the appropriate development of land for public outdoor recreation. Local units of government (cities, villages, townships, counties) may apply for funds if they have an updated parks and recreation plan, and can provide a funding match of at least 25percent of the appraised value of the property to be purchased. Grants range from \$15,000 to \$500,000. Applications are available each January for the current year's application cycle.

**Michigan Department of Natural  
Resources**

P.O. Box 30425  
Lansing, MI 48909-7925  
[www.michigan.gov/dnr/](http://www.michigan.gov/dnr/)

*Contact:*  
Jim Wood  
Chief of Grants  
T: 517-241-2480  
[woodjb@michigan.gov](mailto:woodjb@michigan.gov)

- **Inland Fisheries Grants**

*Michigan Department of Natural Resources*

The objectives of this grant program include: 1) To protect, maintain and/or enhance inland aquatic environments that can support a significant public fishery. 2) To rehabilitate degraded inland fish communities on waters that can support a significant public fishery. 3) To provide additional or more diverse fishing opportunities on inland waters that can support a significant public fishery. 4) To foster educational and interpretive communications and interest in inland fish, fishing, and fisheries management when those communications and interests serve to protect, maintain, enhance, or rehabilitate the populations and habitat of fish and other forms of aquatic life.

- **State and Local Recreation Trust Fund Program**

*Michigan Department of Natural Resources*

The program provides grants to local units of government and state agencies for the acquisition and development of lands and facilities for outdoor recreation or the protection of Michigan's significant natural resources. Applications are evaluated on established criteria such as resource protection, water access, and project need. At least a 25 percent match on either acquisition or development projects is required from local government applicants. Recommendations are made by the Michigan Natural Resources Trust Fund Board to the State Legislature for final approval. Criteria are spelled out in the "Recreation Grants Selection Process" booklet given to all applicants. Any local of government, including school districts, or any combination of units in which authority is legally constituted to provide recreation are eligible for funding. Local units of government, school districts, and local authorities must have a DNR-approved recreation plan to be eligible.

**Michigan Department of Natural Resources**

[www.michigan.gov/dnr/0,1607,7-153-10366\\_14349-40253—,00.html](http://www.michigan.gov/dnr/0,1607,7-153-10366_14349-40253—,00.html)

*Contact:*

Todd Grischke

T: 517-373-6762

[grischkt@michigan.gov](mailto:grischkt@michigan.gov)

**Michigan Department of Natural Resources**

[www.michigan.gov/dnr/0,1607,7-153-10366\\_11864-29094—,00.html](http://www.michigan.gov/dnr/0,1607,7-153-10366_11864-29094—,00.html)

*Contact:*

Jim Wood

T: 517-241-2480

[woodjb@michigan.gov](mailto:woodjb@michigan.gov)

- **Land and Water Conservation Fund**

*Michigan Department of Natural Resources*

The objective of the Land and Water Conservation Fund is to provide grants to local units of government and state agencies to develop land for outdoor recreation. Any unit of government, including Native American tribes, school districts, or any combination of units in which authority is legally constituted to provide recreation is eligible for funding. Local units of government, school districts and local authorities, must have a DNR-approved community recreation plan to be eligible.

**Michigan Department of Natural Resources**

[www.michigan.gov/dnr/0,1607,7-153-10366\\_14349-40256—,00.html](http://www.michigan.gov/dnr/0,1607,7-153-10366_14349-40256—,00.html)

*Contact:*

Jim Wood

T: 517-241-2480

[woodjb@michigan.gov](mailto:woodjb@michigan.gov)

- **Recreational Trails Program Grants**

*Michigan Department of Natural Resources*

Recreational Trails Program Grants fund the maintenance and development of recreational trails and related facilities. State projects and State/local government partnership projects are eligible for funding. However, a Department of Natural Resources (DNR) division/bureau must always be the applicant. Local unit of government-sponsored projects can be considered for funding if they contribute to Department program goals and they are located on DNR land or linked to a trail on DNR land. Local unit of government applications will not be considered unless the project is developed as a joint application with a DNR division/bureau prior to the application deadline (July 1 of each year).

