



ARCADIS
126 North Jefferson Street
Suite 400
Milwaukee
Wisconsin 53202
Tel 414.276.7742
Fax 414.276.7603
www.arcadis-us.com

Mr. Tom Wentland
Wisconsin Department of Natural Resources
141 NW Barstow Street, Room 180
Waukesha, Wisconsin 53188

Subject:

Development at Historic Fill Site or Licensed Landfill Exemption Application, 67th Place Industrial Park (formerly Lime Pit [Formerly Novak] Site), 1960 South 67th Place, West Allis, Wisconsin.
BRRTS #s 02-41-184802 and 06-41-548795
FID# 241222520

07-41-262281 ← Exemption

ENVIRONMENT

Dear Mr. Wentland:

Date:
2 February 2010

This letter and attachments are the Development at Historic Fill Site or Licensed Landfill Exemption Application (Exemption Application) for the 67th Place Industrial Park Redevelopment located at 1960 South 67th Place in the city of West Allis, Wisconsin (Site). The following bulleted list summarizes the material included with this Permit Application:

Contact:
Ben Verburg

Phone:
414.277.6231

- A check in the amount of \$500 for the Exemption Application fee
- Wisconsin Department of Natural Resources Form 4400-226
- Background Information
- Geology, Hydrogeology, and Nature of Fill
- Evaluation of Impacts
- Proposed Redevelopment
- Summary of Protective Actions

Email:
ben.verburg@arcadis-us.com

Our ref.
WI001074.0007

If you have any questions or comments, please contact me at your convenience.

Sincerely,
ARCADIS

Benjamin J. Verburg
Benjamin J. Verburg, PE, CHMM
Principal Engineer

*VPLE
REGV*

Attachments

Imagine the result

Because we care
100% recycled paper produced by wind power energy

Notice: Use of this form is required by the DNR for any application to develop at a historic fill site or licensed landfill pursuant to secs. NR 506.085 and NR 500.08(4), Wis. Adm. Code. The Department will not consider your application unless you provide complete information requested. Personally identifiable information collected will be used to process your application and will also be accessible by request under Wisconsin's Open Records law [ss.19.31 - 19.39, Wis. Stats.]

Instructions: See *Development at Historic Fill Sites and Licensed Landfills: What you need to know* (PUB-RR-683, April 2002) for detailed instructions.

- All Exemption Application materials should be sent to the region where the site is located, as listed on page 6.
- Include \$500 fee payment with this application unless a fee was already paid for the review of the remedial design report under the NR 700 process.
- Determine the appropriate exemption type for the site and check appropriate box below.
- Provide complete information requested for each type of exemption. Include the following attachments:
Required: Summary of Existing and Potential Impacts described in Section V as an attachment, under the seal of a professional engineer or geologist registered to practice in Wisconsin.
Optional: Site Visit Summary Comments (Section IX) including any photos, sketches or site visit notes.

Exemption Type

- Remediation and Redevelopment Program NR 700 Rule Series Process Exemption:** Site with remedial actions conducted in accordance with NR 700 series
Required: Sections I - VI **Optional:** Sections VII - X
- Case-by-Case Evaluation:** Sites with anticipated environmental impacts or wastes of special concerns
Required: Sections I - VI **Optional:** Sections VII - X
- Expedited Exemption:** Site with no expected environmental impact
Required: Sections I - VI and Form 4400-256A Expedited Exemption Application **Optional:** Sections VII - X

I. Applicant Information

Owner - Last Name Schloss	Representative Patrick	First MI	Telephone Number 414-302-8468
Contact Name (if different) City of West Allis - Community Development Authority			
Street Address 7525 West Greenfield Avenue	City West Allis	State WI	ZIP Code 53214
Developer - Last Name To be Determined	First MI	Telephone Number	
Street Address	City	State	ZIP Code

II. Site Name and Location

Site Name 67th Place Industrial Park	Location / Address 1960 South 67th Street
Is the site known by another name(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> City <input type="checkbox"/> Town <input type="checkbox"/> Village of <u>West Allis</u>
If yes, provide name. Lime Pit (Formerly Novak) Site	ZIP Code 53214
Does the site have a license number? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	State WI
If yes, License Number	County Milwaukee

A. Attach a map with site location and limits of fill/waste disposal area.

B. Global Positioning System Coordinates	Describe method for collecting GPS Coordinates
Latitude: DEG MIN SEC 43 0 40.2 N	Longitude: DEG MIN SEC 88 0 6.4 W
WDNR RR Site Map	

Program Lead, Fee Status and Regulatory ID Numbers (This area for DNR use only)			
<input type="checkbox"/> Waste Management Bureau	<input type="checkbox"/> Remediation and Redevelopment Bureau - Exemption is part of remedy under NR 700 program	<input type="checkbox"/> Payment Attached	
<input type="checkbox"/> Fee already paid for review of remedial design report.	<input type="checkbox"/> Review of remedial design report not requested and payment is attached.	Amount	\$
Hazardous Waste Facility License ID No. (5 digits)	DNR FID No. (9 digits)	USEPA ID No. (used for both RCRA and CERCLIS #s) (WI+Alpha+9 digits)	
Region	Project Manager	Telephone Number	

III. Site Ownership History

Previous Owner - Last Name Novak		First John	MI	Telephone Number ----
Street Address Formerly 1960 South 67th Place		City West Allis	State WI	ZIP Code 53214
Responsible Municipal / Private Operator - Last Name (if applicable)		First	MI	Telephone Number
Street Address		City	State	ZIP Code

IV. Evaluation of Existing and Potential Impacts. See Development at Historic Fill Sites and Licensed Landfill: Guidance for Investigation and Development at Historic Fill Sites and Licensed Landfill: Potential Problems and Considerations.

- A. Analytical data for the following media have been collected and/or examined before completing this application:
1. Groundwater: Yes No
 2. Soil: Yes No
 3. Surface water / sediment: Yes No
 4. Air: Yes No
 5. Methane or other explosive gases: Yes No
- B. Based on known or suspected sources and wastes, their physical characteristics, containment and geologic environment, do you suspect a release of pollutants to the environment?
- Yes: Groundwater Soil Surface Water / Sediment Methane or Other Explosive Gases
- No
- If yes, an expedited exemption is not appropriate unless further investigation shows that a release of pollutants is not likely.
- C. If there is NOT a likelihood of a release of pollutants or evidence of a release, would the impact of the proposed development be likely to cause a release to the environment?
- Yes If yes, be sure to summarize actions to be taken to prevent adverse environmental impacts in V. Part C below.
- No

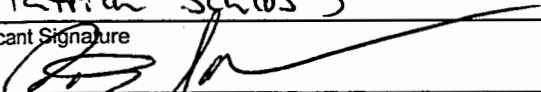
V. Summary of Existing and Potential Impacts. See Development at Historic Fill Sites and Licensed Landfill: Guidance for Investigation and Development at Historic Fill Sites and Licensed Landfill: Potential Problems and Considerations.

Describe the following in an attached narrative under the signature of a qualified professional. Organize, label and package as listed below.

- A. Existing Site Conditions
 1. existing site conditions including waste types,
 2. potential for impacts, and
 3. evaluation of existing impacts.
- B. Proposed Development Summary. Include explanation for overall site decision.
- C. Summary of actions to be taken and engineering controls that will prevent or minimize adverse environmental impacts and potential threats to human health and welfare, including worker safety.

VI. Certification of Application Information

I certify that information in this application and all its attachments is true and correct and in conformity with applicable Wis. statutes.

Print / Type Name of Applicant Patrick Schlos	
Applicant Signature 	Date Signed 1/29/10

Background Information

The following sections present background information for the 67th Place Industrial Park located in West Allis, Wisconsin.

Site Location and Description

Site address:

1960 South 67th Place
West Allis, Wisconsin 53214

Site Owner:

City of West Allis Community Development Authority
7525 West Greenfield Avenue
West Allis, Wisconsin 53214

The site consists of an approximate 11.6-acre parcel of land in the city of West Allis, Milwaukee County, Wisconsin (Figure 1). The site is bounded by the Union Pacific Railroad tracks and Metal Technologies Incorporated (heavy industrial) to the north, Becher Place to the east, West Allis Fire Department to the south, and St. Augustine Catholic Church and School and residential housing to the west. The surrounding land use is predominantly residential properties. The site is located in the southeastern ¼ of U.S. Public Land Survey Section 3, Township 6 North, Range 21 East in Milwaukee County. The site is currently vacant and zoned as a M1 Manufacturing District.

Prior to Phase I of the Site redevelopment work conducted in the summer through fall 2010, the Site was an undeveloped Brownfield. Figure 2 provides a pre-redevelopment Site plan view. Attached is an aerial photograph of the Site from summer 2007. As shown on Figure 2 and in the aerial photograph, the Site was generally flat with a vegetated cover. Wooded areas existed in the western area of the Site and along the north, east, and south property boundaries. Remnants of the former buildings that were razed in 2005 were visible in the approximate center of the Site.

Site History

AIRCO (AIRCO Industrial and AIRCO Welding Products) occupied the site between 1932 and 1984. AIRCO manufactured carbide gas, which produced lime slurry as a byproduct of its operation. The lime slurry was disposed of in onsite pits or lagoons that covered approximately ±6 acres on the east and south portions of the Site. A 1963 aerial photograph of the Site is attached. The property formerly included five metal and masonry buildings of varying sizes between approximately 3,600 to 5,500 square feet and two large storage silos located in the central portion of the property. Mr. John Novak purchased the property in 1985. Mr. Novak rented the land out to various businesses including a waste storage and transfer facility, an oil/hazardous waste trucking terminal, and a salvage/junk yard. The city of West Allis Community Development Authority acquired the property in 2006.

The primary fill material was the byproduct slurry deposited onsite. Calcium carbide is combined with water which results in calcium hydroxide in an aqueous solution (limewater) and acetylene gas. The reaction is $\text{CaC}_2 + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2 + 2\text{C}_2\text{H}_2$. Limewater is a clear, saturated water solution of calcium hydroxide. As a saturated solution, the pH of calcium hydroxide is 12.4. The product of acetylene gas is then combusted by applying flame, and the resulting reaction occurs: $2\text{C}_2\text{H}_2 + 5\text{O}_2 \rightarrow 4\text{CO}_2 + 2\text{H}_2\text{O}$. Some of the carbon dioxide will react with the lime water and precipitate out forming lime slurry, which is a whitish to bluish gray substance known as calcium carbonate. The resulting chemical reaction is $\text{Ca}(\text{OH})_2 + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$. Limestone and chalk share similar chemical composition with lime slurry of CaCO_3 .

In the mid-1990s, the lime slurry was reportedly mined and sold for reuse. The lagoons were subsequently backfilled with a heterogeneous mix of soil and construction and demolition (C&D) debris. The soil borings and test pits installed identified some organic soil and wood remnants (e.g., sticks and twigs) in a few locations. Backfilling of the lagoons was not documented and appeared to have been completed in a random fashion.

Summary of Previous Investigations

Below is a summary of the site investigation activities completed by TEMCO, ARCADIS and geotechnical investigation activities completed by CGC at the site between February 2004 and July 2009.

Novak Property Phase I Environmental Site Assessment, Prepared by TEMCO, Dated March 2004

The following recognized environmental conditions (RECs) were identified in the Phase I Environmental Site Assessment (ESA):

- Alliance Transportation Services stored and washed trucks used for transporting hazardous waste. An inspection by the WDNR in March 1993 revealed poor facility housekeeping, soil stained across the site, and presence of a lime slurry lagoon.
- Jay's Fuel Oil was a site occupant. The WDNR was notified of a fuel oil spill. The WDNR estimated 20 gallons were spilled. Additionally, puddles of oil were found on the ground as a result of leaking equipment on an oil truck. Key Engineering performed a Phase II assessment in April 1998. Soil samples were collected associated with the oil spill. Free-phase product was removed from the site to the extent practicable. Low-level residual soil impacts remain. No soil impacts reported above applicable soil standards based on the protection of groundwater or direct contact exposure pathway. Key Engineering requested case closure by the WDNR on behalf of Jay's Fuel Oil. The WDNR denied closure.
- Trace of lime deposits found in water along the retaining wall at the east side of the site. The pH measured onsite was 13, laboratory analytical result was 12. An action plan was submitted by Mr. Novak (property owner) to address the release of the lime.
- The WDNR completes a site inspection in October 2000. The WDNR observed petroleum spills on soil, trace of lime with a pH between 12 and 13 (no wastewater discharge permit in place), and lime being mined and sold to a tannery. Source Services a tenant using property for consolidation of waste prior to transferring to a landfill (no scrap or waste material general permit in place).

WDNR notified Mr. Novak requesting neutralizing the water in the puddle along the sidewalk of West Becher Street to less than a pH of 9, fill the ruts along the retaining wall/street sidewalk to prevent pooling, and pump the water in the lime lagoon to the sanitary sewer on a daily basis to reduce seepage from the site.

- A review of historical aerial photographs during the late 1980s and early 1990's revealed, a black discoloration along the western edge of the lime slurry lagoon and several out of service storage tanks along the eastern edge of the wooded area in the western part of the site.
- A review of City of West Allis Department of Building Inspection revealed a 10,000-gallon acetone storage tank was installed and a pump house was constructed in 1947.

Preliminary Phase II Environmental Site Assessment, Novak Property, Prepared by TEMCO, Dated March 2004

On February 20, 2004, TEMCO, located in Cedarburg, Wisconsin advanced 10 soil borings (SB-1 through SB-10) from 1.5 to 12 feet below grade using direct push technology to evaluate subsurface conditions based on past site operations. Soil borings were advanced in the central area of the site, where the building complex was located; southern and eastern portions of the site, where the former lime slurry lagoons were located, and peripheral areas where equipment, waste containers, tanks, salvage, and scrap material were historically stored.

Soil samples were collected from ground surface to 4 feet for laboratory analysis of diesel range organics (DRO), gasoline range organics (GRO), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), Resource Conservation and Recovery Act (RCRA) metals, and polychlorinated biphenyls (PCBs).

Preliminary Subsurface Exploration, Prepared by CGC, Inc., Dated December 2005

Between December 22 and 27, 2004, CGC advanced 11 soil borings (GSB-1 through GSB-11) onsite with depths ranging from 25 to 45 feet below grade. The soil borings were completed to evaluate subsurface conditions across the site to aid in the siting of a potential building and to present preliminary geotechnical-related recommendations for general site development, foundation, floor slab, and pavement design/construction.

Site Investigation Report, Lime Pit Site, Prepared by TEMCO, Dated March 2006

Between May 26 and 27, 2004, TEMCO advanced 15 soil borings (SB-11 through SB-25) from 3 to 16 feet below grade using direct push technology. Between August 2 and 10, 2004, TEMCO installed 14 monitoring wells (MW-1 through MW-14) using a hollow stem auger rig. The monitoring wells were screened between 5 to 20 feet, 5 to 25 feet, and 15 to 25 feet. The soil borings and monitoring wells were installed to evaluate subsurface soil and groundwater conditions based on past operations.

Soil samples were collected from ground surface to a maximum depth of 20 feet below grade and submitted for laboratory analysis of VOCs and PAHs from locations in the central and peripheral areas of the site and for laboratory analysis of RCRA metals and PCBs from locations in the former lime slurry lagoons.

Groundwater samples were collected on August 23, 2004 and May 10, 2005 and submitted for laboratory analysis of VOCs and PAHs. On May 10, 2005, groundwater samples were collected and submitted for total RCRA metals analysis.

Addendum to Site Investigation Report, Lime Pit Site, Prepared by TEMCO, Dated January 2009

The WDNR reviewed and approved the TEMCO *Site Investigation Report* dated March 2006 in a correspondence dated April 19, 2006. This WDNR correspondence requested additional investigation under the former building footprints and downgradient of the site. Therefore, on January 9, 2007, TEMCO advanced 12 soil borings (SB-26 through SB-37) from 8 to 10 feet below grade using direct push technology to evaluate subsurface soil conditions beneath the former building footprints. On January 10, 2007, TEMCO installed an additional two monitoring wells (MW-15 and MW-16) using a hollow stem auger rig downgradient of the site in the parkway along West Becher Place.

Soil samples were collected from 3 to 6 feet below grade and submitted for laboratory analysis of VOCs and PAHs. Groundwater samples were collected on February 12, 2007 by TEMCO from Monitoring Well MW-15 and MW-16 and submitted for laboratory analysis of VOCs and PAHs.

Supplemental Subsurface Exploration, Prepared by CGC, Inc., Dated January 2009

Between October 4 and 9, 2007, CGC advanced 14 soil borings (GSB-1A through GSB-14A) onsite with depths ranging from 15 to 20 feet below grade. The soil borings were completed to confirm preliminary findings from the 2005 geotechnical investigation and to provide further delineation of the subsurface conditions within the northwest quadrant of the site to aid in siting of a potential building and to present geotechnical-related recommendations for general site development, foundation, floor slab and pavement design/construction.

On July 27, 2007, CGC completed 14 exploratory test (TP-1 through TP-14) pits onsite with depths ranging from 3 to 5 feet below grade. The test pits were completed to assist in evaluating the characteristics of the near surface fills onsite, with the focus placed on areas surrounding the northwest quadrant of the site being considered for future pavement construction.

