

Environmental Management Considerations for Site Redevelopment In Milwaukee's Menomonee River Valley



**Menomonee Valley Partners, Inc.
Environmental Committee**



**November 2002
Milwaukee, Wisconsin**



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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November 8, 2002

Dear Interested Party in the Redevelopment of the Menomonee Valley:

The Department of Natural Resources has been an active participant in the current activities to provide information and impetus to redevelopment in the Menomonee Valley. The Department supported the US Environmental Protection Agency Brownfields Assessment Demonstration Pilot Grant application from the City of Milwaukee and the ensuing work. The Department's Southeast Region has also been represented on the Environmental Committee of the Menomonee Valley Partners, Inc. The Department is very encouraged by the findings of the pilot project and associated work. All of these activities has led us to where we are today and given us the ability to endorse the "Environmental Management Considerations for Site Redevelopment in Milwaukee's Menomonee River Valley".

The information gathered provides both physical and chemical data for the Menomonee Valley and gives a general indication of the range and distribution of contaminants. The data indicate that the environmental issues in the Menomonee Valley are manageable and the perception that there are widespread, high levels of contaminants has been alleviated.

In addition, the Department acknowledges that natural attenuation appears to be an effective mechanism for remedying groundwater concerns on some of the properties in the Menomonee Valley. As with any cleanup, the effectiveness of natural attenuation will depend on a number of factors, including the type and concentrations of the contaminants present.

The Department expects that the information that has been collected as part of this study regarding groundwater flow, environmental contamination, geology, and fill in the Menomonee Valley will greatly assist property owners and developers in their efforts to reuse and redevelop properties in the Menomonee Valley. Specifically, the findings of this study will help parties to conduct investigations and environmental cleanups that will meet the state cleanup requirements. The Department is committed to continuing our efforts to assist the City, Menomonee Valley Partners, and property owners to utilize this information to manage the environmental issues in a timely and cost-effective manner.

Most importantly, the Department assisted the Menomonee Valley Partners in development of the "Environmental Management Considerations for Site Redevelopment In Milwaukee's Menomonee River Valley" document. We believe that this useful tool will assist property owners, developers, and consultants in understanding the environmental issues in the Menomonee Valley. This document provides guidance to understand the relevant study findings and to identify the key environmental considerations that will affect the costs and time frames of real estate transactions. The Department looks forward to working with you to clarify further how the data collected so far can be used to scope any additional efforts necessary for a particular property in the Menomonee Valley.

Sincerely,

Gloria L. McCutcheon, P.E.
Regional Director



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Corporation

Mr. David Zepecki
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November 8, 2002

Dear Interested Party:

On behalf of the Menomonee Valley Partners, Inc., and its Environmental Committee, we are pleased to present *Environmental Management Considerations for Site Redevelopment in Milwaukee's Menomonee River Valley*. The suite of tools contained in this document form the culmination of an extensive three-year project that has benefited from thousands of hours of collaboration among local and state agencies and the area's leading environmental consulting professionals.

The environmental investigations that form the backbone of this effort provide a much-improved understanding of the Valley's current environmental and geotechnical conditions. The main findings of those investigations and this report conclude that the environmental issues that do exist in the Valley are manageable and should not hinder moving Valley sites back into productive use.

The members of the MVP's Environmental Committee deserve special recognition for offering their considerable talents and professional expertise in fashioning this highly useful and practical document. In addition, the Menomonee Valley Partners want to thank a number of governmental agencies for their financial support in helping to bring this important project to such a successful conclusion. They include the U.S. Environmental Protection Agency, U.S. Geological Survey, Wisconsin Department of Natural Resources and the City of Milwaukee.

We hope that the information contained in this document proves useful to you, and welcome you to learn more about Milwaukee's Menomonee River Valley.

Sincerely,

Mick Hatch, President
Menomonee Valley Partners, Inc.

Peter V. McAvoy, Chair
Environmental Committee
Menomonee Valley Partners, Inc.

Environmental Management Considerations for Site Redevelopment In Milwaukee's Menomonee River Valley

EXECUTIVE SUMMARY

This document has been prepared to help stimulate additional investments in the redevelopment of the Menomonee River Valley. It summarizes the results of recent environmental investigations in the Valley into a convenient guide for developers.