**Michigan Department of Natural Resources**

[www.michigan.gov/dnr/0,1607,7-153-10366\\_14349-40344—,00.html](http://www.michigan.gov/dnr/0,1607,7-153-10366_14349-40344—,00.html)

*Contact:*

Mark Mandenberg

T: 517-335-3037

[mandenbm@michigan.gov](mailto:mandenbm@michigan.gov)

## Private Foundations/ Trusts

- **Site-based Conservation Grants**  
*Charles Stewart Mott Foundation*

The Charles Stuart Mott Foundation's Site-based Conservation Grants are made to support two primary objectives: research to identify ecosystem conservation priorities in the Great Lakes Region and site-specific conservation projects at selected, priority ecosystems. A one- to two-page letter of inquiry, including a brief description of the project and funding needed, is required for consideration of grants. The submittal of a letter of inquiry is the only way to determine if the section of the Pine River in St. Louis qualifies as a priority ecosystem. Grants are administered to 501(c)(3) organizations.

- **Bricks and Mortar Grant Program**  
*The Kresge Foundation*

The Kresge Foundation is an independent, private foundation founded in 1924 by the S.S. Kresge Company, more widely known as Kmart. The foundation has several grantmaking programs and initiatives for nonprofit organizations. The foundation focuses on capital programs and giving to organizations for facility construction or improvement. The "Bricks and Mortar" program offers financial support for building facilities and challenges private giving. Projects that may receive funding include the construction of facilities, renovation of facilities, purchase of major equipment or an integrated system at a cost of at least \$300,000, and the purchase of real estate. The foundation predominantly provides high dollar grants (over \$750,000). Governmental agencies can apply for funding in order to purchase real estate. However, the likelihood of a locality receiving funding is lower than that of a nonprofit organization.

### Charles Stewart Mott Foundation

Mott Foundation Building  
503 S. Saginaw Street, Suite 1220  
Flint, MI 48502-1851  
[www.mott.org/programs/env-conservation.asp](http://www.mott.org/programs/env-conservation.asp)

*Contact:*  
Mott Foundation Home Office  
T: 810-238-5651  
F: 810-766-1753

### The Kresge Foundation

3215 W. Big Beaver Road  
P.O. Box 3151  
Troy, Michigan 48007-3151  
[www.kresge.org](http://www.kresge.org)

*Contact:*  
Tel. 248-643-9630  
Fax 248-643-0588  
[webmaster@kresge.org](mailto:webmaster@kresge.org)

- **Sustainable Development Program**  
*Rockefeller Brothers Fund*

The Rockefeller Brothers Fund promotes social change that contributes to a more just, sustainable, and peaceful world. Through its grantmaking, the Fund supports efforts to expand knowledge, clarify values and critical choices, nurture creative expression, and shape public policy. The Fund's programs are intended to develop leaders, strengthen institutions, engage citizens, build community, and foster partnerships that include government, business, and civil society. Respect for cultural diversity and ecological integrity pervades the Fund's activities.

### **Rockefeller Brothers Fund**

437 Madison Avenue, 37th Floor  
New York, New York 10022-7001  
[www.rbf.org](http://www.rbf.org)

*Contact:*

Tel. 212-812-4200  
Fax 212-812-4299  
[info@rbf.org](mailto:info@rbf.org)

- **Additional Community Foundation Resources**  
*Council on Foundations*

There are many smaller community foundations in Michigan that could be potential resources for the City of St. Louis. A list of these foundations and their initiatives can be found at [www.cmif.org/Default.html](http://www.cmif.org/Default.html). The Council on Foundations also offers lists of resources available on their website at [www.cof.org/Locator/index.cfm?crumb=2](http://www.cof.org/Locator/index.cfm?crumb=2).

## Non-Governmental Organizations

- **US Soccer Foundation Grants Program**  
*United States Soccer Foundation*

The Mission of the US Soccer Foundation is to enhance, assist, and grow the sport of soccer. The Foundation's core program is the administration of its annual Grants process. Having just completed its ninth year, the Grants Program has awarded over \$17 million in cash and equipment to more than 265 grantees nationwide. Grantees cover the entire spectrum of soccer organizations, from small rural clubs looking to start a soccer program to the national programs of the US Soccer Federation, the National Governing Body for the sport of soccer in the United States. The Foundation's Grants Program is open to anyone with a soccer-specific program or a project that benefits a non-for-profit recreational purpose.