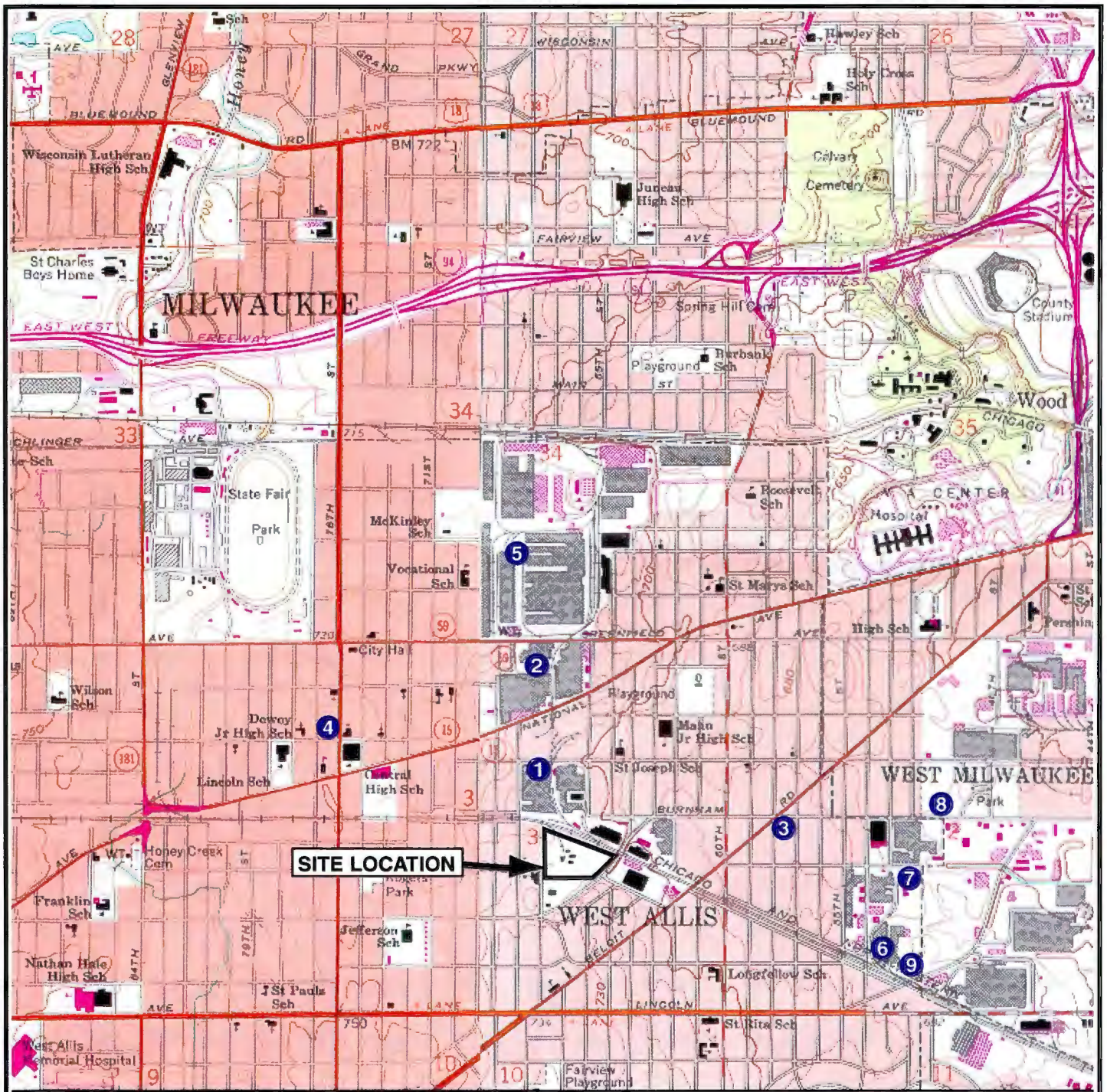
Remedial Action Options Report, Prepared by ARCADIS, Dated March 2009

ARCADIS prepared a Remedial Action Options Report for the Site and submitted the document to the WDNR in March 2009. The RAOR presented the historical Site data collected by others and recommended a remedial strategy to pursue regulatory closure under NR 726, Wisconsin Administrative Code. Future redevelopment of the site will be a mix of commercial and light industrial. The site closure strategy consists of the following taking into consideration commercial and/or industrial future land use:

- Vapor monitoring to investigate for the presence and extent of methane in soil gas
- Groundwater monitoring to support natural attenuation as a long-term remedy
- Soil management as part of the redevelopment

- Institutional controls (placement of the site on the WDNR Geographic Information System (GIS) Registry for Closed remediation Sites for residual soil and groundwater contamination).
- Engineered barriers (i.e., asphalt and concrete pavement, buildings, an impermeable liner, and landscape with two feet of clean soil) to address the direct contact pathway.
- Construction of a French drain coupled with a landscape berm to control large rain events and groundwater seepage.

A copy of the May 19, 2009 WDNR approval letter is attached.



SOURCE: Composite of USGS 7.5 Minute Topographic Maps, MILWAUKEE (1971) and WAUWATOSA (1994), WISCONSIN Quadrangles

WELL #	ID
1	ML-06/21E/03-0098
2	ML-06/21E/03-0111
3	ML-06/21E/02-0114
4	ML-06/21E/04-0297
5	ML-07/21E/34-0022
6	ML-06/21E/02-0064
7	ML-06/21E/02-0370
8	ML-06/21E/02-0099
9	ML-06/21E/02-0225



WISCONSIN

67TH PLACE INDUSTRIAL PARK
 1960 SOUTH 67TH PLACE
 WEST ALLIS, WISCONSIN

SITE LOCATION MAP

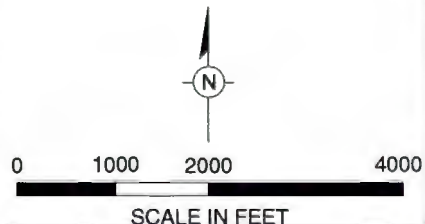


FIGURE
1

28.JAN.IENVIRONMENTAL.MB.PRESS/STEEL/W1074/IMEPT/GRAPHICS/WELL.LOC.A1







State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212
Telephone 414-263-8500
FAX 414-263-8606
TTY 711

May 14, 2009

In Reply, Refer to: FID# 241222520
BRRTS# 02-41-184802
06-41-548795
BRR/ERP

Mr. John Stibal
City of West Allis
7525 W Greenfield Ave
West Allis, WI 53214

Subject: Approval of Site Investigation and Remedial Action Plan for the 67th Place Industrial Park Site (formerly known as the "Novak Site" or the "Lime Pit Site"), 1960 67th Pl., West Allis, WI

Dear Mr. Stibal:

You were notified that the 67th Place Industrial Park Site (formerly known as the "Novak Site" or the "Lime Pit Site"), located at 1960 67th Place in West Allis, WI and herein referred to as the "site" was accepted into the Voluntary Party Liability Exemption Program on March 20, 2007.

The Wisconsin Department of Natural Resources (WDNR) has received a request from your consultant, ARCADIS, for a written determination regarding the adequacy of the site investigation and suitability of the proposed remedy for the site. The documents reviewed for this site include:

- Phase I ESA, TEMCO (March 2004)
- Preliminary Phase II ESA, TEMCO (March 2004)
- Preliminary Subsurface Exploration, CGC, Inc. (December 29, 2005) - geotechnical
- Site Investigation Report (SIR), TEMCO (March 2006)
- Supplemental Subsurface Exploration, CGC, Inc. (January 21, 2009) - geotechnical
- Addendum to Site Investigation Report, TEMCO (January 2009)
- Remedial Action Options Report (RAOR), ARCADIS (March 2009)
- Meeting Summary of Meeting between WDNR, City of West Allis and ARCADIS on March 20, 2009 - email
- Revised Material Handling Plan and Cap Maintenance Plan, ARCADIS (undated - received 4/15/09)

The Department has reviewed these documents and concludes as follows:

1. In accordance with ch. NR 716, Wis. Adm. Code, and s. 292.15(2)(a)(1), Wis. Stats., the WDNR is conditionally approving the Phase 1 and Phase 2 Environmental Site Assessment and the Site Investigation Report with respect to discharges of hazardous substances on, originating from, and beneath the Property. The conditions of approval are:
 - a) Additional soil samples will be collected in the northwestern portion of the site. The samples will be collected from the upper four feet and will be analyzed for VOCs, PAHs, metals and PCBs. The samples will be collected from the locations identified during a site visit that your consultant and I made on April 15, 2009.
 - b) The information from the Phase I ESA should be transposed onto a sample location map to better show how the recognized environmental conditions (RECs) were covered by the sampling that was done.

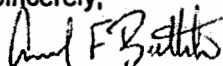
- c) The two additional rounds of groundwater samples that are proposed in the RAOR shall be collected. If concentrations of PAHs and metals are observed to be below the enforcement standard (ES) in the samples collected from the initial sampling event, you may petition to eliminate further analysis for these analytes.
2. The Department conceptually approves the Remedial Action Plan contained within the RAOR. As set forth therein, the proposed remedy consists of a combination of
 - a) In-place soil management
 - b) Possible targeted soil excavation and land filling
 - c) Vapor monitoring and mitigation
 - d) Placement of a infiltration / direct contact barrier (i.e. cap) with a cap maintenance plan
 - e) Possible monitored natural attenuation to address groundwater contamination

In addition, to limit groundwater seepage, the following controls have been proposed:

- f) Site-wide grading that will address channels and re-direct sheet flow runoff to the drainage swale located along the north property line
 - g) Installation of a French drain coupled with a landscaped berm, both located along the eastern side of the site, to control larger rain events and groundwater seepage. The water would be directed to the 42-inch storm sewer located in the northeast corner of the Site. ARCADIS will coordinate with the city of West Allis Engineering Department and the WDNR to approve the final design.
3. Because the site meets the statutory definition of a historic fill site, prior to any redevelopment that involves construction of new buildings or pavement, the Property owner will need to submit an Exemption Application (Forms 4400-226 and 4400-226A) and receive an Exemption for Development at a Historic Fill Site. Before you apply for the Exemption, you should discuss the methane sampling activities and results with Tom Wentland (920-892-8756 x3028). He will make the decision on the adequacy of the methane assessment and any mitigation that may be necessary.
 4. The elevated pH levels at the site that are related to the historic presence of lime materials are localized based on the data that has been submitted. Provided that the levels in the upcoming sampling events remain consistent with the data collected to date, the WDNR expects to be able to issue an exemption to NR 140 for the elevated pH. If natural attenuation is not required as a remedy (because you demonstrate that there are no remaining ES exceedances at the time of case closure), you would not be required to purchase the VPLE insurance in order to obtain a Certificate of Completion (COC).
 5. Upon successful completion of all proposed remediation activities and compliance with all applicable statutory and regulatory requirements, the DNR will issue to the City of West Allis a Certificate of Completion for the Property, pursuant to s. 292.15(2)(a), Wis. Stats.

The WDNR appreciates the actions you have taken to restore the environment at this site. Please refer to the FID and BRRS numbers on the top of this letter in any future correspondence. If you have any questions or concerns regarding this letter, please contact me at (414) 263- 8541.

Sincerely,



Andrew F Boettcher
Hydrogeologist – RR/SER

CC: Benjamin J. Verburg, ARCADIS, 126 N Jefferson St., Ste 400, Milwaukee, WI 53202

GEOLOGY, HYDROGEOLOGY, AND NATURE OF FILL

Geology, Hydrogeology, and Nature of Fill

The geology of the site was evaluated by means of drilling and sampling exploratory borings and test pits. In addition, existing geologic maps and soil reports were reviewed to provide information regarding regional geologic conditions. Information regarding hydrogeologic conditions was obtained during investigation from monitoring wells and site observations. The following sections present the geology, hydrogeology, and nature of fill for the 67th Place Industrial Park located in West Allis, Wisconsin.

Regional and Local Geology

The geology of the site and surrounding areas consists of glacial-derived unconsolidated deposits overlying dolomite bedrock (WGNHS, 1976). The site appears to be located within a north-south trending lateral moraine clay till. The soil at the site is part of the Oak Creek Formation, which was deposited by the Lake Michigan Lobe during the Wisconsin Glaciation period, approximately 13,200 to 14,500 years ago as it moved west-southwest across southeast Wisconsin.

Geologic Cross Section A-A', B-B', and C-C' were prepared to present the site geology and are presented as Figure 3 through 5, respectively. The locations of the geologic cross sections are presented as Figure 6. In general, two subsurface units were encountered during the subsurface investigation. The unconsolidated units displayed somewhat variable characteristics but were correlated between borings based on observed similarities such as grain size, color, consistency and structure.

The site geology can be generally grouped into the following two distinct units of unconsolidated materials with some variations within each unit:

- **Fill material.** Fill material consisted of brown, grey, or black silt, sand and gravel in a clay matrix. Waste material (construction debris, asphalt fragments, cinders, foundry sand) were also identified at select locations. The fill material was generally observed across the site from ground surface to approximately 5 feet below grade. Fill material over the location of the lime slurry lagoons was observed from approximately 12 to 15 feet below grade. The lime slurry lagoons were predominately encountered along the eastern half of the site, but also the southwest corner of the site. The grey to bluish grey lime slurry was observed below the water table at depths between approximately 12 to 19 feet below grade along the eastern half of the site. Historical reports state the lime slurry extended to a depth of approximately 25 feet below grade. The lime slurry at the southwest corner of the site was observed to extend to depths that ranged between approximately 12 to 18 feet below grade.
- **Clay.** Mottled clay with trace to some silt, sand, and gravel overlays a laterally extensive, uniform clay till. Where encountered, the mottled clay extended from approximately 5 feet to 10 feet below grade. The clay till serves as an aquitard beneath the site. The clay unit was observed at depths ranging from approximately 10 to 25 feet below grade.

Also, a wetland was likely present at the site, as indicated by a localized, black, stiff, organic silt layer observed only along the eastern portion of the site beneath the lime slurry. The organic silt unit was observed to be between 1 to 3 feet thick.

Bedrock was not encountered during site investigation activities. However, the bedrock underlying the unconsolidated deposits consists of sedimentary rock (in descending elevation) dolomite, shale, and sandstone that range from Devonian to Cambrian in age (SEWRC, 2002). Bedrock is expected at depths ranging from 120 to 170 feet below grade.

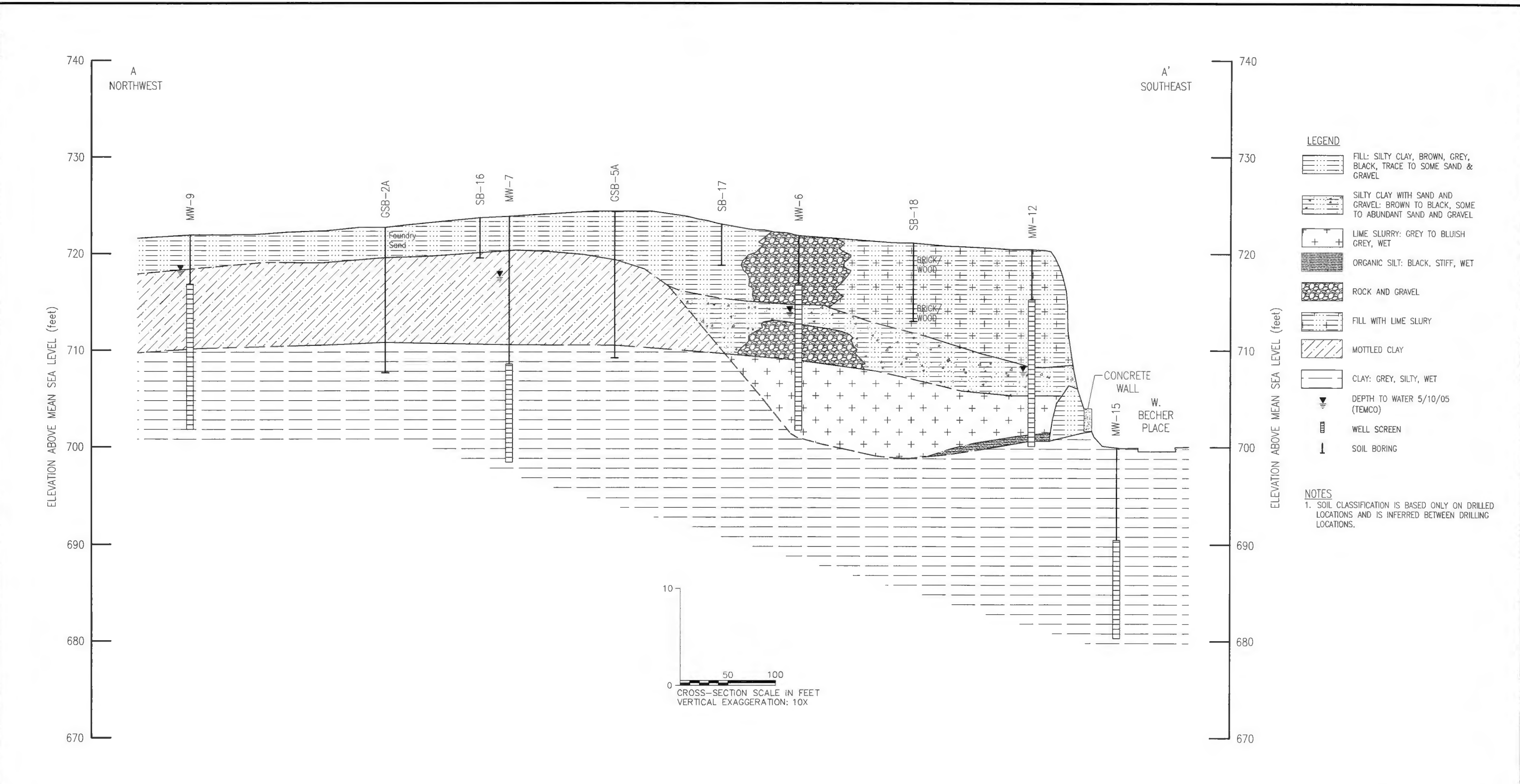
Hydrogeology

Depth to water measurements were collected from 14 monitoring wells on May 10, 2005. Groundwater was generally encountered at a depth of 3.3 to 9.1 feet below grade, with shallower depths of approximately 1 foot below grade at MW-8 and MW-10 near the west central portion of the site and at a greater depth of 12 feet below grade at MW-12 at the northeast corner of the site. Groundwater is generally encountered in the fill material. A groundwater contour map using the August 17, 2009 data is presented as Figure 7. Groundwater flow is generally to the east, towards West Becher Street.

Monitoring Wells MW-4, MW-5, and MW-12 are located approximately 70 to 120 feet from the eastern property line. Groundwater is observed between approximately 7 to 12 feet below grade at these wells. The site is located approximately 20 feet above the adjoining street (West Becher Street). Since groundwater intersects the slope, seeps are present. Additionally, there are two locations of along the slope that have been scoured out by surface runoff creating channelized flow to the base of the slope. At the base of the slope, a concrete retaining wall is present measuring 0.5 to 1.5 feet tall. Water was retained onsite behind the wall along most of the site, but converges at the northeast corner of the site where surface water was observed to flow over the retaining wall onto the parkway and sidewalk. Soil staining from the lime and surface water discharge from the seeps was observed during rain events.

Following the completion of the Phase I Site redevelopment work in 2009, groundwater seepage has been addressed and is collected by a French drain system that is connected to a storm water sewer. The French drain also collects potential surface water runoff due to large rain events.