Milwaukee's Menomonee River Valley offers tremendous redevelopment potential as a result of its central location, open land and proximity to downtown. It will be the center of urban revitalization for years to come. Originally a shallow marsh, the Menomonee River Valley was filled over time with a variety of materials and adapted for industrial use. These past uses helped create a set of perceptions that the Valley's environmental conditions would be too expensive to correct, which in turn hindered new investments in the redevelopment of the Valley. To address these perceptions and provide information on current environmental conditions, the City of Milwaukee, the Menomonee Valley Partners (MVP), the Wisconsin Department of Natural Resources (WDNR), the U.S. Environmental Protection Agency (EPA) and the U.S. Geological Survey (USGS) invested significant resources over the last three years to support scientific investigations of the Valley's soils and groundwater.

The investigations have led to a much better understanding of the existing conditions and the main findings conclude that *widespread, high levels of contamination are not present and the environmental issues that do exist in the Valley are manageable*. Underscoring the validity of the investigations is the successful redevelopment of several Valley properties in the past few years, demonstrating that environmental issues can be managed in a cost-effective manner.

Using the results of the recent investigations as a foundation, the MVP's Environmental Committee developed this guide: ***Environmental Management Considerations for Site Redevelopment In Milwaukee's Menomonee River Valley***. The guide is designed to assist those developers less familiar with Wisconsin's environmental laws and who may also be looking for technical and financial assistance to address environmental issues commonly found in the Menomonee River Valley.

The Environmental Committee, which includes professionals from the City of Milwaukee, WDNR, EPA, and members of the private-sector consulting community, structured the guide to provide brief discussions and "tips" for cleaning-up and managing environmental problems such as groundwater concerns, contaminated soils, and developing on sites with fill material. It also provides references to sources of financial assistance to help defray the cost of dealing with environmental contamination that may exist on a Valley site.

Developers more familiar with state and city environmental regulations and assistance programs for the clean up and redevelopment of brownfield sites may find it more useful to go directly to the Appendix of this document. The appendix offers a listing of the appropriate references for the key findings of the recent Valley environmental investigations as well as links to governmental assistance programs.

As part of the overall effort to revitalize the Menomonee River Valley, the City of Milwaukee, MVP and the WDNR have professional staff available to assist developers interested in redevelopment projects. The WDNR has dedicated staff to Valley redevelopment that is very familiar with Valley properties and environmental conditions. The WDNR strongly suggests parties with an interest in investing in or developing in the Valley meet with them early in the development process to identify important, site-specific environmental and regulatory considerations as well as to chart an appropriate course of action with respect to these considerations.

The Menomonee Valley Partners’ Environmental Committee:

Paul Boersma	HNTB
Beverly Craig	Milwaukee Economic Development Corporation
Matt Didier	U.S. Environmental Protection Agency
Ben Gramling	Sixteenth Street Community Health Center
Bruce Keyes	Foley & Lardner
Dennis Lawton	STS Consultants, Ltd.
Susan Martin	We Energies
Peter McAvoy (Chair)	Sixteenth Street Community Health Center
Gloria McCutcheon	Wisconsin Department of Natural Resources
Dave Scherzer	Sigma Environmental Services
Kevin Shafer	Milwaukee Metropolitan Sewerage District
Paul Zovic	Giles Engineering Associates, Inc.

Consultants who led the investigations and analysis of data over the past three years were:

<u>Sigma Environmental Services:</u>	<u>United States Geological Survey:</u>
Dave Bauer	Chuck Dunning
Randy Boness	Daniel Feinstein
Mafizul Islam	Randy Hunt
Kristin Kurzka	Jim Krohelski
Jodi Larson	
Dave Scherzer	

In addition, the MVP Environmental Committee would like to thank the following individuals who have offered their considerable technical expertise and support to this effort over the past three years:

Margaret Brunette	Wisconsin Department of Natural Resources
Darsi Foss	Wisconsin Department of Natural Resources
Lilith Fowler	Menomonee Valley Partners, Inc.
Jeff Gohlke	City of Milwaukee
Greg Hagopian	City of Milwaukee
Jane Neumann	U.S. Environmental Protection Agency, Region 5
Brian Reilly	City of Milwaukee
Andrew Savagian	Wisconsin Department of Natural Resources