- **FishAmerica Restoration Grants**  
*American Sportfishing Association (ASA)*

The ASA's FishAmerica Foundation funds projects that restore marine, estuarine, and riparian habitats that benefit sportfish and involve community participation through an educational or volunteer component tied to the restoration activities. While the ASA's grants focus primarily on marine habitat restoration, proposals for freshwater projects are accepted on a rolling basis and are reviewed year-round. Conservation Projects are funded several times per year.

### United States Soccer Foundation

1050 17<sup>th</sup> Street, NW  
Suite 210  
Washington, DC 20036  
[www.ussoccerfoundation.org](http://www.ussoccerfoundation.org)

*Contact:*

Karen Irish  
Manager, Proactive Initiatives  
[kci@ussoccerfoundation.org](mailto:kci@ussoccerfoundation.org)  
T: 202-872-6656  
F: 202-872-6655

### American Sportfishing Association

225 Reinekers Lane, Suite 420  
Alexandria, VA 22314  
[www.asafishing.org/content/conservation/fishamerica/faf\\_grant.cfm](http://www.asafishing.org/content/conservation/fishamerica/faf_grant.cfm)

*Contact:*

Johanna Laderman  
Managing Director  
T: 703-519-9691  
F: 703-519-1872

- **Environmental Grants**

*Ben & Jerry's Foundation*

The Ben & Jerry's Foundation provides grants to non-profit organizations that seek to institute environmental or institutional change, foster new ways of thinking, address the root cause of social and environmental problems, as well as help ameliorate an unjust or destructive situation by empowering constituents. Grants of \$1,001 to \$15,000 are rewarded to non-profit organizations three times per year. Letters of intent may be submitted at any time and are reviewed on an ongoing basis, but should be received no later than ten weeks prior to a desired full proposal cycle deadline. If an application is chosen for further consideration, deadlines to submit a full proposal are: March 1, July 1, and November 1.

**Ben & Jerry's Foundation**

30 Community Drive  
South Burlington, VT 05403  
[www.benjerry.com/foundation/index.html](http://www.benjerry.com/foundation/index.html)

*Contact:*  
Lisa Pendelino  
T: 802-846-1500

- **Environmental Grants**

*Public Welfare Foundation*

The Public Welfare Foundation's Environment Program provides funds to nonprofit programs that work on environmental challenges, especially in communities where there are the least resources to respond. The Environment Program also provides funds to nonprofit programs that provide technical assistance to grassroots or local efforts, advocacy efforts that increase the participation of affected communities in policy decisions concerning health and the environment, and programs that promote sustainable development. Grant applications begin with a letter of inquiry and may be submitted for review on a rolling basis throughout the year.

**Public Welfare Foundation**

1200 U Street NW  
Washington, DC 20009-4443  
[www.publicwelfare.org/grants/environment.asp](http://www.publicwelfare.org/grants/environment.asp)

*Contact:*  
Midge Taylor  
Program Officer  
T: 202-965-1800  
F: 202-265-8851

- **Environmental Programs**

- The Conservation Fund*

The Conservation Fund helps local, state, and federal agencies and nonprofit organizations acquire property from willing sellers to protect open space, wildlife habitat, public recreation areas, river corridors, and historic places. The fund also offers land advisory services, applying principles of sustainable development to real estate projects with sensitive ecological, visual, and historical resources. Additionally, the fund works to enhance, restore, and protect the nation's land and water resources through mitigation services that range from planning and negotiation to acquisition and implementation. The fund also provides services in natural resource damage mitigation, habitat/species mitigation, and wetland mitigation.

### **The Conservation Fund**

1800 North Kent Street, Suite 1120  
Arlington, VA 22209-2156  
[www.conservationfund.org](http://www.conservationfund.org)

*Contact:*

Douglas R. Horne  
Director, Land Advisory Services  
T: 703-525-6300  
F: 703-525-4610

- **Environmental Grant**

- Unity Avenue Foundation*

The Unity Avenue Foundation provides grants for specific projects that foster responsible, long-term human interaction with the natural environment, particularly those projects that can be replicated or adapted for broad application. Grant rewards are a minimum of \$5,000. A one-page proposal summary must be received by the second Friday in January each year. Full proposals for selected projects are due by March 15.