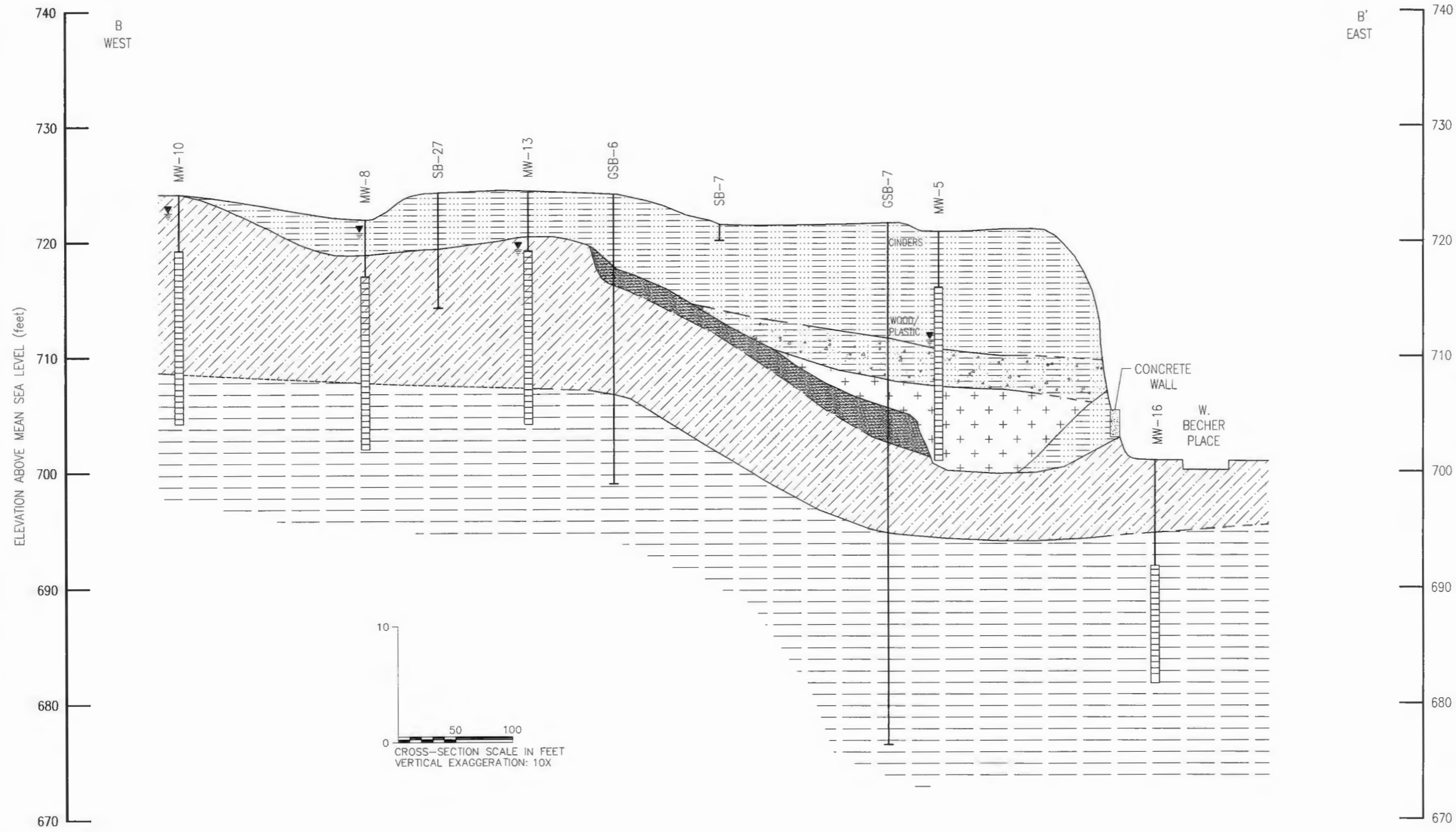
CITY: MILWAUKEE DIV: GROUP: ENVIRONMENTAL DB: R. ROBBENNOLT LD: T. ALESSI PM: B. VERBURG TM: T. SCHOEN
 G:\Aproject\PreSteel\W17074\LimePit\CADD\benverburg\ClosureA sec.dwg LAYOUT: D-SIZE N-S SAVED: 2/22/2010 3:23 PM
 ACADVER: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH)
 PLOT: 2/22/2010 3:23 PM BY: ROBBENNOLT, REBECCA



PROJECTNAME: ...
 IMAGES: AA.TIF

CITY OF WEST ALLIS COMMUNITY DEVELOPMENT AUTHORITY WEST ALLIS, WISCONSIN 67TH PLACE INDUSTRIAL PARK	
PRE-REDEVELOPMENT GEOLOGIC CROSS-SECTION A-A'	
	FIGURE 3

CITY: MILWAUKEE DIV: GROUP: ENVIRONMENTAL DB: R. ROBBENNOLT LD: T. ALESSI PM: B. VERBURG TMT: SCHOEN
 G:\Project\Pros\Site\W1074\11m\PHICADD\Drawings\ClosureB sec.dwg LAYOUT: D-SIZE N-S SAVED: 2/2/2010 3:23 PM ACADYER: 17.0S (LMS TECH) PAGES: 17.0S (LMS TECH) PLOTSTYLETABLE: BLACKGRAY-THIN.CTB PLOTTED: 2/2/2010 3:23 PM BY: ROBBENNOLT, REBECCA
 XREFS: IMAGES: PROJECTNAME: B-B.TIF



- LEGEND**
- SILTY CLAY WITH SAND AND GRAVEL: BROWN TO BLACK, SOME TO ABUNDANT SAND AND GRAVEL
 - LIME SLURRY: GREY TO BLuish GREY, WET
 - ORGANIC SILT: BLACK, STIFF, WET
 - MOTTLED CLAY
 - CLAY: GREY, SILTY, WET
 - DEPTH TO WATER (5/10/05 TEMCO)
 - WELL SCREEN
 - SOIL BORING

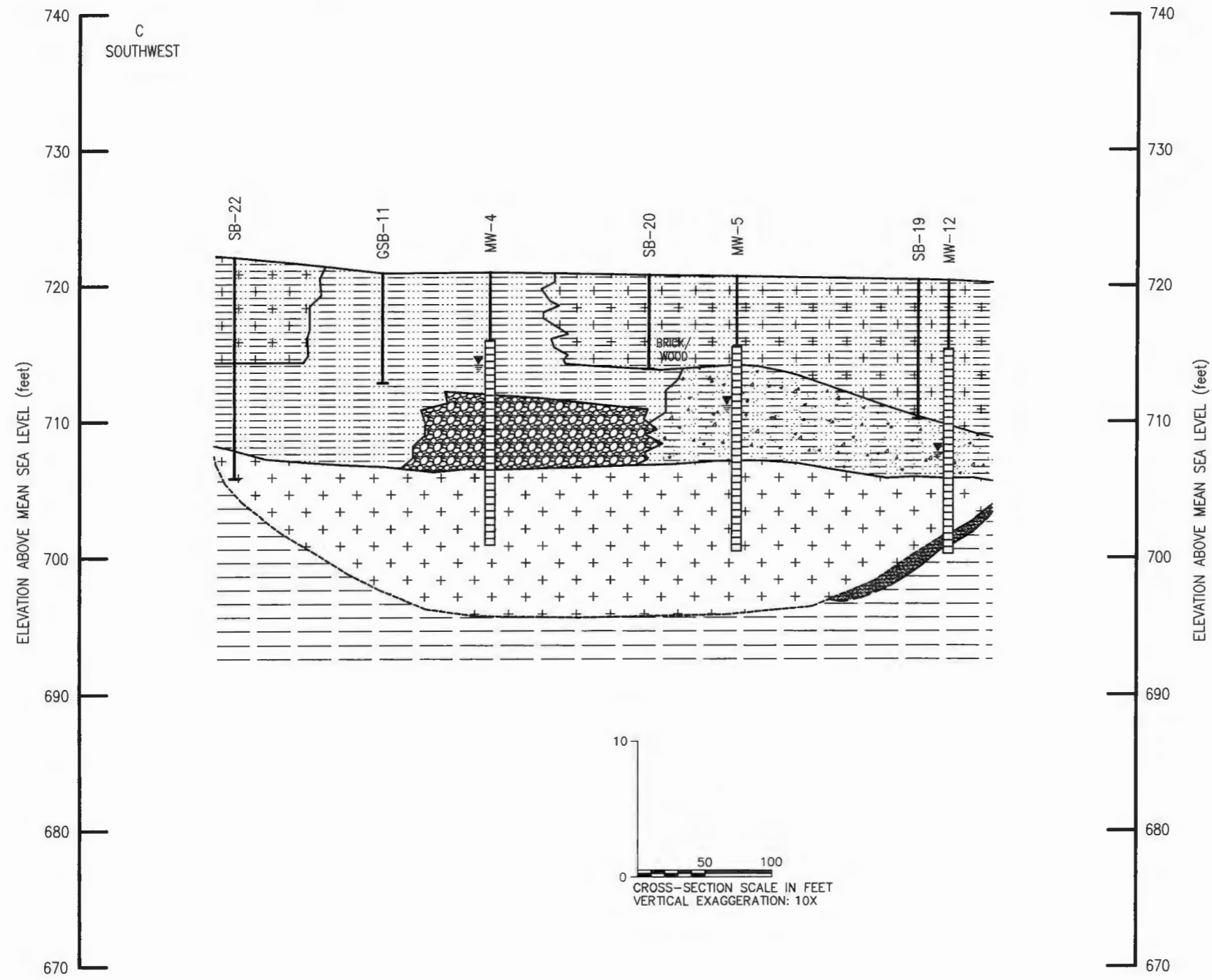
NOTES
 1. SOIL CLASSIFICATION IS BASED ONLY ON DRILLED LOCATIONS AND IS INFERRED BETWEEN DRILLING LOCATIONS.

CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PARK

**PRE-REDEVELOPMENT
 GEOLOGIC CROSS-SECTION B-B'**

ARCADIS

FIGURE
4



LEGEND

- FILL: SILTY CLAY, BROWN, GREY, BLACK, TRACE TO SOME SAND & GRAVEL
- SILTY CLAY WITH SAND AND GRAVEL: BROWN TO BLACK, SOME TO ABUNDANT SAND AND GRAVEL
- LIME SLURRY: GREY TO BLUISH GREY, WET
- ORGANIC SILT: BLACK, STIFF, WET
- ROCK AND GRAVEL
- FILL WITH LIME SLURRY
- CLAY: GREY, SILTY, WET
- DEPTH TO WATER (5/10/05 TEMCO)
- WELL SCREEN
- SOIL BORING

NOTES

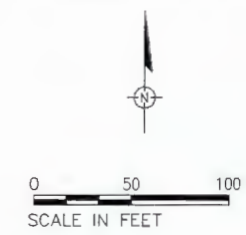
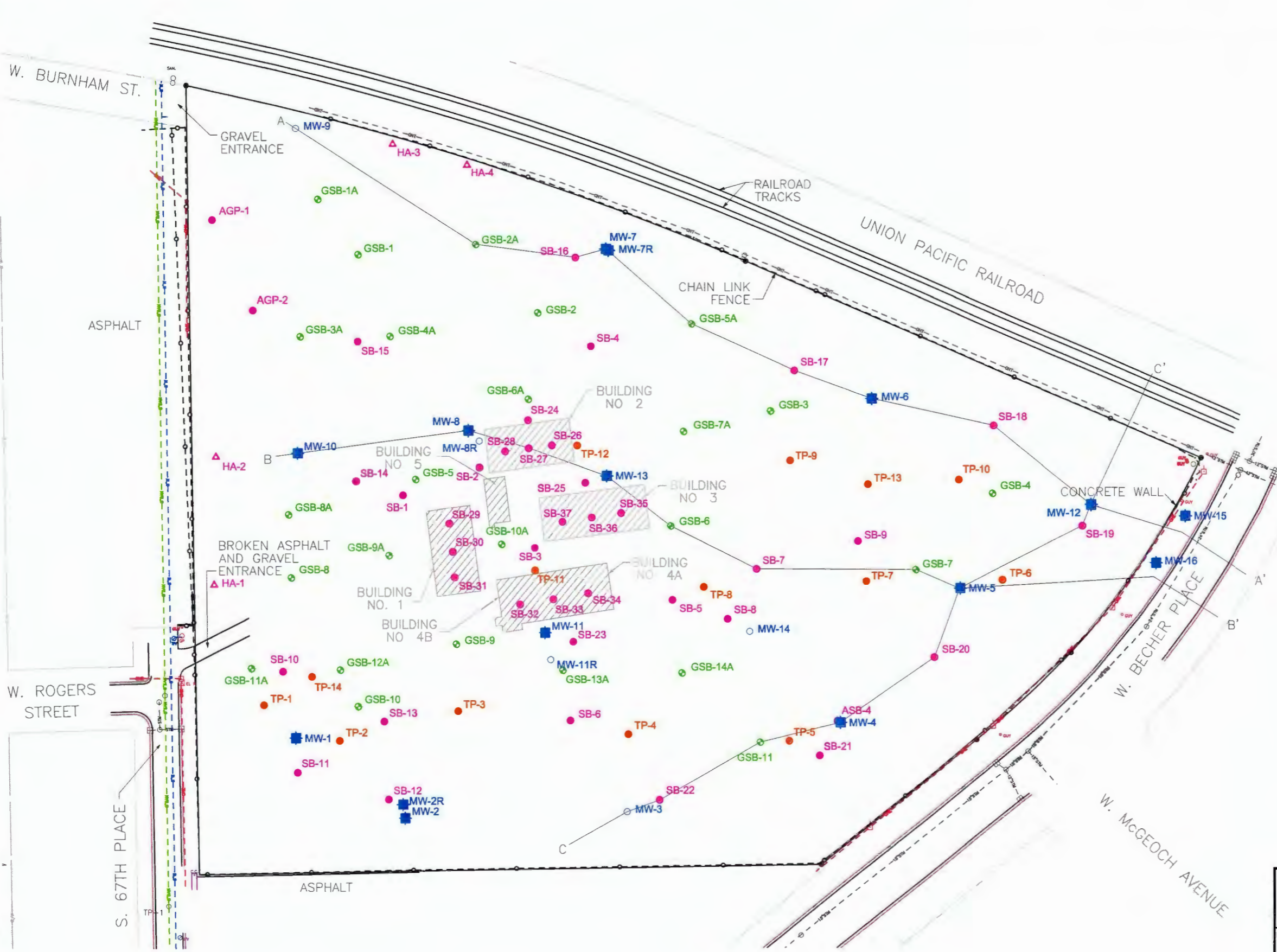
1. SOIL CLASSIFICATION IS BASED ONLY ON DRILLED LOCATIONS AND IS INFERRED BETWEEN DRILLING LOCATIONS.

CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
 67TH PLACE INDUSTRIAL PARK

**PRE-REDEVELOPMENT
 GEOLOGIC CROSS-SECTION C-C'**

ARCADIS

FIGURE
5



- LEGEND**
- MW-8 ABANDONED MONITORING WELL
 - MONITORING WELL
 - ⊕ GEOTECHNICAL SOIL BORING
 - TEST PIT
 - ▲ HAND AUGER
 - SOIL BORING
 - FOUND CONCRETE MONUMENT W/BRASS CAP
 - ⊕ FOUND CHISELED CROSS
 - SET 1" IRON PIPE
 - POWER POLE
 - GUY POLE
 - GUY WIRE
 - ⊕ ELECTRIC RISER
 - WATER VALVE
 - MANHOLE
 - STORM INLET
 - BURIED STORM SEWER
 - BURIED SANITARY SEWER
 - BURIED WATER MAIN
 - OVERHEAD ELECTRIC
 - OVERHEAD TELEPHONE
 - CHAIN LINK FENCE
 - PARCEL BOUNDARY
 - FORMER BUILDING

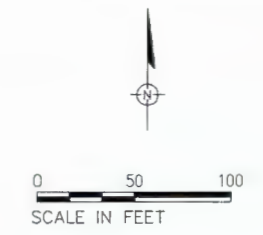
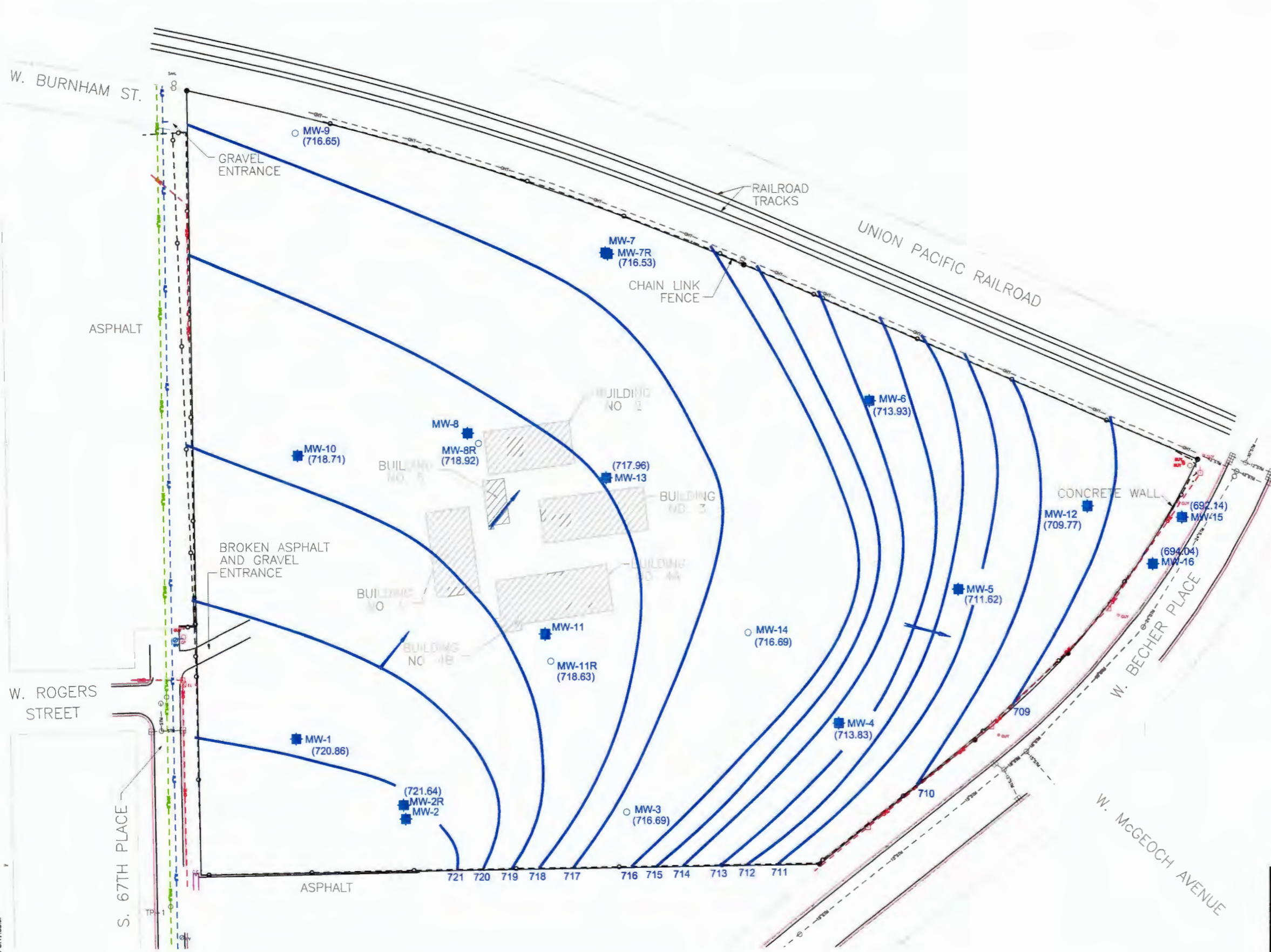
MAP BASED ON SURVEY COMPLETED 6/7/05 by GRAEF, ANHALT, SCHLOEMER AND ASSOCIATES INC. BENCHMARK IS A CHISELED "+" ON TOP OF WEST FLANGE OF FIRE HYDRANT AT THE SOUTHEAST CORNER OF S. 68TH STREET AND WEST BURNHAM STREET - Elev. 720.40. ELEVATIONS SHOWN ARE BASED ON MEAN SEA LEVEL (NGVD-29).