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INTRODUCTION

Milwaukee's Menomonee River Valley offers tremendous redevelopment potential as a result of its central location, open land and proximity to downtown. It will be the center of urban revitalization for years to come. Originally a shallow marsh, the Menomonee River Valley was filled over time with a variety of materials and adapted for industrial use. This history resulted in a number of perceptions concerning the environmental conditions in the Valley, which have hindered new investments there. Consequently, the City of Milwaukee, the Menomonee Valley Partners (MVP), the Wisconsin Department of Natural Resources (WDNR), the U.S. Environmental Protection Agency (EPA) and the U.S. Geological Survey (USGS) have invested significant resources during the past three years to study Valley environmental conditions.

There is now a much better understanding of the existing conditions and the steps required to determine whether there is an environmental impediment to redevelopment and, if necessary, to successfully reach environmental closure. An increasing number of properties have successfully undergone redevelopment in the past few years, showing that environmental issues in the Valley do not necessarily meet the perceptions that have precluded significant new development there, and that if environmental contamination does exist on a Valley property, it can be managed in a cost-effective manner.

This guide focuses primarily on issues pertaining to soil and groundwater contamination, but also includes concerns that may be encountered when constructing on historic fill sites as well as other environmental concerns that may be present on Valley sites. The specific issues, and likely solutions, are described in more detail beginning on Page 4.

Overview Of Environmental Issues

The development of any site must include consideration of geotechnical issues and other environmental issues such as construction site erosion control, stormwater management, air emissions, asbestos management and building demolition, and green building incentives. Some of these redevelopment issues, such as geotechnical concerns and stormwater management, are likely to be intertwined with both the investigations and the remedies discussed in this guide. Financial assistance is also available to defray the costs associated with the due diligence process (See Appendix for more information and references).

Tip: In evaluating the redevelopment potential of a parcel and determining the scope of any inquiry, adopting a comprehensive approach at the very onset (taking into account all the factors listed above) can save time and money.

Environmental Cleanup – The Basics

Section 292.11(3), Wis. Stats., imposes liability on 1) persons who cause the discharge of a hazardous substance and 2) persons who possess or control a hazardous substance discharge (such as the owner of the property where the discharge exists). Therefore, a current property owner may be held responsible for previously existing contamination.

There are flexible options and tools available under WDNR regulations that may allow developers to minimize potential environmental liability in a reasonable, cost-effective and

timely manner. For instance, many properties in the Valley have already been assessed, investigated, remediated and granted “closure” by the WDNR. If the WDNR has granted closure at a site, there are only limited circumstances that would require additional action. Likewise, if the contamination originates off-site, the property may qualify for a liability exemption. The WDNR may provide any interested party a letter that would clarify the party’s liability relating to a particular property.

When soil or groundwater contamination is discovered in excess of state standards that does not clearly originate off-site and closure has not already been granted, WDNR regulations require that an investigation of the property be conducted. After a site investigation has been completed, parties should be able to determine whether further action will be required to address the contamination. To date, most properties in the Valley that have undergone a change in ownership have had manageable contamination conditions, although a few properties have had more significant environmental issues to address.

THE SCOPE OF INVESTIGATION: Due Diligence

The Phase I Investigation

Generally, a prospective purchaser should obtain as much information as possible about the environmental conditions at the property. Federal law provides an exemption from liability for "innocent owners" of property. To qualify as an innocent owner, you must have undertaken all appropriate inquiry to determine if contamination may exist on a property, including an initial investigation of records and other historic use information (Phase I investigation). The proper investigation process, applicable standards (ASTM Standard 1527), and guidance for hiring a consultant, if one is needed, are explained further on the WDNR website at:

http://www.dnr.state.wi.us/org/aw/rr/cleanup/select_ec.htm¹

Even if an investigation was previously completed for the property, for liability reasons it is important to have a Phase I that is current and upon which you may contractually rely.