### **Unity Avenue Foundation**

342 Fifth Ave N.  
Bayport, MN 55003-1201  
[www.scenicriver.org/ua/index.html](http://www.scenicriver.org/ua/index.html)

*Contact:*

Sarah Andersen  
Grants Consultant  
T: 651-439-1557  
F: 651-439-9480

- **Bicycle and Pedestrian Planning Technical Assistance**

*National Center for Bicycling and Walking (NCBW)*

The National Center for Bicycling and Walking provides information, training, and education on bicycle and pedestrian related issues, including facility planning, design, and engineering, public health and physical activity, and education and safety research and programs; effective advocacy techniques; and trails and greenway development. Additionally, the NCBW hosts the annual Pro Bike/Pro Walk Conference. The next meeting, Pro Walk / Pro Bike 2004, will be held in Victoria, British Columbia, Canada, September 7-11, 2004. Contact the National Center for Bicycling & Walking at [info@bikewalk.org](mailto:info@bikewalk.org) for further information about this conference.

### **Economic Development Resources**

*Federal-Level:*

- **Economic Adjustment Program**

*U.S. Department of Commerce Economic Development Administration*

The Economic Adjustment Program assists state and local interests in designing and implementing strategies to adjust or bring about change to an economy. The program focuses on communities that have experienced or are under threat of serious structural damage to their underlying economic base. Such economic change may result from industrial or corporate restructuring, new federal laws or requirements, or depletion of natural resources. The program aids in the long-range development of public facilities and private enterprises to help create permanent jobs. The Economic Adjustment Program predominantly supports three types of grant activities: strategic planning, project implementation, and revolving loan funds. These grants must be used for the development of a Comprehensive Economic Development Strategy and the implementation of its components.

### **National Center for Bicycling and Walking**

1506 21<sup>st</sup> Street NW, Suite 200  
Washington, DC 20036  
[www.bikewalk.org](http://www.bikewalk.org)

*Contact:*

Bill Wilkinson  
Executive Director  
T: 202-463-6622  
F: 202-463-6625  
[bill@bikewalk.org](mailto:bill@bikewalk.org)

### **U.S. Department of Commerce Economic Development Administration**

Chicago Region Office  
111 North Canal Street, Suite 855  
Chicago, IL 60606-7204  
[www.doc.gov/eda](http://www.doc.gov/eda)

*Contact:*

C. Robert Sawyer  
Regional Program Contact  
T: 312-353-8143  
F: 312-353-8575

- **Local Technical Assistance Program**

*U.S. Department of Commerce, Economic Development Administration*

The Local Technical Assistance Program works to fill the knowledge and information gaps that may prevent leaders in the public and nonprofit sectors of local communities from making optimal decisions on local economic development issues. Grants often support feasibility studies on potential economic development projects, such as industrial or business incubators. The program is flexible; some communities and regional organizations have used Local Technical Assistance grants to develop revitalization plans, to prepare tourism development strategies, and sponsor economic development conferences or seminars. Eligible applicants include economic development districts, states, cities, or other political subdivisions of a state. Economic Development Administration programs are administered on a regional basis.

**U.S. Department of Commerce,  
Economic Development  
Administration**

U.S. Department of Commerce  
Economic Development Administration  
14<sup>th</sup> Street & Constitution Ave., N.W.  
Washington, DC 20230  
[www.doc.gov/eda](http://www.doc.gov/eda)

*State-Level:*

- **State Economic Development Assistance**

*Michigan Economic Development Corporation (MEDC)*

The Michigan Economic Development Corporation is the State of Michigan's resource for businesses seeking to expand or relocate in the area. MEDC provides a wide variety of technical assistance and resources including a guide for starting new businesses in the state and *SelectSites*, a service produced in conjunction with local development agencies and private developers, that provides detailed information on sites primed for development.

**Michigan Economic Development  
Corporation**

300 N. Washington Square  
Lansing, MI 48913  
[medc.michigan.org/aboutus](http://medc.michigan.org/aboutus)

*Contact:*

John Czarnecki  
V.P., Community Services  
T: 517-373-9808

*Nongovernmental Organizations*

- **Local Economic Development Assistance**  
*Greater Gratiot Development, Inc. (GGDI)*

Greater Gratiot Development, Inc. acts as a countywide clearinghouse for information and assistance in retention, expansion, and locating businesses in Gratiot County. GGDI also acts as a facilitator for business and industry in securing assistance for projects from state, federal, and other sources. Resources available to new businesses and industries in Gratiot County are also available to existing businesses and industries in the county.