**CITY OF WEST ALLIS
COMMUNITY DEVELOPMENT AUTHORITY
WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PROPERTY**

**PRE-REDEVELOPMENT
LOCATION OF GEOLOGIC
CROSS-SECTIONS**



CITY: MILWAUKEE DIVISION: ENVIRONMENTAL DBR: ROBENNOLT, P.M.B. VERBURG, T.M.T. SCHOEN
 G:\projects\WestAllis\GIS\MapInfo\CADD\Drawings\Casualty\Contour 08.17.09.dwg LAYOUT: MONITORING WELLS
 XREFS: IMAGES: PROJECTNAME: X-MonitoringWellContour 8.17.09.tif
 SAVED: 2/2/2010 3:28 PM ACADYER: 17.05 (LMS TECH) PAGES: 17 PLOTSTYLETABLE: BLACKGRAY-THIN.CTB PLOTTED: 2/2/2010 3:28 PM BY: ROBENNOLT, REBECCA



- LEGEND**
- MW-8 ABANDONED MONITORING WELL
 - MONITORING WELL
 - ▲ HAND AUGER
 - SOIL BORING
 - FOUND CONCRETE MONUMENT W/BRASS CAP
 - ⊕ FOUND CHISELED CROSS
 - SET 1" IRON PIPE
 - ⊕ POWER POLE
 - GUY POLE
 - GUY WIRE
 - ⊕ ELECTRIC RISER
 - ⊕ WATER VALVE
 - MANHOLE
 - ⊕ STORM INLET
 - BURIED STORM SEWER
 - BURIED SANITARY SEWER
 - BURIED WATER MAIN
 - OVERHEAD ELECTRIC
 - OVERHEAD TELEPHONE
 - CHAIN LINK FENCE
 - PARCEL BOUNDARY
 - ▨ FORMER BUILDING
 - (723.22) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
 - 723.22 GROUNDWATER CONTOUR
 - INFERRED GROUNDWATER FLOW DIRECTION

MAP BASED ON SURVEY COMPLETED 6/7/05 BY GRAEF, ANHALT, SCHLOEMER AND ASSOCIATES INC. BENCHMARK IS A CHISELED "+" ON TOP OF WEST FLANGE OF FIRE HYDRANT AT THE SOUTHEAST CORNER OF S. 68TH STREET AND WEST BURNHAM STREET - Elev. 720.40. ELEVATIONS SHOWN ARE BASED ON MEAN SEA LEVEL (NGVD-29).

CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PROPERTY

**PRE-REDEVELOPMENT
 GROUNDWATER ELEVATION
 COUNTOUR MAP AUGUST 17, 2009**

FIGURE
7

Evaluation of Impacts

The following sections present an evaluation of impacts for soil, groundwater, and methane for investigation work conducted between February 2004 and August 2009. The attached tables and figures are excerpts from the Closure Report that is being prepared for the 67th Place Industrial Park Site.

Soil Analytical Results

The following sections present a summary of the historical and current groundwater analytical result. Soil diesel range organics (DRO), gasoline range organics (GRO), volatile organic compounds (VOCs) analytical results are summarized in Table 2. Soil polycyclic aromatic hydrocarbons (PAHs) and benzo(a)pyrene equivalent Residual contaminant levels (RCL) calculations and results are summarized in Tables 3 and 4, respectively. Soil PCBs and metal analytical results are summarized in Tables 5 and 6, respectively.

Regulatory Criteria

RCLs for DRO and GRO are set forth in NR 720 Wis. adm. code. The DRO and GRO RCLs are based on the hydraulic conductivity of the soils at a site. At sites with soils exhibiting a hydraulic conductivity of 1×10^{-6} centimeters per second (cm/s) or greater, the generic RCL for DRO and GRO is 100 milligrams per kilogram (mg/kg). At sites with soils exhibiting a hydraulic conductivity of less than 1×10^{-6} cm/s, the RCL for DRO and GRO is 250 mg/kg. The majority of the soils likely exhibit a hydraulic conductivity greater than 1×10^{-6} cm/sec, consequently, a DRO or GRO RCL of 100 mg/kg was used to evaluate the analytical results. Soil DRO and GRO analytical results and RCLs are summarized in Table 2.

The WDNR has not promulgated soil cleanup standards for a large number of compounds. NR 720 Wis. adm. code presents generic RCLs for five VOCs (benzene, toluene, xylenes, ethylbenzene, and 1,2-dichloroethane). The United States Environmental Protection Agency has developed an internet website (<http://risk/lsd/oml/gov/epa/ssl1/htm>) for calculating soil screening levels (SSLs) for four different exposure pathways: ingestion, inhalation of particulates, inhalation of vapors, and migration to groundwater. The WDNR has developed a guidance document for calculating SSLs using this web site and WDNR-default parameters for industrial and non-industrial sites. ARCADIS has calculated SSLs for evaluating the soil analytical data. The RCLs and calculated SSLs for VOCs are summarized in Table 2.

Industrial and non-industrial direct contact RCLs, and RCLs based on protection of groundwater have been proposed for several PAH compounds in a WDNR guidance document (WDNR 1997). Soil PAH analytical results were also compared to industrial direct contact RCLs developed using the benzo(a)pyrene equivalency equations provided by the WDNR. The benzo(a)pyrene calculations are presented in Appendix B. Soil PAH analytical results and RCLs are summarized in Table 3. Soil benzo(a)pyrene equivalent RCL calculations and results are summarized in Table 4.

Title 40 Code of Federal Regulations §761.61 provides cleanup and disposal options for PCB remediation waste. Soil PCB analytical results were compared to the bulk remediation waste cleanup level for low occupancy with a cap of less than or equal to 25 mg/kg and a total PCB concentration greater than or equal to 50 mg/kg to determine soil disposal options. Soil PCB analytical results and cleanup levels are summarized in Table 5.

NR 720 presents generic RCLs for four metals (arsenic, cadmium, chromium, and lead). Soil total metal analytical results and RCLs are summarized in Table 6.

DRO and GRO

Soil DRO and GRO analytical results are summarized in Table 2 and presented on Figure 8. DRO was reported above the RCL of 100 mg/kg in six soil samples (SB-1, SB-4, and SB-6 through SB-9) ranging from 160 mg/kg to 450 mg/kg from 0 to 4 feet below grade. All GRO analytical results were reported below laboratory detection limits or below the RCL. The DRO impacts appear to be associated with the fill material at the site.

VOC

Thirty-nine soil samples were collected and submitted for laboratory analysis of VOCs between February 2004 and April 2009. Soil VOC analytical results are summarized in Table 2 and presented on Figure 8. All soil VOC analytical results were reported below the NR 720 RCLs or SSLs except for naphthalene reported above inhalation of vapors and soil to groundwater pathway SSLs at Soil Borings SB-6 at 130,000 micrograms to kilogram ($\mu\text{g}/\text{kg}$) and trichloroethene at HA-1 at 0.0208 $\mu\text{g}/\text{kg}$. The VOC results indicated that VOCs are not widely present at the site.

PAH

Fifty-eight soil samples were collected and submitted for laboratory analysis of PAHs between February 2004 and January 2007. Soil PAH analytical results are summarized in Table 3. One or more PAH compounds were detected in the soil at concentrations above the soil to groundwater pathway or industrial RCL in 19 out of 59 samples collected and analyzed. Based on the depths and distribution of the impacts, the PAHs appear to be associated with the fill material and are distributed across the site.

Benzo(a)Pyrene Equivalent Evaluation

The PAH Guidance Document notes, "*cleanup levels for 'total PAHs' are inherently site-specific and generic values tend to be overly conservative*" (page 2). Based on the wide-spread distribution of the PAH compounds identified in the surface soil, site-specific RCLs were developed for total PAH compounds to further evaluate PAH distribution and risk. ARCADIS used a methodology presented in the PAH Guidance Document (WDNR, 1997), which utilizes a benzo(a)pyrene equivalent and reductive potency factors. According to the WDNR PAH guidance document, the benzo(a)pyrene equivalent method is "*conceptually consistent with the intent of the target risk requirements of ch. NR 720.11(3) and 720.19(5), Wis. adm. code, where risks are presumed to be additive.*" The PAH Guidance Document states, "the soil cleanup levels generated by using relative potency factors are unlikely to underestimate the potential human health risk associated with these compounds" (Page 4).

Site-specific RCLs were calculated for the site based on the information collected regarding the composition of the PAH mixture at the site combined with the relative potency factors (RPF) that reflect the toxicity of each PAH compound relative to benzo(a)pyrene. An RCL based on the benzo(a)pyrene-equivalent ($\text{BaP}_{\text{equiv}}$) concentration was developed using the risk-based equations for carcinogenic compounds and the cancer slope factor for benzo(a)pyrene provided in the PAH Guidance Document. According to NR

720.19(5)(a), the target risk for the non-industrial and industrial scenarios can be modified for *in situ* contaminated soil using an excess cancer risk of 1×10^{-7} for the non-industrial scenario and 1×10^{-6} for the industrial scenario. Concentrations equal to one-half the detection limit were used where sample results were reported below laboratory detection limits. This approach is consistent with the use of non-detect results in other WDNR-approved statistical tools, such as the Mann-Kendall spreadsheet.

In calculating an RCL utilizing the BaP_{equiv} approach, the target risk is distributed equally among the PAH compounds and a combined target excess cancer risk level is calculated. The combined target cancer risk level is therefore determined by multiplying the target risk for individual compounds by the number of compounds in the assessment, provided the result does not exceed 1×10^{-5} , as specified in NR 720.19(5)(a)(2). Seventeen PAH compounds were detected in the soil samples collected. Because 17×10^{-6} is greater than 1×10^{-5} , the target risk for the site was set at 1×10^{-5} . Applying the target risk of 1×10^{-5} to the equation provided in Attachment B of the PAH Guidance Document yields a non-industrial direct contact RCL for BaP_{equiv} of 880 $\mu\text{g}/\text{kg}$, or 0.88 mg/kg and an industrial direct contact RCL of 3,900 $\mu\text{g}/\text{kg}$, or 3.9 mg/kg .

To determine if surface soil concentrations at the site exceed the site-specific RCLs for BaP_{equiv} , the PAH concentrations in the soil samples were converted to equivalent concentrations (with regard to toxic potency) of benzo(a)pyrene. This was accomplished by multiplying the concentration of each PAH compound in a given sample by that compound's RPF. RPFs were obtained from Nisbet and LaGoy (1992) and are listed on page 3 of the PAH Guidance Document. The RPFs are unitless and vary from 0.001 to 1. An RPF of 0.001 indicates that the compound is only 1/1,000th as toxic as benzo(a)pyrene, while an RPF of 1.0 indicates, the compound has the same toxicity as benzo(a)pyrene. The resultant products were then summed to yield the BaP_{equiv} concentration for that sample.

The BaP_{equiv} non-industrial and industrial RCLs for the site were determined to be 880 $\mu\text{g}/\text{kg}$ and 3,900 $\mu\text{g}/\text{kg}$, respectively. The calculations and BaP_{equiv} data are summarized in Table 4. All of the sample PAH concentrations were below the BaP_{equiv} non-industrial RCL (Table 4).

PCB

Six soil samples were collected and submitted for laboratory analysis of PCBs to determine where the cleanup level for low occupancy may be exceeded and potential disposal options. Soil PCB analytical results are summarized in Table 5 and presented on Figure 9. All soil PCB results were reported below laboratory detection limits or below the high occupancy cleanup level without further conditions of $\leq 1 \text{ mg}/\text{kg}$.

Metals and Cyanide

Thirteen soil samples were collected for analysis of metals, including one or more metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). Total metals analytical results are summarized in Table 6 and presented on Figure 10. Metal concentrations were reported below NR720 RCLs, except for arsenic and lead. Eleven soil samples contained arsenic concentrations that exceeded the NR 720 non-industrial direct contact RCL of 0.039 mg/kg . Arsenic concentrations ranged from below detection limits to 7.1 mg/kg . Three soil samples contained lead concentrations that exceeded the NR 720 non-industrial direct contact RCL of 50 mg/kg . Lead concentrations ranged from below detection limits to 69 mg/kg . The detected metals are likely associated with the fill material.

Groundwater Analytical Results

The following sections present a summary of the historical and current groundwater analytical result. Groundwater VOCs and pH analytical results are summarized in Tables 7 and 8, respectively. Groundwater PAHs and total metal analytical results are summarized in Tables 9 and 10, respectively.

Groundwater Regulatory Criteria

Groundwater cleanup criteria are set forth in NR 140 Wis. adm code. For each regulated constituent, two standards have been established: an Enforcement Standard (ES) and a Preventive Action Limit (PAL). If a constituent concentration is below the ES but exceeds the PAL, the WDNR may require a response ranging from no action to a request for continued monitoring. If an ES is exceeded, the WDNR may require further investigation, monitoring, and/or remediation. Groundwater cleanup criteria have not been established by the WDNR for every constituent detected at this site. The ES and PAL for each constituent for which a standard has been adopted are presented on the respective groundwater analytical tables.

VOC

Groundwater samples were collected from 16 monitoring wells and submitted for laboratory analysis of VOCs between August 2004 and August 2009. Groundwater VOC analytical results are summarized in Table 7 and presented on Figure 11.

Generally, groundwater impacts were observed in the eastern portion of the site within the footprint of the former lime slurry lagoon that was backfilled to grade with imported fill material. In the last groundwater sampling event completed in August 2009, groundwater concentrations were reported below laboratory detection limits at Monitoring Wells MW-2, MW-3, MW-7, MW-9, MW-10, MW-15, and MW-16. Further, groundwater concentrations were reported below the ES, but above the PAL at Monitoring Wells MW-4 (benzene 2.48 micrograms per liter [$\mu\text{g/L}$]), MW-5 (benzene 2.04 $\mu\text{g/L}$, naphthalene 28.5 $\mu\text{g/L}$), MW-6 (benzene 1.39 $\mu\text{g/L}$, naphthalene 15.6 $\mu\text{g/L}$, chloromethane 1.73 $\mu\text{g/L}$), MW-8R (chloromethane 0.55J $\mu\text{g/L}$), MW-11R (chloroform 1.39 $\mu\text{g/L}$), and MW-14 (benzene 1.35 $\mu\text{g/L}$, naphthalene 17.6 $\mu\text{g/L}$). The extent of groundwater impacts are delineated onsite and detected concentrations are relatively low.

pH

Past site operations included the production of carbide gas. As discussed earlier, carbide gas produces a by-product called limewater. Limewater is corrosive and as a saturated solution, may have a pH near 12. The PAL for the indicator parameter, pH, is one pH unit above or below the pH of the background water quality per NR 140.20(2) Wis. adm. code.

Groundwater pH was measured at site monitoring wells while groundwater sampling utilizing a YSI with a flow thru cell in May and August 2009. Water pH results are summarized in Table 8 and presented on Figure 11.

Monitoring Wells MW-1, MW-4 through MW-6, MW-11R, MW-12, and MW-14 are located within the limits of the former lime slurry lagoons. The pH at these wells ranged from 12.16 to 12.94, with the exception of MW-12 at 9.61. Monitoring Wells MW-2R, MW-3, MW-7R, MW-8R, MW-9, MW-10 and MW-13 are located

outside the limits of the former lagoons onsite with Monitoring Wells MW-15 and MW-16 located offsite to the east. These wells can serve as providing background levels for pH. The pH at these wells ranged from 6.97 to 8 (typical of the groundwater in southeast Wisconsin). The site-specific PAL for pH was determined as 5.97 to 9, calculated as one pH unit below 5.97 and one pH unit above 8.

PAH

Groundwater samples were collected from 16 monitoring wells and submitted for laboratory analysis of PAHs between August 2004 and August 2009. Groundwater PAH analytical results are summarized in Table 9 and presented on Figure 12. In the last groundwater sampling event completed in August 2009, one or more PAHs were reported above the PAL in at MW-5, (chrysene 0.026 µg/L, and naphthalene 16.1 µg/L).

RCRA Dissolved Metals

Groundwater samples were collected from all Monitoring Wells and submitted for laboratory analysis of RCRA metals in August 2009. Groundwater metal analytical results are summarized in Table 10 and presented on Figure 13. In the last groundwater sampling event completed in August 2009, one or more dissolved metal concentrations (arsenic, barium, and mercury) were reported above the PAL at Monitoring Wells MW-1, MW-6, MW-7R, MW-8R, MW-10, MW-11R, MW-12, MW-14, MW-15, and MW-16. Dissolved arsenic was also reported above the ES at Monitoring Wells MW-4, MW-5, and MW-6, all located within the limits of the former lime slurry lagoon.

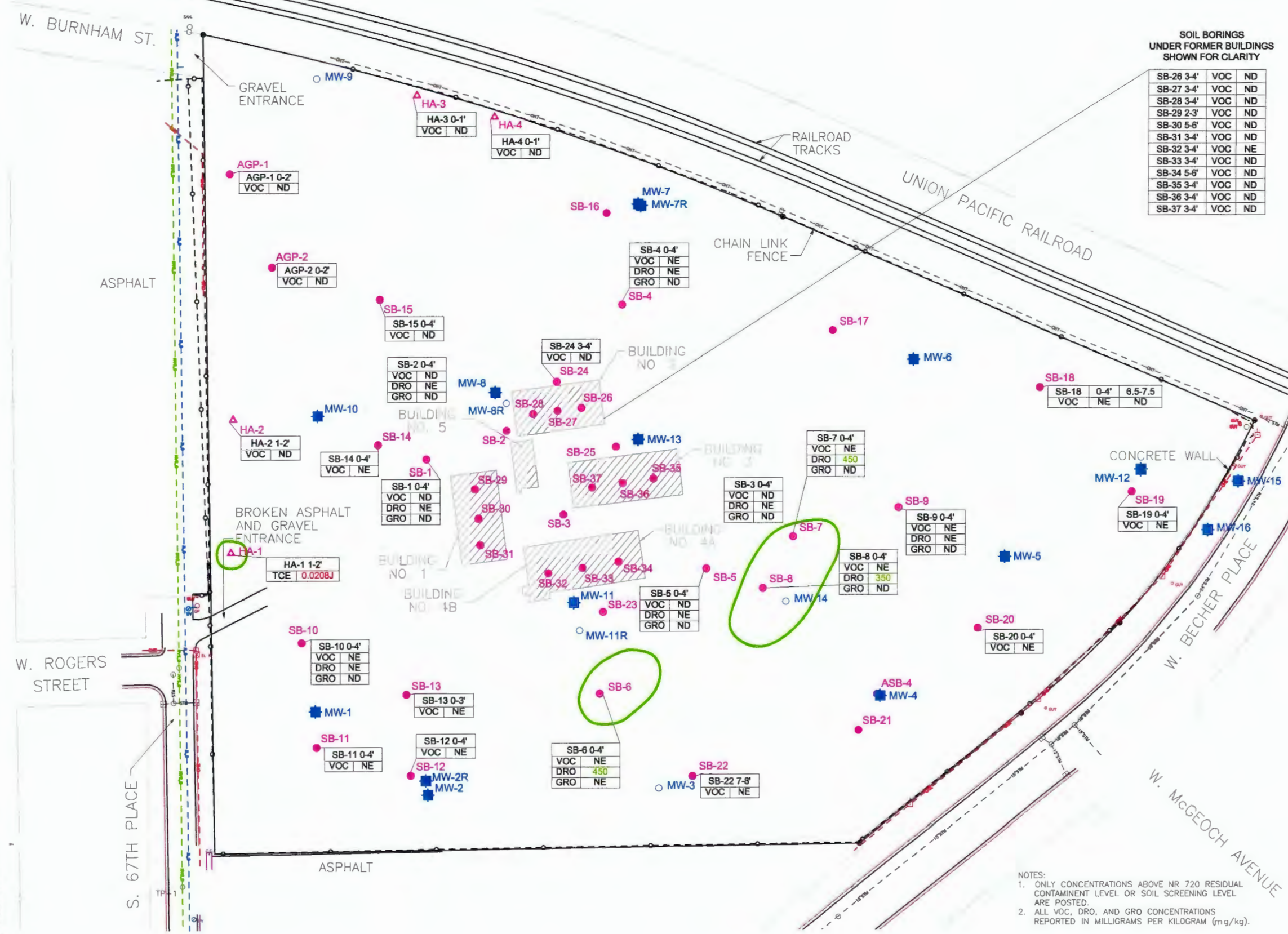
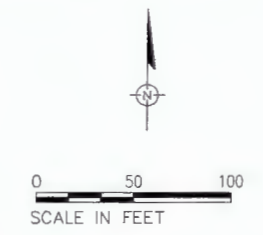
Methane

Baseline soil vapor monitoring for methane was conducted at the site from all accessible wells. The methane monitoring activities consisted of evaluating monitoring wells for the presence of methane. The monitoring well locations are presented on Figure 2. The methane monitoring was conducted using a flame ionization detector (FID) with a charcoal filter. The charcoal filter allows for measuring only methane concentrations in part per million. Results of the methane monitoring are summarized in Table 11.