A substantial amount of information has already been collected regarding sites throughout the Valley. A property owner can save considerable time and expense by reviewing the information that already exists for the property, other nearby locations and Valley-wide. Many assessments, investigations and remediation reports conducted for specific properties in the Valley are publicly available from the City of Milwaukee or in the WDNR Milwaukee office.²

As new information becomes available, it may also be found by visiting the WDNR's Bureau of Remediation and Redevelopment Tracking System (BRRTS) database and the Geographic Information System (GIS), which are available at:

<http://www.dnr.state.wi.us/org/aw/rr/brrts/index.htm> (BRRTS)³
<http://gomapout.dnr.state.wi.us/org/at/et/geo/gwur/index.htm> (GIS)⁴

Tip: A Phase I can usually be completed in four weeks. Since the Phase I report will likely be disclosed to future purchasers, the property owner may wish to carefully review the report while it is still in draft form with an attorney. Financial assistance may be available (See below).

The Phase II Investigation

The next phase of the due diligence process is to take samples at the property to assess whether or not contamination is confirmed at the areas identified in the Phase I investigation. In determining the issues to be addressed at the site, a property owner may find it is useful to formulate more specific long-term development plans for the site in order to help guide the scope of the soil and groundwater investigation. Answers to the following questions, among others, will determine whether and to what extent further investigation (e.g., ch. NR 716 investigation, chemical characterization of the site) is needed:

- Is there a reason to suspect soil or groundwater contamination that has not already been resolved to the satisfaction of the WDNR?
- Do you plan any new construction (on existing fill material)? If you are planning new construction:
 - Are the geotechnical conditions suitable for your intended use?
 - Will special venting be needed to prevent methane gas build-up in structures?

Tip: It is especially useful and cost effective to meet with the WDNR prior to commencing a Phase II investigation since you may be able to significantly limit the extent of investigation. The WDNR is willing to help determine whether and how much groundwater investigation may be necessary, considering the information you are able to provide regarding nearby sites and the Valley in general, as well as the history of the property and your development plans.

Properties in the Valley should be evaluated to determine whether groundwater contamination is originating from the property, and to assess any potential receptors. In areas near the Menomonee River and canals, an evaluation should be conducted to determine if groundwater poses a threat to surface water. On properties with utility corridors, a migration assessment may be necessary.

Tip: The Phase II generally takes 6-10 weeks. Financial assistance may be available. See:

<http://www.medconline.com/BrownfieldSiteAssessmentMatchingGP.htm>⁵

FROM INVESTIGATION TO CLOSURE: Groundwater, Soil, Fill and other Environmental Considerations

The environmental issues that may be encountered in the Valley pertain to soil and groundwater contamination, fill materials, other solid wastes, and methane gas and vapors. The following summarizes each of these issues and potential solutions to them.

A. GROUNDWATER CONTAMINATION

Conditions:

Because of historic spills and historic fill material in the Valley, some of the groundwater in the Valley is contaminated to varying degrees. Groundwater characteristics in the Valley, both physical and chemical, were extensively studied from 1999-2001 by the USGS and the City of Milwaukee, with major funding from the U.S. EPA. Detailed results of the work of USGS (physical characterization) and the City of Milwaukee (chemical characterization) can be obtained by contacting the Milwaukee Economic Development Corporation⁶. The study included field measurements and computer modeling of groundwater flow. Key findings of the study were that:

- The hydrology in the Valley is complex due to a variety of factors, including historical fill activities; the presence of the Menomonee River, canals and the Lake Michigan estuary; and the existence of “cultural” features such as utility corridors and the Milwaukee Metropolitan Sewerage District (MMSD) deep tunnel Inline Storage System (ISS).
- Groundwater adjacent to and, based upon the USGS study, in very close proximity to surface waterways (the Menomonee River, canals and estuary) is likely flowing toward and discharging into these waterways.
- Groundwater which does not discharge to surface waterways in the Valley flows downward through the underlying glacial till soils and into the Silurian dolomite aquifer, and may be “captured” as inflow into the MMSD ISS system.