- **Community/Economic Development Assistance**  
*National Center for Small Communities (NCSC)*

The National Center for Small Communities is a national nonprofit organization focused on serving the leaders of America's smaller communities. The NCSC's mission is to provide local elected officials with tools to govern effectively and the skills to expand local economies, protect natural resources, and preserve community character. The NCSC offers answers and how-to assistance on such issues as community capacity-building, economic development, environmental planning and regulatory compliance, local government management, financing and budget, grassroots fundraising, and technology.

**Greater Gratiot Development, Inc.**

136 South Main Street  
Ithaca, MI 48847-1440  
[www.gratiot.org/ggdi/index.html](http://www.gratiot.org/ggdi/index.html)

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**National Center for Small Communities**

444 North Capitol Street NW, Suite 397  
Washington, DC 20001-1202  
[www.natat.org/ncsc](http://www.natat.org/ncsc)

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## Appendix B

### RIPARIAN BUFFERS

A riparian buffer typically comprises several layers of vegetation, planted in a dense row, on the edge of a water body, which serves to slow and trap runoff before it is released into a large water body, such as a river. Low plants and grasses planted between larger shrubs and trees collect and slow water with thick ground foliage. Surface pollutants can be absorbed and degraded within the plants, stabilized in the root zone, or volatilized from plant surfaces or through transpiration. Plant roots also provide bank stabilization to reduce erosion and river sediment loads.

In addition to bank stabilization and runoff/pollutant control, riparian buffers provide valuable wildlife-supporting habitat and flood protection. A riparian buffer can become an economic enhancement by providing visual diversity and the opportunity for passive recreation. As a Best Management Practice, they are a low-maintenance, ecologically-friendly alternative to active storm water collection systems.

At the Velsicol Chemical Corporation site, the installation of a riparian buffer along the edge between the river and the land would serve several important functions. A riparian buffer could serve as a visual screen as one approaches the Pine River across the M-46 bridge. This screening buffer would offer a shaded location for pedestrian and bicycle paths in a greenway along the river and locations for habitat viewing, or educational signage (see graphic). The riparian buffer would also serve to ease stress on storm water sewers and river sediment loading by filtering surface runoff flowing toward the Pine River from ball fields, paths, and parking areas. Even if an additional containment wall is installed around the perimeter of the site as part of the site's remedy, initial research shows that a riparian buffer could still be supported. Furthermore, the riparian buffer may help direct and absorb surface water flow, thereby preventing the water flow from seeping into area ground water or damaging the containment wall, further protecting the remedy.

#### Riparian Buffer Example:

##### **Sanitary Landfill Bank Stabilization with use of Riparian Buffer and Bioengineering**

*Mill Creek, Cincinnati, Ohio*

The City of Cincinnati worked with Bioengineering Group to repair an eroding and unstable Mill Creek streambank at the edge of Center Hill landfill. The eroded bank covered about 16,000 square feet of the landfill's southeastern border. The remedial design focused on the integration of a riparian buffer, a new leachate collection system, and bioengineered bank stabilization. Vegetation with high water consumption rates was used in conjunction with a new leachate collection system to intercept and transpire

leachate from a gravel collection trench. Live poles, brush layers, geogrid lifts, live staking, and a brush fascine were used to stabilize the bank. Construction was completed in Spring 1999. Vegetation has become vigorous and there have been no erosion problems since that time. The City views the project as a success. The remedial solution was chosen based on its ability to enhance water quality, promote wildlife habit and increase aesthetic value.

This case study is an example of how one locality investigated and resolved the issue of waste at water's edge. The exact components of the riparian buffer suited to the Velsicol Chemical Corporation site may vary due to differences in slope, area of impervious surfaces, species availability, and other factors. However, a riparian buffer at the Velsicol Site could provide similar benefits.