The methane monitoring methodology consisted of sealing the well at the top of the casing, waiting 5 minutes for potential methane vapors to collect and equilibrate within the casing, and then connecting the field instrument to the well head. A methane concentration of 10,000 parts per million (ppm) is equivalent to 1 percent by volume. A methane concentration measured above 1.25 percent by volume (or 12,500 ppm) is generally used as an indicator of requiring additional delineation and monitoring.

The highest reported concentration of methane was observed in Monitoring Well MW-11R at 101,200 ppm. This concentration was not sustained due to the impermeable nature of the fill material. A review of the soil boring log indicated that organic material was encountered at a depth of 6 to 8 feet below grade. The organics were placed when the lagoons were backfilled prior to the city of West Allis purchasing the property. In general, the methane is limited to the area of the former lagoons and organics are not present in all locations. The tight impermeable soils do not provide a consistent source of methane. Rather, the methane appears to collect in the monitoring well and is evacuated by purging with the FID.

CITY: MILWAUKEE DIV: GROUP: ENVIRONMENTAL DBR: ROBBENOLT, P.M.B. VERBURG T.M.T. SCHOEN
 G:\projects\PresSteel\W1107\AL\line\PI\CADD\Drawings\Closure\Soil\Soil_VOC_0110.dwg LAYOUT: MONITORING WELLS
 PROJECTNAME: X:\Monitoring\W1107\Soil_VOC_0110.dwg
 PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH)
 ACADVER: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH)
 PLOTTED: 2/2/2010 3:27 PM BY: ROBBENOLT, REBECCA



SOIL BORINGS UNDER FORMER BUILDINGS SHOWN FOR CLARITY

SB-26	3-4'	VOC	ND
SB-27	3-4'	VOC	ND
SB-28	3-4'	VOC	ND
SB-29	2-3'	VOC	ND
SB-30	5-6'	VOC	ND
SB-31	3-4'	VOC	ND
SB-32	3-4'	VOC	NE
SB-33	3-4'	VOC	ND
SB-34	5-6'	VOC	ND
SB-35	3-4'	VOC	ND
SB-36	3-4'	VOC	ND
SB-37	3-4'	VOC	ND

LEGEND

- MW-8 ABANDONED MONITORING WELL
- MONITORING WELL
- HAND AUGER
- SOIL BORING
- FOUND CONCRETE MONUMENT W/BRASS CAP
- FOUND CHISELED CROSS
- SET 1" IRON PIPE
- POWER POLE
- GUY POLE
- GUY WIRE
- ELECTRIC RISER
- WATER VALVE
- MANHOLE
- STORM INLET
- BURIED STORM SEWER
- BURIED SANITARY SEWER
- BURIED WATER MAIN
- OVERHEAD ELECTRIC
- OVERHEAD TELEPHONE
- CHAIN LINK FENCE
- PARCEL BOUNDARY
- FORMER BUILDING
- VOC VOLATILE ORGANIC COMPOUNDS
- DRO DIESEL RANGE ORGANICS
- GRO GASOLINE RANGE ORGANICS
- TCE TRICHLOROETHYLENE
- N NAPHTHALENE
- ND NOT DETECTED
- NE CONCENTRATION DETECTED, BUT BELOW THE RESIDUAL CONTAMINANT LEVEL OR SOIL SCREENING LEVEL
- 350 CONCENTRATION EXCEEDS NR 720 WIS. ADM. CODE RESIDUAL CONTAMINANT LEVEL
- 0.02 CONCENTRATION EXCEEDS SOIL SCREENING LEVEL
- ESTIMATED EXTENT OF SOIL CONCENTRATION EXCEEDANCES ABOVE NR 720 WIS. ADM. CODE NON-INDUSTRIAL RESIDUAL CONTAMINANT LEVEL

- NOTES:
- ONLY CONCENTRATIONS ABOVE NR 720 RESIDUAL CONTAMINANT LEVEL OR SOIL SCREENING LEVEL ARE POSTED.
 - ALL VOC, DRO, AND GRO CONCENTRATIONS REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg).

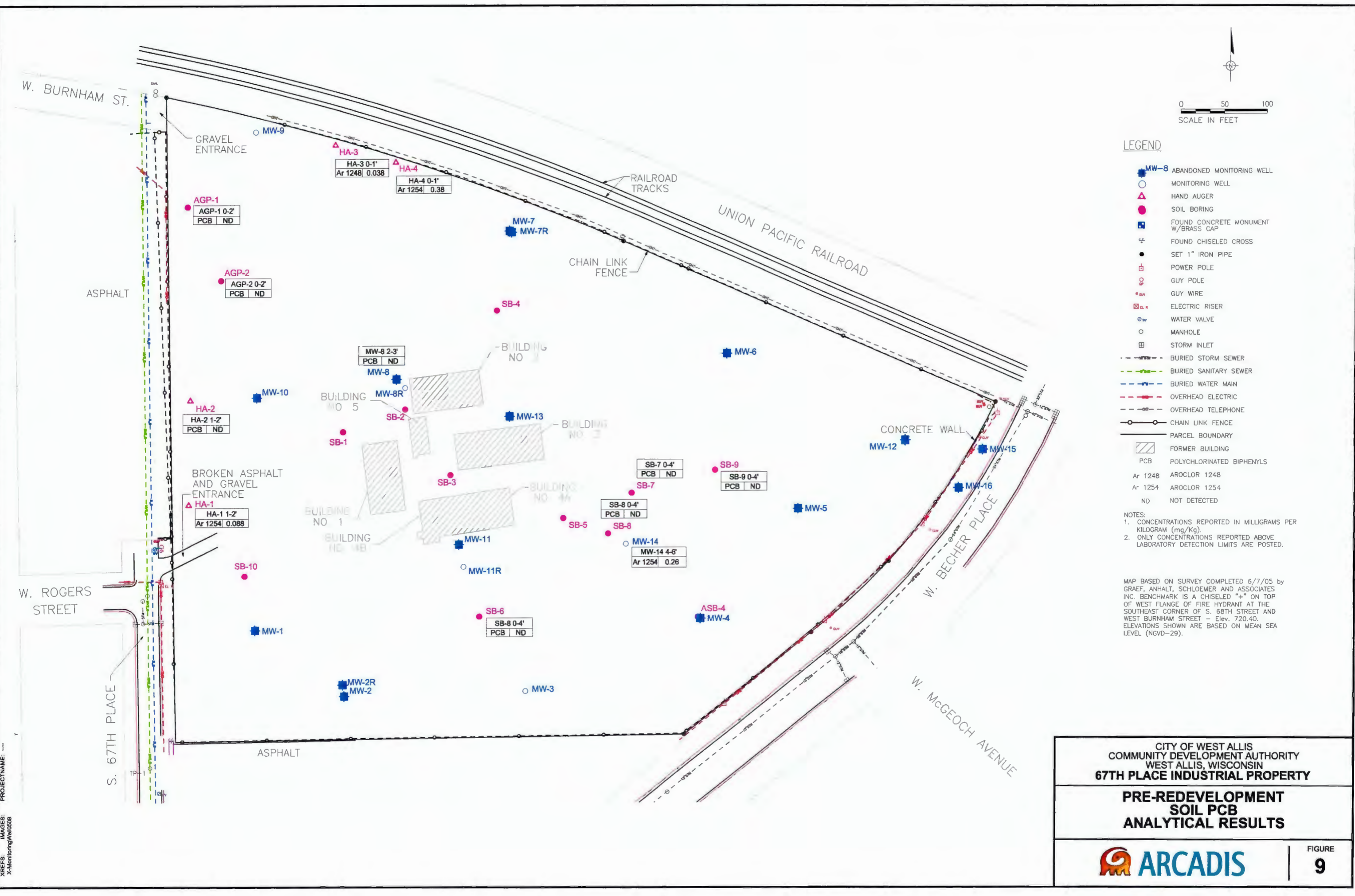
MAP BASED ON SURVEY COMPLETED 6/7/05 BY GRAEF, ANHALT, SCHLOEMER AND ASSOCIATES INC. BENCHMARK IS A CHISELED "+" ON TOP OF WEST FLANGE OF FIRE HYDRANT AT THE SOUTHEAST CORNER OF S. 68TH STREET AND WEST BURNHAM STREET - Elev. 720.40. ELEVATIONS SHOWN ARE BASED ON MEAN SEA LEVEL (NGVD-29).

CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PROPERTY

**PRE-REDEVELOPMENT
 SOIL DRO, GRO, AND VOC
 ANALYTICAL RESULTS**

FIGURE 8

CITY: MILWAUKEE DIV: GROUP: ENVIRONMENTAL DB: R. ROBBENNOLT PM: B. VERBURG TM: T. SCHOEN
 G:\Project\Pres\Steel\W10741\line\PCAD\ADD\benverburg\Closure\SOIL\PCB_0110.dwg LAYOUT: MONITORING WELLS
 PROJECT NAME: ---
 XREFS: IMAGES: ---
 X:\homburg\rel\0508



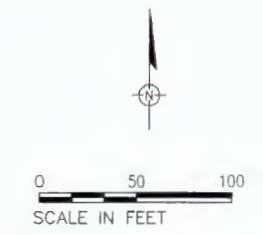
CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PROPERTY

**PRE-REDEVELOPMENT
 SOIL PCB
 ANALYTICAL RESULTS**

ARCADIS

FIGURE
9

CITY: MILWAUKEE DIVISION: ENVIRONMENTAL DBR: ROBBENNOLT P.M.B. VERBURG T.M.T. SCHOEN
 G:\Projects\67thPlace\67thPlace.dwg LAYOUT: MONITORING WELLS PROJECTNAME: X:\Monitoring\67thPlace.dwg
 XREFS: IMAGES: PROJECTNAME: SAVED: 2/2/2010 3:28 PM ACADVER: 17.05 (LMS TECH) PAGES: 17 PLOTTED: 2/2/2010 3:28 PM BY: ROBBENNOLT, REBECCA



LEGEND

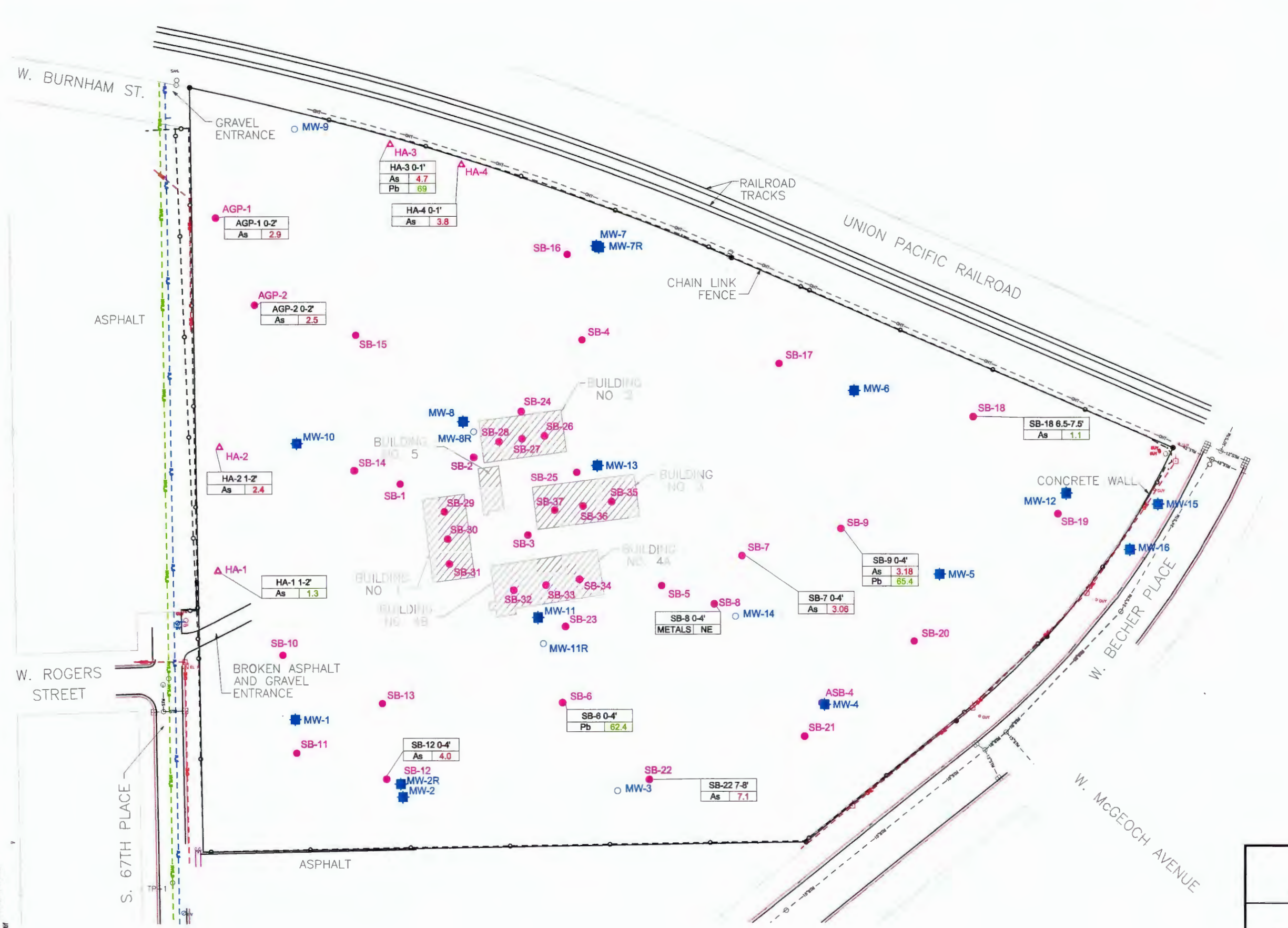
- MW-8 ABANDONED MONITORING WELL
- MONITORING WELL
- ▲ HAND AUGER
- SOIL BORING
- FOUND CONCRETE MONUMENT W/BRASS CAP
- ⊕ FOUND CHISELED CROSS
- SET 1" IRON PIPE
- POWER POLE
- GUY POLE
- GUY WIRE
- ⊕ ELECTRIC RISER
- WATER VALVE
- MANHOLE
- STORM INLET
- BURIED STORM SEWER
- BURIED SANITARY SEWER
- BURIED WATER MAIN
- OVERHEAD ELECTRIC
- OVERHEAD TELEPHONE
- CHAIN LINK FENCE
- PARCEL BOUNDARY
- FORMER BUILDING
- As ARSENIC
- Pb LEAD
- NE CONCENTRATION DETECTED, BUT BELOW THE RESIDUAL CONTAMINANT LEVEL
- 5.3 CONCENTRATION EXCEEDS NR 720 WIS. ADM. CODE NON-INDUSTRIAL RESIDUAL CONTAMINANT LEVEL
- 10.3 CONCENTRATION EXCEEDS NR 720 WIS. ADM. CODE INDUSTRIAL RESIDUAL CONTAMINANT LEVEL

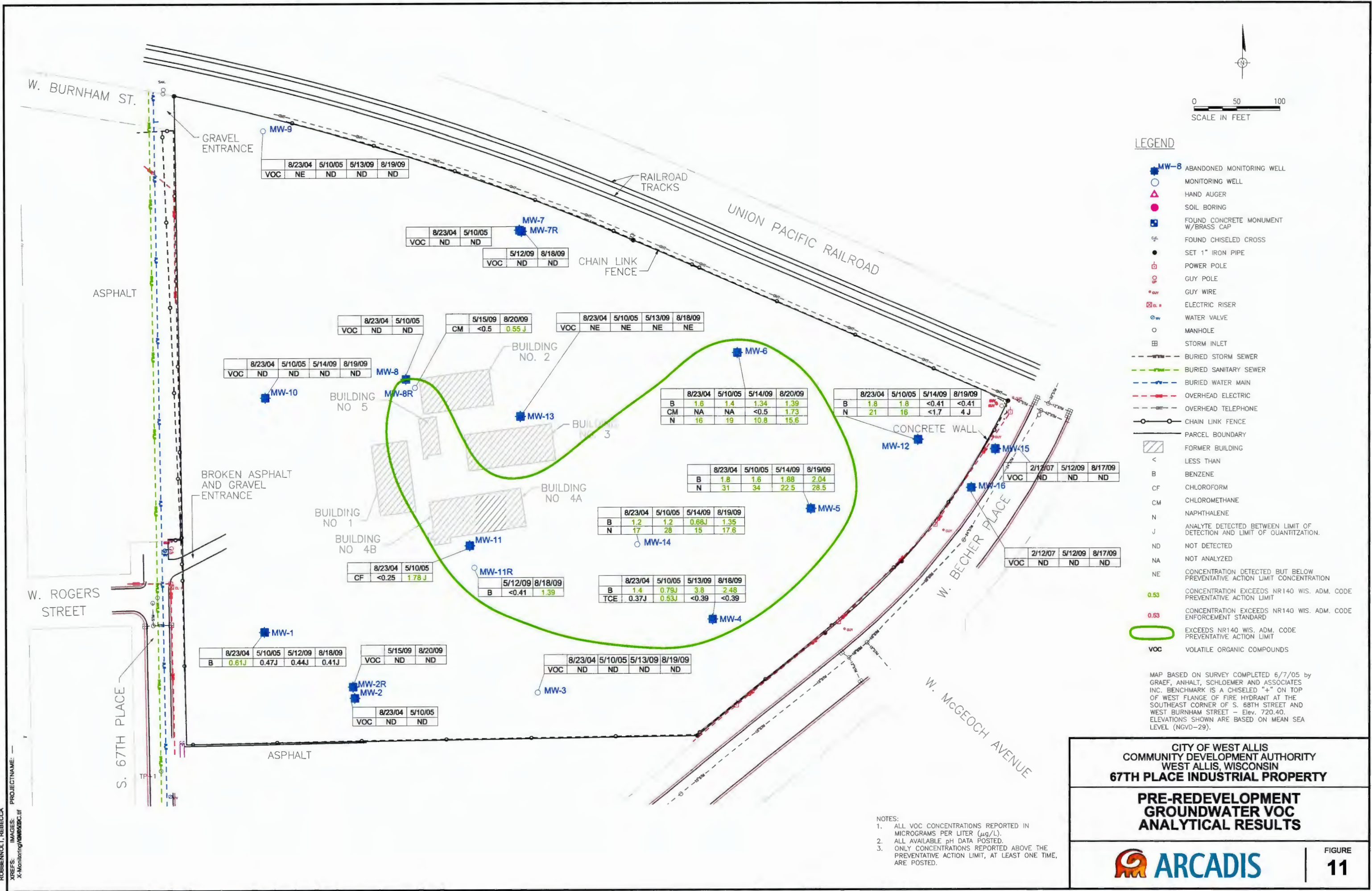
NOTES:
 1. CONCENTRATIONS REPORTED IN MILLIGRAMS PER KILOGRAM (mg/Kg).
 2. ONLY CONCENTRATIONS REPORTED ABOVE NR720 RESIDUAL CONTAMINANT LEVELS ARE POSTED.
 MAP BASED ON SURVEY COMPLETED 6/7/05 BY GRAEF, ANHALT, SCHLOEMER AND ASSOCIATES INC. BENCHMARK IS A CHISELED "+" ON TOP OF WEST FLANGE OF FIRE HYDRANT AT THE SOUTHEAST CORNER OF S. 68TH STREET AND WEST BURNHAM STREET - Elev. 720.40. ELEVATIONS SHOWN ARE BASED ON MEAN SEA LEVEL (NGVD-29).

**CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
 67TH PLACE INDUSTRIAL PROPERTY**

**PRE-REDEVELOPMENT
 SOIL METAL ANALYTICAL RESULTS**


FIGURE
10



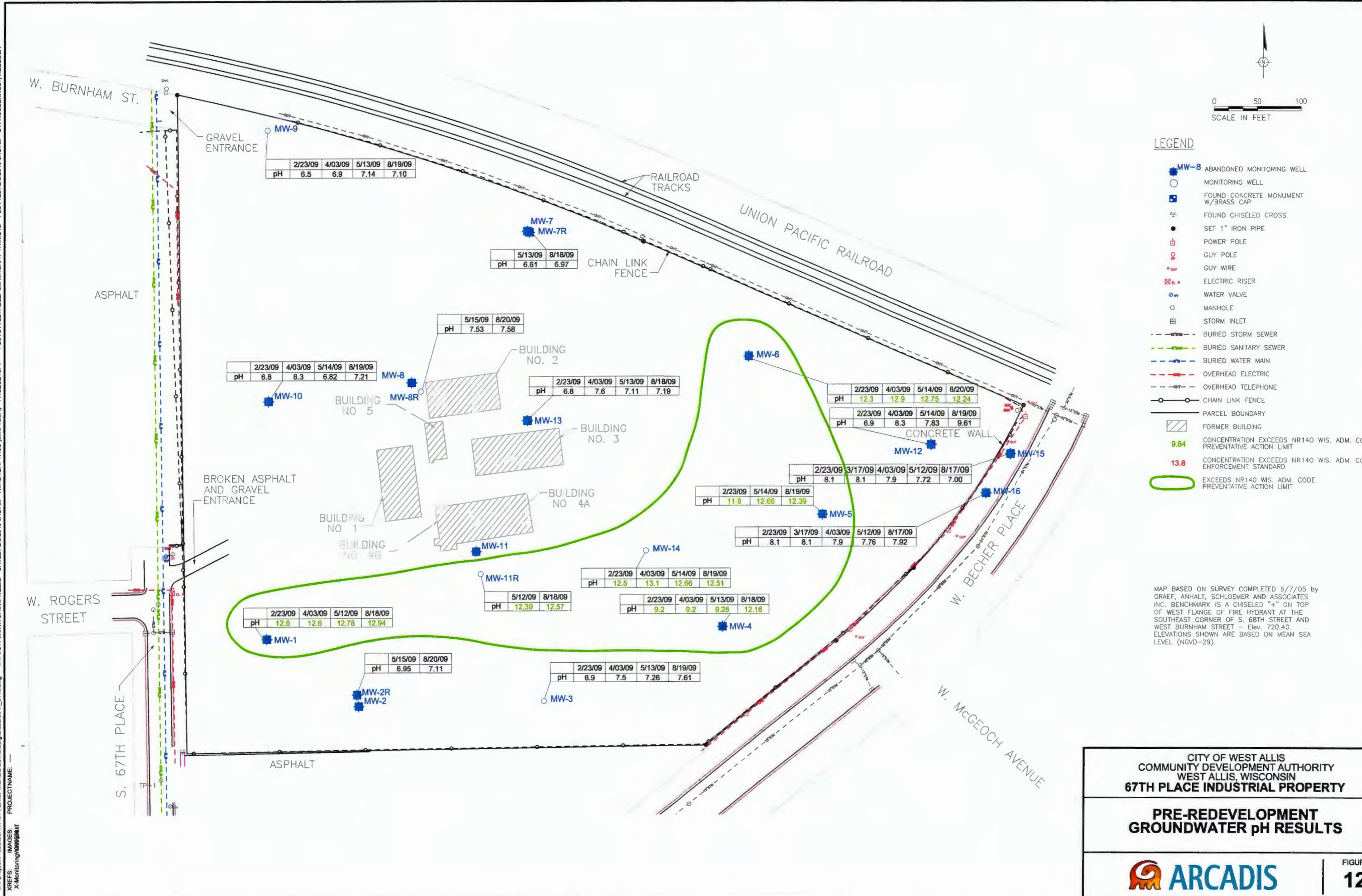


**CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
 67TH PLACE INDUSTRIAL PROPERTY**

**PRE-REDEVELOPMENT
 GROUNDWATER VOC
 ANALYTICAL RESULTS**

 **FIGURE
 11**

CITY: MILWAUKEE DIV: GROUP: ENVIRONMENTAL DB: R. ROBBENHOLT P: M.B. VERBURG T: M.T. SCHOEN
 G: I:\project\PreSteel\W10741\TimePH\CADD\benverb\benverb\ClosurePH_0110.dwg SAVED: 2/3/2010 6:12 AM ACADVER: 17.05 (LMS TECH) PAGES: 17
 XREFS: IMAGES: X: MonitoringWell.dwg



LEGEND

- MW-8 ABANDONED MONITORING WELL
- MONITORING WELL
- FOUND CONCRETE MONUMENT W/BRASS CAP
- ⊕ FOUND CHISELED CROSS
- SET 1" IRON PIPE
- POWER POLE
- GUY POLE
- GUY WIRE
- ⊕ ELECTRIC RISER
- WATER VALVE
- MANHOLE
- STORM INLET
- BURIED STORM SEWER
- BURIED SANITARY SEWER
- BURIED WATER MAIN
- OVERHEAD ELECTRIC
- OVERHEAD TELEPHONE
- CHAIN LINK FENCE
- PARCEL BOUNDARY
- ▨ FORMER BUILDING
- 9.84 CONCENTRATION EXCEEDS NR140 WIS. ADM. CODE PREVENTATIVE ACTION LIMIT
- 13.8 CONCENTRATION EXCEEDS NR140 WIS. ADM. CODE ENFORCEMENT STANDARD
- EXCEEDS NR140 WIS. ADM. CODE PREVENTATIVE ACTION LIMIT

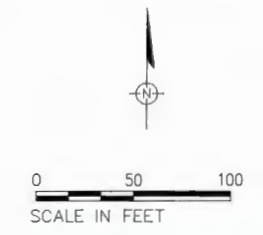
MAP BASED ON SURVEY COMPLETED 6/7/05 by GRAEF, ANHALT, SCHLOEMER AND ASSOCIATES INC. BENCHMARK IS A CHISELED "4" ON TOP OF WEST FLANGE OF FIRE HYDRANT AT THE SOUTHEAST CORNER OF S. 68TH STREET AND WEST BURNHAM STREET - Elev. 720.40. ELEVATIONS SHOWN ARE BASED ON MEAN SEA LEVEL (NGVD-29).

CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PROPERTY

**PRE-REDEVELOPMENT
 GROUNDWATER pH RESULTS**

ARCADIS

CITY: MILWAUKEE DIV: GROUP: ENVIRONMENTAL DB: ROBBENKOLT, PM: B. VERBURG, TM: T. SCHOEN
 G:\projects\TransSteen\107\All\line\PHCADD\benredwg\Closure\GWP\PH10.dwg LAYOUT: MONITORING WELLS
 PROJECT NAME: X-MonitoringWell0509
 XREFS: IMAGES: ---
 SAVER: 2/23/2010 8:14 AM ACADVER: 17.0S (LMS TECH) PAGES: 17 PAGES SETUP: --- PLOT STYLE TABLE: BLACKGRAY-THIN.CTB PLOTTED: 2/23/2010 8:14 AM BY: ROBBENKOLT, REBECCA



LEGEND

- MW-8 ABANDONED MONITORING WELL
- MONITORING WELL
- △ HAND AUGER
- SOIL BORING
- FOUND CONCRETE MONUMENT W/BRASS CAP
- ⊕ FOUND CHISELED CROSS
- SET 1" IRON PIPE
- ⊕ POWER POLE
- ⊕ GUY POLE
- ⊕ GUY WIRE
- ⊕ ELECTRIC RISER
- ⊕ WATER VALVE
- MANHOLE
- ⊕ STORM INLET
- - - BURIED STORM SEWER
- - - BURIED SANITARY SEWER
- - - BURIED WATER MAIN
- - - OVERHEAD ELECTRIC
- - - OVERHEAD TELEPHONE
- - - CHAIN LINK FENCE
- - - PARCEL BOUNDARY
- ▨ FORMER BUILDING
- < LESS THAN
- B(a)p BENZO(A)PYRENE
- B(b)f BENZO(B)FLUORANTHENE
- C CHRYSENE
- F FLUORANTHENE
- N NAPHTHALENE
- P PYRENE
- J ANALYTE DETECTED BETWEEN LIMIT OF DETECTION AND LIMIT OF QUANTIZATION.
- ND NOT DETECTED
- NE CONCENTRATION DETECTED BUT BELOW PREVENTATIVE ACTION LIMIT
- 0.53 CONCENTRATION EXCEEDS NR140 WIS. ADM. CODE PREVENTATIVE ACTION LIMIT
- 0.53 CONCENTRATION EXCEEDS NR140 WIS. ADM. CODE ENFORCEMENT STANDARD
- PAH POLYCYCLIC AROMATIC HYDROCARBON
- EXCEEDS NR140 WIS. ADM. CODE PREVENTATIVE ACTION LIMIT

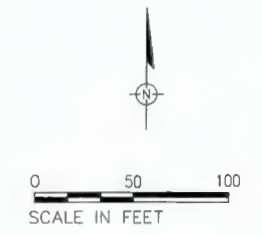
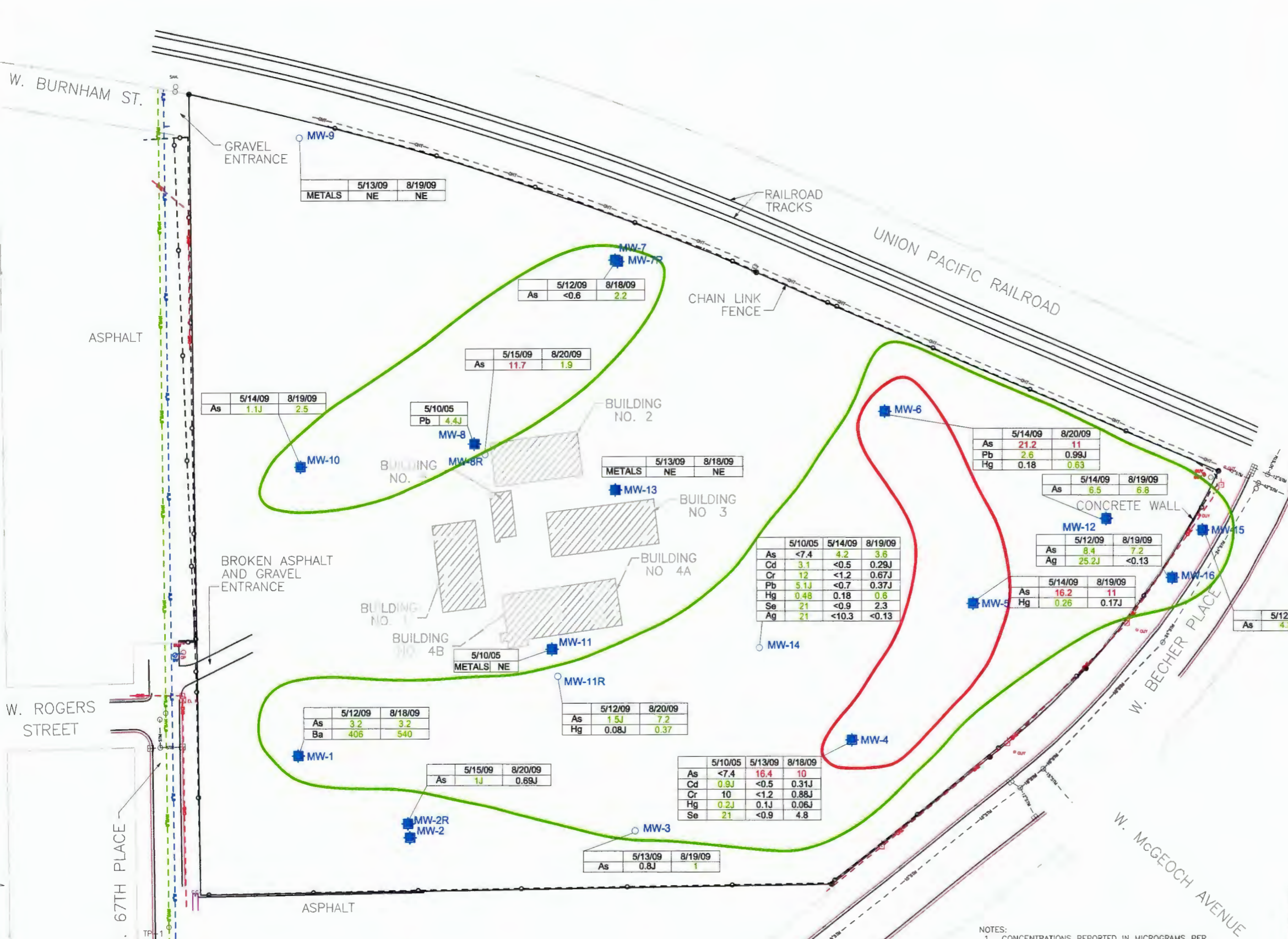


MAP BASED ON SURVEY COMPLETED 6/7/05 BY GRAEF, ANHALT, SCHLOEMER AND ASSOCIATES INC. BENCHMARK IS A CHISELED "+" ON TOP OF WEST FLANGE OF FIRE HYDRANT AT THE SOUTHEAST CORNER OF S. 68TH STREET AND WEST BURNHAM STREET - Elev. 720.40. ELEVATIONS SHOWN ARE BASED ON MEAN SEA LEVEL (NGVD-29).

CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PROPERTY

**PRE-REDEVELOPMENT
 GROUNDWATER PAH
 ANALYTICAL RESULTS**

FIGURE
13



NOTES:
 1. CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L).
 2. ONLY CONCENTRATIONS REPORTED ABOVE THE PAL, AT LEAST ONCE, ARE POSTED.

MAP BASED ON SURVEY COMPLETED 6/7/05 BY GRAEF, ANHALT, SCHLOEMER AND ASSOCIATES INC. BENCHMARK IS A CHISELED "+" ON TOP OF WEST FLANGE OF FIRE HYDRANT AT THE SOUTHEAST CORNER OF S. 68TH STREET AND WEST BURNHAM STREET - Elev. 720.40. ELEVATIONS SHOWN ARE BASED ON MEAN SEA LEVEL (NGVD-29).

CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PROPERTY
PRE-REDEVELOPMENT
GROUNDWATER DISSOLVED METALS
ANALYTICAL RESULTS



ARCADIS

Table 2. Summary of Soil VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	Inhalation of		AGP-1	AGP-2	HA-1	HA-2	HA-3	HA-4	SB-1
Sample Date	NR 720	Vapors	4/16/2009	4/16/2009	4/16/2009	4/16/2009	4/16/2009	4/16/2009	2/20/2004
Sample Depth (feet)	RCL	SSL	0 - 2	0 - 2	1 - 2	1 - 2	0 - 1	0 - 1	0 - 4
DRO (mg/kg)	250	NS	NA	NA	NA	NA	NA	NA	160
GRO (mg/kg)	250	NS	NA	NA	NA	NA	NA	NA	< 10
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	NS	30	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.025
1,2-Dichloroethane	NS	NS	< 0.024	< 0.024	< 0.024	< 0.024	< 0.024	< 0.024	< 0.025
Naphthalene	NS	41	< 0.117	< 0.117	< 0.117	< 0.117	< 0.117	< 0.117	< 0.025
Tetrachloroethene	NS	1.3	< 0.018	< 0.018	< 0.018	< 0.018	< 0.018	< 0.018	< 0.025
Toluene	1.5	670	< 0.023	< 0.023	< 0.023	< 0.023	< 0.023	< 0.023	< 0.025
Trichloroethene	NS	0.0086	< 0.02	< 0.02	0.0208 J	< 0.02	< 0.02	< 0.02	< 0.025
Xylenes	4.1	170	NA	NA	NA	NA	NA	NA	< 0.025

<i>Italic</i>	Concentration exceeds the NR 720 Wis. adm. code RCL.
Bold	Concentration exceeds the inhalation of vapors SSL for non-industrial land use.
mg/kg	Milligrams per kilogram.
DRO	Diesel Range Organics.
GRO	Gasoline Range Organics.
NA	Not analyzed.
NC	Not calculated.
NE	Not established.
J	Estimated result.
RCL	Residual contaminant level.
SSL	Soil Screening Levels, calculated using U.S. EPA website.
VOC	Volatile Organic Compounds.