Groundwater Remedies:

The extent of investigation and remedy required, if any, for groundwater can be handled on a case-by-case basis in consultation with WDNR. Typically, where there is reason to suspect contamination on a parcel of property (that has not already been investigated and closed by the WDNR), groundwater data will need to be collected as part of a standard ch. NR 716 investigation or a ch. NR 726 closure request. The extent of investigation depends on whether there is a suspected *source* of contamination on the property and the extent to which information gathered during the investigation can be supplemented by groundwater flow data from the USGS study, nearby site investigations and/or evidence that a suspected source, if any, is located on a neighboring property.

A common groundwater remedy for properties in the Valley where remediation is necessary has been the removal of highly contaminated soil and 12-24 months of monitoring to determine whether natural attenuation will address the remaining contamination in the groundwater. A number of Valley properties have successfully used this strategy as a groundwater remedy in the closure process, including the Milwaukee Stockyards (104 S. Emmer Lane) and land owned by the Forest County Potawatomi (320 S. 19th Street).

Specific site reports are available from the WDNR and will provide more information regarding the type and amount of data required for closure. WDNR Technical Guidance Documents and the NR700 series are available at the WDNR web site. See:

<http://www.legis.state.wi.us/rsb/code/nr/nr700.html>
http://www.dnr.state.wi.us/org/aw/rr/archives/pub_index.html⁷

Where groundwater at a site is being contaminated exclusively by a source on a neighboring property, the property owner may be eligible for an off-site discharge exemption. The process for applying for an off-site liability exemption is explained in the WDNR document “Guidance for Dealing with Properties Affected by Off-Site Contamination” (Fact Sheet 10, Pub. #RR-589). If the proper process is followed and all statutory requirements are met, the WDNR will provide a letter that clarifies whether a property owner qualifies for the off-site liability exemption for a particular property. For more information on the off-site letter, see the WDNR document referenced above or contact the WDNR Southeast Region hydrogeologist⁸.

For properties adjacent to and in very close proximity to surface waterways, discharges into these waterways and potential sediment contamination need to be considered during site investigation and remedy selection.

Tip: Don't Reinvent the Wheel: the EPA, City of Milwaukee and MVP have already spent over a million dollars on investigating the Valley groundwater characteristics. The results of the investigation give developers a significant start in addressing site-specific issues. Individual property owners do not need to invest in overall area-wide groundwater characterization, and in some instances there may be enough data or an adequate history of the property to determine whether further groundwater investigation would be required by WDNR. In some cases, property owners may only need to supplement the existing data with some additional data from their site.

B. SOIL CONTAMINATION AND CONSTRUCTION ON FILL/SOLID WASTE

Conditions:

The Valley is the traditional estuary of the Menomonee River. Over time, the River deposited a layer of high organic peat, which was mostly covered with fill in the 1800s. Peat in the Valley is an ongoing source of methane and studies have demonstrated that it exists within the upper soil of many sites.

Near surface soils in the Valley are mostly fill materials, which means that non-native materials were brought to the property to fill in low lying areas. These conditions often exhibit low levels of contamination. In addition, discrete sources from past activities such as coal storage, railroad operations and train repair, material recycling, and chemical handling may have left a variety of contaminants in Valley soil. The requirements for addressing contaminated soil conditions will vary depending upon whether any new excavation and construction is planned, the extent and source of contamination and proposed use of the property. The WDNR is familiar with contamination associated with historic fill and can advise further as to the necessity for additional investigation and remediation.

Discrete, high level sources of contamination will generally have to be removed or remediated. Typical contaminants in Valley soils include petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), chlorinated solvents, and heavy metals. Some of these contaminants may

be associated with discrete sources rather than generalized fill materials. Because soil contamination is highly variable even within relatively small distances, it is not possible to make a general statement about soil contaminant levels. It is, however, important in the context of an investigation to determine whether there could be a discrete source resulting in high contaminant levels. Other requirements for contaminated soil will vary depending upon whether any new excavation and construction is planned, what the future property use will be and the extent and source of contamination.

Remedies:

Methane Abatement. If it is determined that methane is a concern in an area, methane may be addressed by placing a methane capture and venting system under the building. These systems consist of a layer of sand, perforated pipes to collect the methane and vent it, and a plastic seal over the sand layer. The cost of most methane abatement systems is about \$1 to \$2 per square foot of building.