*For more information, please contact:*

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Krista Reinhart  
The Bioengineering Group, Inc.  
18 Commercial Street  
Salem, MA 01970  
(978) 740-0096



Riparian Buffer along a River with Pedestrian and Bicycle Pathways

## Appendix C: List of Project-Related Acronyms

**AR - (*Administrative Record*):** List of all EPA documents used to develop a response action for a Superfund site. The AR culminates in the record of decision for remedial action or an action memorandum for removal actions.

**ASTM - (*American Society for Testing and Materials*):** ASTM International is a not-for-profit organization that provides a global forum for the development and publication of voluntary consensus standards for materials, products, systems, and services.

**ASTSWMO - (*Association of State and Territorial Solid Waste Management Officials*):** Association that focuses on the needs of state hazardous waste programs, non-hazardous municipal solid waste and industrial waste programs, recycling/minimization/reduction programs, Superfund/State cleanup programs, and underground storage tank and leaking underground storage tank programs.

**ATSDR - (*Agency for Toxic Substances and Disease Registry*):** Federal agency within the Department of Health and Human Services tasked to prevent exposure and adverse human health effects and diminished quality of life associated with exposure to hazardous substances from waste sites, unplanned releases, and other sources of pollution present in the environment.

**CERCLA - (*Comprehensive Environmental Response, Compensation, and Liability Act (1980)*):** The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

**CERCLIS - (*Comprehensive Environmental Response, Compensation, and Liability Information System*):** The Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) is EPA's database management system, which maintains a permanent record of all information regarding all reported potential hazardous waste sites.

**CIC - (*Community Involvement Coordinator*):** EPA staff member responsible for Agency's community involvement activities at Superfund sites. The CIC coordinates community meetings, explains Agency activities, and works with communities to address local concerns and priorities.

**EPA - (*Environmental Protection Agency*):** Federal agency whose mission is to protect human health and safeguard the natural environment.

**HAZMAT - (*Hazardous Materials*):** Chemicals, usually the by-product of industrial processes, that pose a danger to human health and the environment.

**HRS - (*Hazard Ranking System*):** The HRS is the scoring system used by EPA's Superfund program to assess the relative threat associated with actual or potential releases of hazardous substances. The HRS is the primary screening tool for determining whether a site will be included on the National Priorities List

(NPL), EPA's list of priority sites identified for possible long-term remedial action under Superfund. The scoring system assigns each site reviewed with a value between 0 and 100. A score of 28.5 or higher means that the site is eligible for listing on the NPL.

**MDEQ - (*Michigan Department of Environmental Quality*):** MDEQ restores the quality of Michigan's air, land, and water resources and protects Michigan's natural heritage. MDEQ is working in partnership with EPA to evaluate and remediate the Velsicol Chemical Corporation Superfund site.

**NCP - (*National Contingency Plan*):** The National Oil and Hazardous Substances Pollution Contingency Plan, more commonly called the National Contingency Plan or NCP, is the federal government's blueprint for responding to both oil spills and hazardous substance releases.

**NPL - (*National Priorities List*):** The NPL is EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund. The list is based primarily on the score a site receives from the Hazard Ranking System. EPA is required to update the NPL at least once a year. A site must be on the NPL to receive money from the Trust Fund for remedial action.

**O&M - (*Operations and Maintenance*):** Activities conducted after a Superfund site remedial action is completed to ensure that the site remedy remains effective in the future.

**OSRI - (*Office of Superfund Remediation and Technology Innovation*):** Manages the Superfund program, which was created to protect citizens from the dangers posed by abandoned or uncontrolled hazardous waste sites. Congress established Superfund through the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

**OSWER - (*Office of Solid Waste & Emergency Response*):** The Office of Solid Waste and Emergency Response (OSWER) develops guidelines and standards for the land disposal of hazardous wastes and underground storage tanks. OSWER also implements a program to respond to abandoned and active hazardous waste sites and accidental releases, including some oil spills, and encourages the use of innovative technologies for contaminated soil and groundwater.

**PA - (*Preliminary Assessment*):** The PA is the first stage of EPA's site assessment process. It is a relatively quick, low-cost compilation of readily available information about a site and its surroundings. The PA emphasizes identifying populations and other targets that might be affected by a site's contamination. It includes a reconnaissance of the site and surrounding area, but not environmental sampling. The PA is designed to distinguish between sites that pose little or no potential threat to human health and sites that warrant further investigation.