ARCADIS

Table 2. Summary of Soil VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10
Sample Date	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004
Sample Depth (feet)	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4
DRO (mg/kg)	58	14	190	28	450	450	350	200	84
GRO (mg/kg)	< 10	< 10	< 10	< 10	11	< 10	< 10	< 10	< 10
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.025	< 0.025	< 0.025	< 0.025	0.037	< 0.025	< 0.025	< 0.025	< 0.025
1,2-Dichloroethane	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Naphthalene	< 0.025	< 0.025	0.038 J	< 0.025	13	0.157	1.54	0.257	0.069
Tetrachloroethene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Toluene	< 0.025	< 0.025	< 0.025	< 0.025	0.029	< 0.025	< 0.025	< 0.025	< 0.025
Trichloroethene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Xylenes	< 0.025	< 0.025	< 0.025	< 0.025	0.032	< 0.025	< 0.025	< 0.025	< 0.025

<i>Italic</i>	Concentration exceeds the NR 720 Wis. adm. code RCL.
Bold	Concentration exceeds the inhalation of vapors SSL for non-industrial land use.
mg/kg	Milligrams per kilogram.
DRO	Diesel Range Organics.
GRO	Gasoline Range Organics.
NA	Not analyzed.
NC	Not calculated.
NE	Not established.
J	Estimated result.
RCL	Residual contaminant level.
SSL	Soil Screening Levels, calculated using U.S. EPA website.
VOC	Volatile Organic Compounds.

ARCADIS

Table 2. Summary of Soil VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	SB-11	SB-12	SB-13	SB-14	SB-15	SB-18	SB-18	SB-19	SB-20
Sample Date	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004
Sample Depth (feet)	0 - 4	0 - 4	0 - 3	0 - 4	0 - 4	0 - 4	6.5 - 7.5	0 - 4	0 - 4
DRO (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	0.079	< 0.025
1,2-Dichloroethane	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Naphthalene	1.33	1.33	2.46	0.025 J	< 0.025	0.107	< 0.025	0.338	0.633
Tetrachloroethene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Toluene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Trichloroethene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Xylenes	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025

<i>Italic</i>	Concentration exceeds the NR 720 Wis. adm. code RCL.
Bold	Concentration exceeds the inhalation of vapors SSL for non-industrial land use.
mg/kg	Milligrams per kilogram.
DRO	Diesel Range Organics.
GRO	Gasoline Range Organics.
NA	Not analyzed.
NC	Not calculated.
NE	Not established.
J	Estimated result.
RCL	Residual contaminant level.
SSL	Soil Screening Levels, calculated using U.S. EPA website.
VOC	Volatile Organic Compounds.

ARCADIS

Table 2. Summary of Soil VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	SB-22	SB-24	SB-26	SB-27	SB-28	SB-29	SB-30	SB-31	SB-32	SB-33
Sample Date	5/27/2004	5/27/2004	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007
Sample Depth (feet)	7 - 8	3 - 4	3 - 4	3 - 4	3 - 4	2 - 3	5 - 6	3 - 4	3 - 4	3 - 4
DRO (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO (mg/kg)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs (mg/kg)										
1,2,4-Trimethylbenzene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
1,2-Dichloroethane	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Naphthalene	0.32	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Tetrachloroethene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	0.049 J	< 0.025
Toluene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Trichloroethene	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Xylenes	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025

- Italic* Concentration exceeds the NR 720 Wis. adm. code RCL.
- Bold** Concentration exceeds the inhalation of vapors SSL for non-industrial land use.
- mg/kg Milligrams per kilogram.
- DRO Diesel Range Organics.
- GRO Gasoline Range Organics.
- NA Not analyzed.
- NC Not calculated.
- NE Not established.
- J Estimated result.
- RCL Residual contaminant level.
- SSL Soil Screening Levels, calculated using U.S. EPA website.
- VOC Volatile Organic Compounds.

ARCADIS

Table 2. Summary of Soil VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	SB-34	SB-35	SB-36	SB-37
Sample Date	1/9/2007	1/9/2007	1/9/2007	1/9/2007
Sample Depth (feet)	5 - 6	3 - 4	3 - 4	3 - 4
DRO (mg/kg)	NA	NA	NA	NA
GRO (mg/kg)	NA	NA	NA	NA
VOCs (mg/kg)				
1,2,4-Trimethylbenzene	< 0.025	< 0.025	< 0.025	< 0.025
1,2-Dichloroethane	< 0.025	< 0.025	< 0.025	< 0.025
Naphthalene	< 0.025	< 0.025	< 0.025	< 0.025
Tetrachloroethene	< 0.025	< 0.025	< 0.025	< 0.025
Toluene	< 0.025	< 0.025	< 0.025	< 0.025
Trichloroethene	< 0.025	< 0.025	< 0.025	< 0.025
Xylenes	< 0.025	< 0.025	< 0.025	< 0.025

<i>Italic</i>	Concentration exceeds the NR 720 Wis. adm. code RCL.
Bold	Concentration exceeds the inhalation of vapors SSL for non-industrial land use.
mg/kg	Milligrams per kilogram.
DRO	Diesel Range Organics.
GRO	Gasoline Range Organics.
NA	Not analyzed.
NC	Not calculated.
NE	Not established.
J	Estimated result.
RCL	Residual contaminant level.
SSL	Soil Screening Levels, calculated using U.S. EPA website.
VOC	Volatile Organic Compounds.

ARCADIS

Table 3. Summary of Soil PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	Proposed	Proposed	Proposed	AGP-1	AGP-2	HA-1	HA-2	HA-3
Sample Date	Direct Contact	Direct Contact	Groundwater	4/16/2009	4/16/2009	4/16/2009	4/16/2009	4/16/2009
Sample Depth (feet)	Non-Industrial RCL	Industrial RCL	Protection RCL	0 - 2	0 - 2	1 - 2	1 - 2	0 - 1
PAHs (mg/kg)								
1-Methyl naphthalene	1,100	70,000	23	< 0.015	< 0.015	< 0.015	< 0.015	0.043 J
2-Methyl naphthalene	600	40,000	20	< 0.017	< 0.017	< 0.017	< 0.017	0.041 J
Acenaphthene	900	60,000	38	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019
Acenaphthylene	18	360	0.7	< 0.011	< 0.011	0.0144 J	0.0171 J	0.0164 J
Anthracene	5,000	300,000	3,000	< 0.019	0.0228 J	< 0.019	< 0.019	0.037 J
Benzo(a)anthracene	0.088	3.9	17	< 0.016	0.049 J	0.0222 J	0.0285 J	0.241
Benzo(g,h,i)perylene	1.8	39	6,800	< 0.019	0.034 J	0.036 J	0.044 J	0.214
Benzo(a)pyrene	0.0088	0.39	48	< 0.025	0.038 J	< 0.025	0.032 J	0.234
Benzo(b)fluoranthene	0.088	3.9	360	0.0197 J	0.066	0.058	0.074	0.42
Benzo(k)fluoranthene	0.88	390	870	< 0.016	0.0297 J	0.0196 J	0.0242 J	0.121
Chrysene	8.8	390	37	< 0.018	0.043 J	< 0.018	0.043 J	0.263
Dibenzo(a,h)anthracene	0.0088	0.39	38	< 0.022	< 0.022	< 0.022	< 0.022	0.044 J
Fluoranthene	600	40,000	500	0.0273 J	0.111	0.053	0.07	0.53
Fluorene	600	40,000	100	< 0.0083	< 0.0083	< 0.0083	< 0.0083	0.0104 J
Indeno(1,2,3-cd)pyrene	0.088	3.9	680	< 0.012	0.0276 J	0.0258 J	0.035 J	0.171
Naphthalene	20	110	0.4	< 0.013	< 0.013	< 0.013	< 0.013	0.033 J
Phenanthrene	18	390	1.8	< 0.014	0.049	0.0173 J	0.0236 J	0.273
Pyrene	500	30,000	8700	0.0209 J	0.086	0.047	0.063	0.43

Bold Concentration exceeds the proposed non-industrial direct contact residual contaminant level.

Italic Concentration exceeds the proposed industrial direct contact residual contaminant level.

Underline Concentration exceeds the proposed protection of groundwater residual contaminant level.

mg/kg Milligrams per kilogram.

J Estimated result.

PAHs Polycyclic Aromatic Hydrocarbons.

RCL Residual Contaminant Level.

ARCADIS

Table 3. Summary of Soil PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	HA-4	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
Sample Date	4/16/2009	8/2/2004	8/2/2004	8/2/2004	8/3/2004	8/3/2004	8/3/2004	8/3/2004	8/9/2004
Sample Depth (feet)	0 - 1	18 - 20	12 - 14	9 - 11	12 - 14	13.5 - 14	15 - 17	3 - 5	2 - 3
PAHs (mg/kg)									
1-Methyl naphthalene	0.049	< 0.037	< 0.037	< 0.037	< 0.037	0.048 J	< 0.037	< 0.037	0.041 J
2-Methyl naphthalene	0.05 J	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072
Acenaphthene	< 0.019	< 0.041	< 0.041	< 0.041	< 0.041	0.097 J	< 0.041	< 0.041	0.11 J
Acenaphthylene	0.0148 J	< 0.042	< 0.042	< 0.042	< 0.042	< 0.042	< 0.042	< 0.042	0.31
Anthracene	0.035 J	< 0.034	< 0.034	< 0.034	< 0.034	0.2	< 0.034	< 0.034	0.41
Benzo(a)anthracene	0.21	< 0.054	< 0.054	< 0.054	< 0.054	0.34	< 0.054	< 0.054	1.2
Benzo(g,h,i)perylene	0.17	< 0.082	< 0.082	< 0.082	< 0.082	0.11 J	< 0.082	< 0.082	0.3
Benzo(a)pyrene	0.194	< 0.059	< 0.059	< 0.059	< 0.059	0.32	< 0.059	< 0.059	1.3
Benzo(b)fluoranthene	0.35	< 0.042	< 0.042	< 0.042	< 0.042	0.41	< 0.042	< 0.042	1.8
Benzo(k)fluoranthene	0.113	< 0.079	< 0.079	< 0.079	< 0.079	0.12 J	< 0.079	< 0.079	0.95
Chrysene	0.223	< 0.038	< 0.038	< 0.038	< 0.038	0.33	< 0.038	< 0.038	1.5
Dibenzo(a,h)anthracene	0.037 J	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	0.12 J
Fluoranthene	0.49	< 0.042	< 0.042	< 0.042	< 0.042	0.83	< 0.042	< 0.042	3.4
Fluorene	0.012 J	< 0.041	< 0.041	< 0.041	< 0.041	0.14	< 0.041	< 0.041	0.17
Indeno(1,2,3-cd)pyrene	0.142	< 0.069	< 0.069	< 0.069	< 0.069	0.13 J	< 0.069	< 0.069	0.31
Naphthalene	0.032 J	< 0.04	< 0.04	< 0.04	< 0.04	0.31	< 0.04	< 0.04	0.078 J
Phenanthrene	0.271	0.022 J	< 0.02	< 0.02	< 0.02	0.75	< 0.02	< 0.02	1.4
Pyrene	0.38	< 0.058	< 0.058	< 0.058	< 0.058	0.74	< 0.058	< 0.058	3

Bold Concentration exceeds the proposed non-industrial direct contact residual contaminant level.

Italic Concentration exceeds the proposed industrial direct contact residual contaminant level.

Underline Concentration exceeds the proposed protection of groundwater residual contaminant level.

mg/kg Milligrams per kilogram.

J Estimated result.

PAHs Polycyclic Aromatic Hydrocarbons.

RCL Residual Contaminant Level.

ARCADIS

Table 3. Summary of Soil PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	MW-8 (continued)	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	SB-1
Sample Date	8/9/2004	8/9/2004	8/9/2004	8/9/2004	8/9/2004	8/9/2004	8/9/2004	2/20/2004
Sample Depth (feet)	4 - 6	8.5 - 9	4 - 6	4 - 6	4 - 6	4 - 6	4 - 6	0 - 4
PAHs (mg/kg)								
1-Methyl naphthalene	< 0.037	< 0.037	< 0.037	< 0.037	0.21	< 0.037	0.11 J	< 0.094
2-Methyl naphthalene	< 0.072	< 0.072	< 0.072	< 0.072	0.24	< 0.072	0.22 J	< 0.044
Acenaphthene	< 0.041	< 0.041	< 0.041	< 0.041	1.4	< 0.041	0.37	< 0.056
Acenaphthylene	< 0.042	< 0.042	< 0.042	< 0.042	0.24	< 0.042	< 0.042	<u>2.9</u>
Anthracene	< 0.034	< 0.034	< 0.034	< 0.034	5.7 J	< 0.034	0.17	3
Benzo(a)anthracene	< 0.054	< 0.054	< 0.054	< 0.054	11	< 0.054	0.38	6.2
Benzo(g,h,i)perylene	< 0.082	< 0.082	< 0.082	< 0.082	4.6 J	< 0.082	< 0.082	6.6
Benzo(a)pyrene	< 0.059	< 0.059	< 0.059	< 0.059	9.7	< 0.059	0.38	8.4
Benzo(b)fluoranthene	< 0.042	< 0.042	< 0.042	< 0.042	12	< 0.042	0.68	9.6
Benzo(k)fluoranthene	< 0.079	< 0.079	< 0.079	< 0.079	4.1 J	< 0.079	0.27	2.7
Chrysene	< 0.038	< 0.038	< 0.038	< 0.038	11	< 0.038	0.43	6.9
Dibenzo(a,h)anthracene	< 0.076	< 0.076	< 0.076	< 0.076	0.63	< 0.076	< 0.076	1.6
Fluoranthene	< 0.042	< 0.042	< 0.042	< 0.042	28	< 0.042	0.8	12
Fluorene	< 0.041	< 0.041	< 0.041	< 0.041	2.3 J	< 0.041	0.24	0.83 J
Indeno(1,2,3-cd)pyrene	< 0.069	< 0.069	< 0.069	< 0.069	4.3 J	< 0.069	0.074 J	5.9
Naphthalene	< 0.04	< 0.04	< 0.04	< 0.04	<u>0.6</u>	< 0.04	0.18	< 0.078
Phenanthrene	< 0.02	< 0.02	< 0.02	< 0.02	<u>20</u>	0.021 J	0.68	<u>6.4</u>
Pyrene	< 0.058	< 0.058	< 0.058	< 0.058	24	< 0.058	0.93	11

Bold Concentration exceeds the proposed non-industrial direct contact residual contaminant level.
Italic Concentration exceeds the proposed industrial direct contact residual contaminant level.
Underline Concentration exceeds the proposed protection of groundwater residual contaminant level.
 mg/kg Milligrams per kilogram.
 J Estimated result.
 PAHs Polycyclic Aromatic Hydrocarbons.
 RCL Residual Contaminant Level.

ARCADIS

Table 3. Summary of Soil PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10
Sample Date	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004
Sample Depth (feet)	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4
PAHs (mg/kg)									
1-Methyl naphthalene	< 0.47	< 0.047	< 0.94	< 0.235	4.8 J	< 2.35	2.7 J	< 2.35	< 2.35
2-Methyl naphthalene	< 0.22	< 0.022	< 0.44	< 0.11	9.5	< 1.1	2.9 J	< 1.1	< 1.1
Acenaphthene	< 0.28	< 0.028	< 0.56	< 0.14	15	< 1.4	20	3.1 J	< 1.4
Acenaphthylene	< 0.32	< 0.032	< 0.64	< 0.16	< 1.6	<u>1.9 J</u>	<u>2.5 J</u>	< 1.6	< 1.6
Anthracene	0.77 J	< 0.046	1.04 J	< 0.23	29	5.1 J	49	11	6.2 J
Benzo(a)anthracene	1 J	0.04 J	1.6 J	0.53 J	<u>23</u>	<u>11</u>	<u>75</u>	<u>16</u>	<u>11</u>
Benzo(g,h,i)perylene	0.46 J	< 0.032	< 0.64	0.22 J	<u>9.2</u>	<u>6.2</u>	<u>30</u>	<u>5.7</u>	<u>3.9 J</u>
Benzo(a)pyrene	1.1 J	0.045 J	1.6 J	0.6 J	<u>21</u>	<u>14</u>	<u>46</u>	<u>15 J</u>	<u>11</u>
Benzo(b)fluoranthene	<u>1.5</u>	<u>0.09 J</u>	<u>2.3 J</u>	<u>1</u>	<u>25</u>	<u>16</u>	<u>90</u>	<u>20</u>	<u>13</u>
Benzo(k)fluoranthene	< 0.45	< 0.045	< 0.9	0.25 J	<u>9.8</u>	<u>7.8</u>	<u>30</u>	<u>5.2 J</u>	<u>4.2 J</u>
Chrysene	0.89 J	< 0.046	1.6 J	0.64 J	<u>23</u>	<u>12</u>	<u>68</u>	<u>16</u>	<u>11</u>
Dibenzo(a,h)anthracene	< 0.47	< 0.047	< 0.94	< 0.235	<u>2.9 J</u>	< 2.35	<u>9.7</u>	< 2.35	< 2.35
Fluoranthene	2.4	0.084 J	3.8	1.1	50	22	180	33	21
Fluorene	< 0.32	< 0.032	< 0.64	< 0.16	19	1.6 J	25	4.4 J	1.9 J
Indeno(1,2,3-cd)pyrene	< 0.56	< 0.056	< 1.12	< 0.28	<u>9.4</u>	<u>6 J</u>	<u>32</u>	<u>6.4 J</u>	<u>4.6 J</u>
Naphthalene	< 0.39	< 0.039	< 0.78	< 0.195	<u>37</u>	< 1.95	<u>5 J</u>	< 1.95	< 1.95
Phenanthrene	1.7	0.041 J	<u>2.2 J</u>	0.43 J	<u>59</u>	<u>11</u>	<u>150</u>	<u>24</u>	<u>13</u>
Pyrene	2.1	0.079 J	3.4	0.98	45	19	170	29	18

Bold Concentration exceeds the proposed non-industrial direct contact residual contaminant level.

Italic Concentration exceeds the proposed industrial direct contact residual contaminant level.

Underline Concentration exceeds the proposed protection of groundwater residual contaminant level.

mg/kg Milligrams per kilogram.

J Estimated result.

PAHs Polycyclic Aromatic Hydrocarbons.

RCL Residual Contaminant Level.