Many redevelopment sites in the Valley, including the Potawatomi Casino, Emmepak Foods, Miller Park and Sigma Environmental Services, have incorporated methane abatement systems into their building design. On the other hand, if plans allow, it may be more cost effective to locate buildings away from any methane source to avoid the need for venting. For an analysis of various considerations and approaches, see a recent study of methane in the Valley⁹.

Soil Cleanup. During the Phase I and Phase II investigations, you will have determined whether there is any concern regarding soil or groundwater contamination. Even though some level of soil contamination likely exists on many properties, cost-effective methods exist for controlling any potential direct contact risk, such as from ingestion, or any risk that significant contamination may leach from soil to groundwater.

Tip: Particularly when new construction is planned, a combined and comprehensive investigation can be undertaken for soil and groundwater contamination, methane gas (associated with fill sites) and geotechnical suitability. It may also be efficient to consider stormwater planning at this early stage as well.

Tip: Expect the Unexpected: If contamination that was not known or expected be discovered during construction, an immediate determination will need to be made as to the nature of the contamination, the extent of the hazard and whether there is a legal obligation to report the findings. It may be advisable to have a soil management plan prepared before any construction activities take place on the site. This may save you time and money in the long run. Additional guidance on spill reporting is available from the WDNR. See:

<http://www.dnr.state.wi.us/org/aw/rr/spills/index.htm>¹⁰

In many instances, WDNR regulations allow parties to meet soil cleanup requirements simply by using protections (i.e., "performance standards") that can often be incorporated into development plans and landscaping. Sometimes an impermeable barrier ("cap") such as a parking lot or a building may be necessary, while in other situations, a layer of clean fill and topsoil may be required. Either way, if a cap or cover is part of the remedy, a deed restriction will be required to ensure that the cap is maintained.

Tip: If possible, and if contaminant levels permit, plan to incorporate all of the existing mass of soils and fill into the development plans, rather than having to dispose of materials off-site.

Properties with extensive contamination in the soil or discrete areas with high levels of contamination may require extensive remedies to protect groundwater or to address potential public health exposure to the contamination. Due to the high variability of the soil, there have been relatively few active in situ treatment systems (i.e., options that treat the contamination while in the soil onsite) successfully applied in the Valley. Consequently, if contaminated soils cannot be adequately addressed on site (capped, if appropriate), they may need to be excavated and properly disposed offsite at an approved landfill.

Constructing on Historic Fill Sites. WDNR regulations, NR 506.085, Wis. Administrative Code, require an exemption to construct on sites with non-native fill materials (historic fill sites). The WDNR has laid out a clear process for obtaining the exemption required for construction on historic fill sites, including an explanation of the application process, guidance for investigation, potential problems and concerns that need to be addressed in the site investigation and construction of structures. Properties with explosive levels of methane originating from fill materials will require special ventilation so that methane does not collect in any confined spaces.

The report generated by Sigma Environmental Services (See Appendix, Item 6) includes results of a literature review that documents historic property uses in the Valley as well as a map showing historic fill areas. Additionally, the WDNR *Development at Historic Fill Sites and Licensed Landfill Series* (RR-683, RR-684, RR-685) provides guidance for effectively treating methane, as well as for constructing on historic fill sites and contaminated soils. See:

<http://www.dnr.state.wi.us/org/aw/rr/rbrownfields/index.htm#landfills>¹¹

C. ADDITIONAL ENVIRONMENTAL CONSIDERATIONS IN THE VALLEY

In addition to soil and groundwater issues in the Valley, there are a number of other environmental considerations that may pertain to developing a Valley site. These considerations include:

Contaminated Sediments. Given that waterways course throughout the Valley, a prospective purchaser might be concerned about contamination in the water and sediments. Liability is most clear when there is a discrete source on a property that is contributing contamination to the waterway and sediments. There is also the potential for liability when the discrete source has been removed, but contamination continues to passively migrate into and through the waterways.