**PCOR - (*Preliminary Closeout Report*):** EPA report that documents the completion of a site's remedy.

**PRP - (*Potentially Responsible Party*):** A group that has been identified by EPA as being liable for incurring the costs of remediation at a contaminated site.

**RA - (*Risk Assessment*):** Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants.

**RCRA - (*Resource and Recovery Act of 1976*):** The regulatory system that manages hazardous waste from its generation to final disposal. RCRA imposes standards for transporting, treating, storing, and disposing of hazardous wastes. It is designed to prevent the creation of new hazardous waste sites by authorizing EPA to take administrative, civil, and criminal actions against facility owners and operators who do not comply with RCRA requirements.

**RD/RA - (*Remedial Design / Remedial Action*):** Remedial Design (RD) is the phase in Superfund site cleanup where the technical specifications for remedies and technologies are decided. Remedial Action (RA) follows the remedial design phase and involves the actual construction or implementation phase of Superfund site remediation. The RD/RA is based on the specifications described in a site's record of decision (ROD).

**RI/FS - (*Remedial Investigation / Feasibility Study*):** After a site is listed on the NPL, an RI/FS is performed at the site. The RI serves as the mechanism for collecting data, while the FS is the mechanism for developing, screening, and evaluating alternative remedial actions. The RI and FS are conducted concurrently. Data collected in the RI influence the development of remedial alternatives in the FS, which in turn affect the data needs and scope of treatability studies and additional field investigations.

**ROD - (*Record of Decision*):** This EPA document represents the final remediation plan for a site. It documents all activities prior to selection of the remedy, and provides a conceptual plan for activities subsequent to the ROD. The purpose of the ROD is to document the remedy selected, provide a rationale for the selected remedy, and establish performance standards or goals for the site or operable unit under construction. The ROD provides a plan for site remediation, and documents the extent of human health or environmental risks posed by the site or operable unit. It also serves as legal certification that the remedy was selected in accordance with CERCLA and NCP requirements.

**RPM - (*Remedial Project Manager*):** EPA staff member responsible for the management of a site's remediation. A site's RPM directs all investigations, planning, remedial activities, and manages technical, legal, and community relations issues at assigned sites. The RPM also directs contractual efforts to ensure proper allocation of funds and that contractor uses are effective and efficient.

**SARA - (*Superfund Amendments and Reauthorization Act of 1986*):** This legislation amended the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1986. SARA's changes stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites; required Superfund actions to consider the standards and requirements found in other state and federal environmental regulations; provided new enforcement authorities and settlement tools; increased state involvement in every phase of the Superfund program; increased the focus on human health problems posed by hazardous waste sites; encouraged greater citizen participation in site remediation plan designs; and increased the size of the Trust Fund to \$8.5 billion.

**SI - (Site Inspection):** Part of EPA's site assessment pipeline. The SI is a dynamic process tailored to the specific circumstances of individual sites; it is not a standardized process to be repeated at every site. The objective of the SI is to gather information to determine if a site poses a threat to human health or the environment in order to support a site decision regarding the need for further Superfund action. The SI begins by verifying the hypothesis put forth in the PA by collecting and analyzing wastes and environmental media samples to determine whether hazardous substances are present at a site and are migrating into the surrounding environment. The SI data is used for removal actions, other response actions, and to determine if the site is eligible for inclusion on the NPL.

**SRI - (Superfund Redevelopment Initiative):** A national EPA program that focuses on the return of Superfund sites to productive use, the achievement of site remediations that are consistent with a community's anticipated land use, and the facilitation of the reuse of sites where appropriate. The components of the program include pilots, policies, partnerships, and promotion. The City of St. Louis was awarded a pilot grant from SRI for the community-based reuse planning process in 2002.

**TRI - (Toxic Release Inventory):** Database of toxic releases in the United States compiled from SARA Title III Section 313 reports containing information concerning waste management activities and the release of toxic chemicals by facilities that manufacture, process, or otherwise use such materials. Citizens, businesses, and governments can then use this information to work together to protect the quality of their land, air, and water.

**VOCs - (Volatile Organic Compounds):** VOCs are organic compounds (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate) that participate in atmospheric photochemical reactions.



For more information, please contact:

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