The potential for liability from contaminated sediments depends largely upon the history of a particular site. The WDNR will assist property owners in clarifying the extent of liability, if any, associated with contaminated sediments in the waterways.¹²

Demolition Debris. Property owners, developers and builders should be aware that there are also environmental issues associated with the demolition and disposal of old buildings or structures due to asbestos, lead and other contaminants that may be present. The WDNR's Waste Management and Air Management programs can provide assistance in this area. See:

<http://www.dnr.state.wi.us/org/aw/wm/recycle/>
<http://www.dnr.state.wi.us/org/aw/air/reg/asbestos/asbestos.htm>¹³

Demolition debris and scrap building materials have been reused in conjunction with Valley projects, resulting in project cost savings. See:

<http://www.wastecapwi.org/condemo.htm>¹⁴

Stormwater Management. Stormwater management practices also need to be addressed in the development of property in the Valley, particularly given the abundance of surface waters. Chapter 120 of the City of Milwaukee's Charter and Code Ordinances regulates the management of stormwater in the Valley. Additionally, the WDNR and MMSD websites provide guidance on stormwater management. See:

<http://www.dnr.state.wi.us/org/water/wm/nps/stormwater.htm>
<http://www.mmsd.com/stormwater/stormwater.asp>¹⁵

FINANCIAL ASSISTANCE

A number of financial assistance opportunities exist to help defray the cost of dealing with environmental contamination that may exist on a Valley site. These programs include local, state and federal grants, low-interest loans, cost-sharing agreements and tax incentives for new Valley developments. This assistance can apply to a wide variety of development activities.

A \$25,000 matching grant for site investigations is available from the Milwaukee Economic Development Corporation. See:

<http://www.medconline.com/BrownfieldSiteAssessmentMatchingGP.htm>⁵

Additionally, redevelopment and remediation grants and loans are available through the Menomonee Valley Partners. The MVP may also act as a nonprofit joint venture partner on certain projects, and additional City, County and State funding is available depending upon the circumstances of a particular project. MVP has compiled a listing of potential financial assistance for brownfields redevelopment activities. See:

<http://www.renewthevalley.org/files/pdf/Incentives.PDF>¹⁶

SUMMARY

Developers have traditionally been hesitant to redevelop properties in the Menomonee River Valley because of the perception that environmental remediation costs will be too high. However, in the past few years, developers have become much more sophisticated at identifying and managing environmental risk. Likewise, the WDNR has streamlined processes and clarified closure requirements. The tools presented above are intended to enable developers to more quickly identify project opportunities and methods to manage environmental risks in the Menomonee Valley.

Environmental Management Considerations for Site Redevelopment In Milwaukee's Menomonee River Valley

APPENDIX: Referenced Documents, Resources and Contacts

1. The proper investigation process, applicable standards (ASTM Standard 1527), and guidance for hiring a consultant are explained further by the WDNR. See:
http://www.dnr.state.wi.us/org/aw/rr/cleanup/select_ec.htm
2. Properties owned by the City of Milwaukee and several private properties have been extensively studied since 1995. Environmental assessments, investigations and remediation reports conducted for those properties in the Valley are publicly available from the City of Milwaukee and the WDNR Southeast Regional office. Contact:

City: Beverly Craig at 414-286-5642 or Benjamin Timm at 414-286-5756
WDNR: Peggy Norris-Dunn at 414-263-8520.
3. The WDNR maintains a Bureau of Remediation and Redevelopment Tracking System (BRRTS), which may contain useful information about Valley properties. BRRTS is available on the WDNR web site. See:
<http://www.dnr.state.wi.us/org/aw/rr/brrts/index.htm>
4. The Geographic Information System (GIS) of the Wisconsin Department of Natural Resources' (WDNR) Bureau of Remediation and Redevelopment is available on their web site. Only closed sites with groundwater contamination remaining above ch. NR140 enforcement standards or soil contamination above ch. NR720 residual contaminant levels are included in this registry. See:
<http://gomapout.dnr.state.wi.us/org/at/et/geo/gwur/index.htm>
5. Matching grants of up to \$25,000 for site investigations (Phase I & II) may be available from the Milwaukee Economic Development Corporation. See:
<http://www.medconline.com/BrownfieldSiteAssessmentMatchingGP.htm>
6. Physical and chemical groundwater characteristics in the Valley were studied between 1999 and 2001 by the USGS and the City of Milwaukee. The detailed results of this work can be obtained from the Milwaukee Economic Redevelopment Corporation. Resources that document these efforts include:
 - *Redeveloping Milwaukee's Menomonee Valley: Developing an Aqua-shed Framework for Groundwater Regulatory and Remediation Alternatives*, a City of Milwaukee report to the U.S. EPA summarizing the results of the groundwater investigation. (Also available at: <http://www.renewthevalley.org/archives/>)
 - *Area-Wide Groundwater Investigation Report for the Menomonee River Valley*, prepared for the City of Milwaukee by Sigma Environmental Services. (Also available at: <http://www.renewthevalley.org/archives/>)
 - A summary of USGS work on the physical modeling of Valley groundwater. USGS is in the process of finalizing its formal report, *The Influence of Surface Water Bodies and a Recently Constructed Deep Sewer Tunnel on Ground-Water Flow Beneath the Historic Industrial Corridor of Milwaukee, Wisconsin*. (Also available at: <http://www.renewthevalley.org/archives/>)

Individuals who would like more information regarding the above-referenced work products should contact Beverly Craig, Milwaukee Economic Development Corporation, at 414-286-5642.

7. WDNR Technical Guidance Documents and the NR700 series provide guidance for managing groundwater. See:

<http://www.legis.state.wi.us/rsb/code/nr/nr700.html>
http://www.dnr.state.wi.us/org/aw/rr/archives/pub_index.html

8. *Guidance for Dealing with Properties Affected by Off-Site Contamination* (Fact Sheet 10, Pub. #RR-589) is available on the WDNR web site. See:

<http://www.dnr.state.wi.us/org/aw/rr/archives/pubs/RR589.pdf>

Contact: Margaret Brunette, Southeast Region hydrogeologist, 414-263-8557.

9. Jodi Larson (VanderVelden), a former master's student at the Milwaukee School of Engineering, conducted a study of methane in the Valley as part of a thesis project. This report can be accessed at the Milwaukee School of Engineering's Library, 500 E. Kilbourn Street, or by contacting thesis advisor Paul Boersma at 414-359-2301, ext. 2301.

10. Guidance on spill reporting is available from the WDNR. See:

<http://www.dnr.state.wi.us/org/aw/rr/spills/index.htm>

11. The WDNR *Development at Historic Fill Sites and Licensed Landfill Series* (RR-683, RR-684, RR-685) provides guidance for effectively treating methane, as well as for constructing on historic fill sites and contaminated soils. See:

<http://www.dnr.state.wi.us/org/aw/rr/brownfields/index.htm#landfills>

12. The WDNR will assist property owners in clarifying the extent of liability, if any, associated with contaminated sediments in waterways adjacent to Valley properties. Contact Greg Hill in the WDNR Central Office at 608-267-9352 or Judy Ohm at 608-266-9972.

13. Demolition information is available from the WDNR's Waste Management and Air Management programs. These programs can provide assistance with the proper demolition and disposal of old buildings or structures, particularly where asbestos, lead and other contaminants may be present. See:

<http://www.dnr.state.wi.us/org/aw/wm/recycle/>
<http://www.dnr.state.wi.us/org/aw/air/reg/asbestos/asbestos.htm>

14. Demolition debris and scrap building materials have been reused in conjunction with Valley projects, resulting in project cost savings. See:

<http://www.wastecapwi.org/condemo.htm>

15. Stormwater management practices will be important in the development of property in the Valley, particularly given the abundance of surface waters. Chapter 120 of the City of Milwaukee's Charter and Code Ordinances regulates the management of stormwater in the Valley. Additionally, the WDNR and Milwaukee Metropolitan Sewerage District websites provide guidance on stormwater management. See:

<http://www.dnr.state.wi.us/org/water/wm/nps/stormwater.htm>
<http://www.mmsd.com/stormwater/stormwater.asp>

16. Redevelopment and remediation grants and loans are available through Menomonee Valley Partners. Menomonee Valley Partners may also act as a nonprofit joint venture partner on certain projects. For more information, contact Lilith Fowler at 414-221-3829. See:

<http://www.renewthevalley.org/files/pdf/Incentives.PDF>