ARCADIS

Table 3. Summary of Soil PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	SB-11	SB-12	SB-13	SB-14	SB-15	SB-16	SB-17	SB-18		
Sample Date	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004
Sample Depth (feet)	0 - 4	0 - 4	0 - 3	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	0 - 4	6.5 - 7.5
PAHs (mg/kg)										
1-Methyl naphthalene	< 4.7	< 4.7	< 2.35	< 0.047	< 0.047	< 0.047	< 0.047	< 0.47	< 0.047	
2-Methyl naphthalene	< 2.2	< 2.2	< 1.1	< 0.022	< 0.022	< 0.022	< 0.022	< 0.22	< 0.022	
Acenaphthene	7.4 J	18	6.9	< 0.028	< 0.028	< 0.028	< 0.028	< 0.28	< 0.028	
Acenaphthylene	< 3.2	<u>4 J</u>	<u>3.6 J</u>	0.035 J	0.056 J	< 0.032	< 0.032	< 0.32	0.069 J	
Anthracene	17	66	23	< 0.046	< 0.046	0.053 J	< 0.046	< 0.46	< 0.046	
Benzo(a)anthracene	<u>32</u>	<u>99</u>	<u>41</u>	<u>0.092 J</u>	<u>0.14</u>	<u>0.11</u>	< 0.033	<u>0.91 J</u>	<u>0.15</u>	
Benzo(g,h,i)perylene	<u>15</u>	<u>43</u>	<u>17</u>	< 0.032	0.084 J	0.033 J	< 0.032	0.32 J	0.11	
Benzo(a)pyrene	<u>26</u>	<u>80</u>	<u>35</u>	<u>0.11 J</u>	<u>0.16</u>	<u>0.095 J</u>	< 0.043	<u>0.9 J</u>	<u>0.26</u>	
Benzo(b)fluoranthene	<u>31</u>	<u>94</u>	<u>49</u>	<u>0.17</u>	<u>0.25</u>	<u>0.14</u>	< 0.042	<u>1.2 J</u>	<u>0.33</u>	
Benzo(k)fluoranthene	<u>14</u>	<u>41</u>	<u>19</u>	0.064 J	0.091 J	< 0.045	< 0.045	0.47 J	0.1 J	
Chrysene	<u>30</u>	<u>90</u>	<u>40</u>	0.11 J	0.18	0.11 J	< 0.046	0.88 J	0.16	
Dibenzo(a,h)anthracene	< 4.7	<u>13 J</u>	<u>5.6 J</u>	< 0.047	< 0.047	< 0.047	< 0.047	< 0.47	< 0.047	
Fluoranthene	76	180	69	0.2	0.32	0.24	0.047 J	1.9	0.2	
Fluorene	8.7 J	29	8.1	< 0.032	< 0.032	< 0.032	< 0.032	< 0.32	< 0.032	
Indeno(1,2,3-cd)pyrene	<u>14 J</u>	<u>40</u>	<u>17</u>	< 0.056	0.081 J	< 0.056	< 0.056	< 0.56	<u>0.11 J</u>	
Naphthalene	< 3.9	< 3.9	< 1.95	< 0.039	< 0.039	< 0.039	< 0.039	< 0.39	< 0.039	
Phenanthrene	<u>54</u>	<u>140</u>	<u>53</u>	0.13	0.14	0.15	< 0.036	1.2	0.1 J	
Pyrene	69	170	71	0.2	0.34	0.26	0.05 J	2	0.26	

Bold Concentration exceeds the proposed non-industrial direct contact residual contaminant level.

Italic Concentration exceeds the proposed industrial direct contact residual contaminant level.

Underline Concentration exceeds the proposed protection of groundwater residual contaminant level.

mg/kg Milligrams per kilogram.

J Estimated result.

PAHs Polycyclic Aromatic Hydrocarbons.

RCL Residual Contaminant Level.

ARCADIS

Table 3. Summary of Soil PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	SB-19	SB-20	SB-21	SB-22	SB-23	SB-24	SB-25	SB-26	SB-27
Sample Date	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	5/27/2004	1/9/2007	1/9/2007
Sample Depth (feet)	0 - 4	0 - 4	0 - 3	7 - 8	0 - 4	3 - 4	0 - 4	3 - 4	3 - 4
PAHs (mg/kg)									
1-Methyl naphthalene	< 2.35	< 0.94	< 4.7	< 0.047	< 0.047	< 0.047	< 0.047	< 0.011	< 0.011
2-Methyl naphthalene	< 1.1	< 0.44	< 2.2	0.031 J	< 0.022	< 0.022	< 0.022	< 0.012	< 0.012
Acenaphthene	< 1.4	1.3 J	7.4 J	0.2	< 0.028	< 0.028	< 0.028	< 0.017	< 0.017
Acenaphthylene	< 1.6	< 0.64	< 3.2	0.055 J	< 0.032	< 0.032	< 0.032	< 0.019	< 0.019
Anthracene	3 J	3.8	23	0.57	0.11 J	< 0.046	< 0.046	< 0.011	< 0.011
Benzo(a)anthracene	4.2 J	5.6	46	0.98	0.42	< 0.033	< 0.033	< 0.012	< 0.012
Benzo(g,h,i)perylene	1.6 J	2.3	17	0.26	0.14	< 0.032	< 0.032	< 0.0085	< 0.0085
Benzo(a)pyrene	3.6 J	5.1	39	0.88	0.43	< 0.043	< 0.043	< 0.0081	< 0.0081
Benzo(b)fluoranthene	4.2 J	6.1	48	1.2	0.65	< 0.042	< 0.042	< 0.0075	< 0.0075
Benzo(k)fluoranthene	< 2.25	2.5 J	20	0.41	0.21	< 0.045	< 0.045	< 0.014	< 0.014
Chrysene	4.5 J	5.3	44	0.92	0.46	< 0.046	< 0.046	< 0.02	< 0.02
Dibenzo(a,h)anthracene	< 2.35	< 0.94	5.7 J	0.09 J	0.057 J	< 0.047	< 0.047	< 0.011	< 0.011
Fluoranthene	11	12	90	1.6	0.83	< 0.03	< 0.03	< 0.0074	0.0081 J
Fluorene	< 1.6	1.7 J	7.8 J	0.25	< 0.032	< 0.032	< 0.032	< 0.0095	< 0.0095
Indeno(1,2,3-cd)pyrene	< 2.8	2.4 J	17	0.28	0.16 J	< 0.056	< 0.056	< 0.0095	< 0.0095
Naphthalene	< 1.95	< 0.78	< 3.9	0.04 J	< 0.039	< 0.039	< 0.039	< 0.017	< 0.017
Phenanthrene	11	12	58	1.3	0.39	< 0.036	< 0.036	< 0.0089	< 0.0089
Pyrene	11	12	91	1.7	0.99	< 0.039	< 0.039	< 0.011	< 0.011

Bold Concentration exceeds the proposed non-industrial direct contact residual contaminant level.

Italic Concentration exceeds the proposed industrial direct contact residual contaminant level.

Underline Concentration exceeds the proposed protection of groundwater residual contaminant level.

mg/kg Milligrams per kilogram.

J Estimated result.

PAHs Polycyclic Aromatic Hydrocarbons.

RCL Residual Contaminant Level.

ARCADIS

Table 3. Summary of Soil PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	SB-28	SB-29	SB-30	SB-31	SB-32	SB-33	SB-34	SB-35	SB-36	SB-37
Sample Date	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007	1/9/2007
Sample Depth (feet)	3 - 4	2 - 3	5 - 6	3 - 4	3 - 4	3 - 4	5 - 6	3 - 4	3 - 4	3 - 4
PAHs (mg/kg)										
1-Methyl naphthalene	< 0.011	0.059	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011
2-Methyl naphthalene	< 0.012	0.043	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012
Acenaphthene	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017
Acenaphthylene	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019
Anthracene	0.013 J	0.036	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011
Benzo(a)anthracene	0.029 J	0.038	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	0.013 J	< 0.012	< 0.012
Benzo(g,h,i)perylene	0.021 J	0.023 J	< 0.0085	< 0.0085	< 0.0085	< 0.0085	< 0.0085	< 0.0085	< 0.0085	< 0.0085
Benzo(a)pyrene	0.023 J	0.026 J	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081
Benzo(b)fluoranthene	0.038	0.04	< 0.0075	< 0.0075	< 0.0075	< 0.0075	< 0.0075	0.0098 J	< 0.0075	< 0.0075
Benzo(k)fluoranthene	0.017 J	< 0.014	< 0.014	< 0.014	< 0.014	< 0.014	< 0.014	< 0.014	< 0.014	< 0.014
Chrysene	0.035 J	0.045 J	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dibenzo(a,h)anthracene	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011
Fluoranthene	0.074	0.068	< 0.0074	< 0.0074	< 0.0074	< 0.0074	< 0.0074	0.021 J	< 0.0074	< 0.0074
Fluorene	< 0.0095	0.011 J	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095
Indeno(1,2,3-cd)pyrene	0.014 J	0.013 J	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095
Naphthalene	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017
Phenanthrene	0.033	0.26	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	0.014 J	< 0.0089	< 0.0089
Pyrene	0.055	0.068	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	0.018 J	< 0.011	< 0.011

Bold Concentration exceeds the proposed non-industrial direct contact residual contaminant level.

Italic Concentration exceeds the proposed industrial direct contact residual contaminant level.

Underline Concentration exceeds the proposed protection of groundwater residual contaminant level.

mg/kg Milligrams per kilogram.

J Estimated result.

PAHs Polycyclic Aromatic Hydrocarbons.

RCL Residual Contaminant Level.

ARCADIS

Table 4. Soil Benzo(a)pyrene Equivalent Residual Contaminant Level Calculations and Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	Relative	AGP-1	AGP-2	HA-1	HA-2	HA-3	HA-4	SB-1	SB-2
Sample Date	Potency	4/16/2009	4/16/2009	4/16/2009	4/16/2009	4/16/2009	4/16/2009	02/20/04	02/20/04
Sample Depth (Feet)	Factor	0 - 2	0 - 2	1 - 2	1 - 2	0 - 1	0 - 1	0-4	0-4
PAHs (mg/kg)									
Acenaphthene	0.001	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095	0.028	0.14
Acenaphthylene	0.001	0.0055	0.0055	0.0144	0.0171	0.0164	0.0148	2.9	0.16
Anthracene	0.01	0.0095	0.0228	0.0095	0.0095	0.037	0.035	3	0.77
Benz(a) anthracene	0.1	0.008	0.049	0.0222	0.0285	0.241	0.21	6.2	1
Benzo(a) pyrene	1	0.0125	0.038	0.0125	0.032	0.234	0.194	8.4	1.1
Benzo(b) fluoranthene	0.1	0.0197	0.066	0.058	0.074	0.42	0.35	9.6	1.5
Benzo (g,h,i) perylene	0.1	0.0095	0.034	0.036	0.044	0.214	0.17	6.6	0.46
Benzo(k) fluoranthene	0.1	0.008	0.0297	0.0196	0.0242	0.121	0.113	2.7	0.225
Chrysene	0.001	0.009	0.043	0.009	0.043	0.263	0.223	6.9	0.89
Dibenz (a,h) anthracene	1	0.011	0.011	0.011	0.011	0.044	0.037	1.6	0.235
Fluoranthene	0.001	0.0273	0.111	0.053	0.07	0.53	0.49	12	2.4
Fluorene	0.001	0.00415	0.00415	0.00415	0.00415	0.0104	0.012	0.83	0.16
Indeno (1,2,3-cd) pyrene	0.1	0.006	0.0276	0.0258	0.035	0.171	0.142	5.9	0.28
1-Methyl naphthalene	0.001	0.0075	0.0075	0.0075	0.0075	0.043	0.049	0.047	0.235
2-Methyl naphthalene	0.001	0.0085	0.0085	0.0085	0.0085	0.041	0.05	0.022	0.11
Naphthalene	0.001	0.0065	0.0065	0.0065	0.0065	0.033	0.032	0.039	0.195
Phenanthrene	0.001	0.007	0.049	0.0173	0.0236	0.273	0.271	6.4	1.7
Pyrene	0.001	0.0209	0.086	0.047	0.063	0.43	0.38	11	2.1
BaP_{equiv} (µg/kg)		0.029	0.070	0.040	0.064	0.397	0.331	13.17	1.70
BaP_{equiv} (mg/kg)		0.000029	0.00007	0.00004	0.00006	0.0004	0.00033	0.0132	0.0017
Minimum (mg/kg)			0.00000						
Maximum (mg/kg)			0.1						
Sample Count			47						
Standard Deviation			0.025						
95% Upper Confidence Level			0.007						
Non-Industrial Ingestion RCL			880 µg/kg						
Industrial Ingestion RCL			3,900 µg/kg						

BaP_{equiv} Calculated benzo(a)pyrene equivalent concentration.
 µg/kg Micrograms per kilogram.
 mg/kg Milligrams per kilogram.

ARCADIS

Table 4. Soil Benzo(a)pyrene Equivalent Residual Contaminant Level Calculations and Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10	SB-11
Sample Date	02/20/04	02/20/04	02/20/04	02/20/04	02/20/04	02/20/04	02/20/04	02/20/04	05/27/04
Sample Depth (Feet)	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4
PAHs (mg/kg)									
Acenaphthene	0.014	0.28	0.07	15	0.7	20	3.1	0.7	7.4
Acenaphthylene	0.016	0.32	0.08	0.8	1.9	2.5	0.8	0.8	1.6
Anthracene	0.023	1.04	0.115	29	5.1	49	11	6.2	17
Benzo(a) anthracene	0.04	1.6	0.53	23	11	75	16	11	32
Benzo(a) pyrene	0.045	1.6	0.6	21	14	46	15	11	26
Benzo(b) fluoranthene	0.09	2.3	1	25	16	90	20	13	31
Benzo (g,h,i) perylene	0.016	0.32	0.22	9.2	6.2	30	5.7	3.9	15
Benzo(k) fluoranthene	0.0225	0.45	0.25	9.8	7.8	30	5.2	4.2	14
Chrysene	0.023	1.6	0.64	23	12	68	16	11	30
Dibenz (a,h) anthracene	0.0235	0.47	0.1175	2.9	1.175	9.7	1.175	1.175	2.35
Fluoranthene	0.084	3.8	1.1	50	22	180	33	21	76
Fluorene	0.016	0.32	0.08	19	1.6	25	4.4	1.9	8.7
Indeno (1,2,3-cd) pyrene	0.028	0.56	0.14	9.4	6	32	6.4	4.6	14
1-Methyl naphthalene	0.0235	0.47	0.1175	4.8	1.175	2.7	1.175	1.175	2.35
2-Methyl naphthalene	0.011	0.22	0.055	9.5	0.55	2.9	0.55	0.55	1.1
Naphthalene	0.0195	0.39	0.0975	37	0.975	5	0.975	0.975	1.95
Phenanthrene	0.041	2.2	0.43	59	11	150	24	13	54
Pyrene	0.079	3.4	0.98	45	19	170	29	18	69
BaP_{equiv} (µg/kg)	0.09	2.62	0.94	32.09	20.00	82.52	21.73	15.98	39.37
BaP_{equiv} (mg/kg)	0.0001	0.0026	0.0009	0.0321	0.0200	0.0825	0.0217	0.0160	0.0394
Minimum (mg/kg)	0.00001								
Maximum (mg/kg)	0.12600								
Sample Count	47								
Standard Deviation	0.02470								
95% Upper Confidence Level	0.007								
Non-Industrial Ingestion RCL	880 µg/kg								
Industrial Ingestion RCL	3,900 µg/kg								

BaP_{equiv} Calculated benzo(a)pyrene equivalent concentration.

µg/kg Micrograms per kilogram.

mg/kg Milligrams per kilogram.

ARCADIS

Table 4. Soil Benzo(a)pyrene Equivalent Residual Contaminant Level Calculations and Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	SB-12	SB-13	SB-14	SB-15	SB-16	SB-17	SB-18		SB-19	SB-20
Sample Date	05/27/04	05/27/04	05/27/04	05/27/04	05/27/04	05/27/04	05/27/04	05/27/04	05/27/04	05/27/04
Sample Depth (Feet)	0-4	0-3	0-4	0-4	0-4	0-4	0-4	6.5-7.5	0-4	0-4
PAHs (mg/kg)										
Acenaphthene	18	6.9	0.014	0.014	0.014	0.014	0.014	0.014	0.7	1.3
Acenaphthylene	4	3.6	0.035	0.056	0.016	0.016	0.016	0.069	0.8	0.32
Anthracene	66	23	0.023	0.023	0.053	0.023	0.023	0.023	3	3.8
Benzo(a) anthracene	99	41	0.092	0.14	0.11	0.0165	0.91	0.15	4.2	5.6
Benzo(a) pyrene	80	35	0.11	0.16	0.095	0.0215	0.9	0.26	3.6	5.1
Benzo(b) fluoranthene	94	49	0.17	0.25	0.14	0.021	1.2	0.33	4.2	6.1
Benzo (g,h,i) perylene	43	17	0.016	0.084	0.033	0.016	0.32	0.11	1.6	2.3
Benzo(k) fluoranthene	41	19	0.064	0.091	0.0225	0.0225	0.47	0.1	1.125	2.5
Chrysene	90	40	0.11	0.18	0.11	0.023	0.88	0.16	4.5	5.3
Dibenz (a,h) anthracene	13	5.6	0.0235	0.0235	0.0235	0.0235	0.0235	0.0235	1.175	0.47
Fluoranthene	180	69	0.2	0.32	0.24	0.047	1.9	0.2	11	12
Fluorene	29	8.1	0.016	0.016	0.016	0.016	0.016	0.016	0.8	1.7
Indeno (1,2,3-cd) pyrene	40	17	0.028	0.081	0.028	0.028	0.028	0.11	1.4	2.4
1-Methyl naphthalene	2.35	1.175	0.0235	0.0235	0.0235	0.0235	0.0235	0.0235	1.175	0.47
2-Methyl naphthalene	1.1	0.55	0.011	0.011	0.011	0.011	0.011	0.011	0.55	0.22
Naphthalene	1.95	0.975	0.0195	0.0195	0.0195	0.0195	0.0195	0.0195	0.975	0.39
Phenanthrene	140	53	0.13	0.14	0.15	0.018	1.2	0.1	11	12
Pyrene	170	71	0.2	0.34	0.26	0.05	2	0.26	11	12
BaP_{equiv} (µg/kg)	126.00	55.38	0.17	0.25	0.15	0.06	1.22	0.36	6.10	7.54
BaP_{equiv} (mg/kg)	0.1260	0.0554	0.0002	0.0002	0.0002	0.0001	0.0012	0.0004	0.0061	0.0075
Minimum (mg/kg)	0.00001									
Maximum (mg/kg)	0.12600									
Sample Count	47									
Standard Deviation	0.02470									
95% Upper Confidence Level	0.007									
Non-Industrial Ingestion RCL	880 µg/kg									
Industrial Ingestion RCL	3,900 µg/kg									

BaP_{equiv} Calculated benzo(a)pyrene equivalent concentration.

µg/kg Micrograms per kilogram.

mg/kg Milligrams per kilogram.

ARCADIS

Table 4. Soil Benzo(a)pyrene Equivalent Residual Contaminant Level Calculations and Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	SB-21	SB-22	SB-23	SB-27	SB-28	SB-29	SB-35	SB-36	SB-37	MW-1
Sample Date	05/27/04	05/27/04	05/27/04	01/09/07	01/09/07	01/09/07	01/09/07	01/09/07	01/09/07	08/02/04
Sample Depth (Feet)	0-3	7-8	0-4	3-4	3-4	2-3	3-4	3-4	3-4	18 -20
PAHs (mg/kg)										
Acenaphthene	7.4	0.2	0.014	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.0205
Acenaphthylene	1.6	0.055	0.016	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095	0.021
Anthracene	23	0.57	0.11	0.0055	0.013	0.036	0.0055	0.0055	0.0055	0.017
Benz(a) anthracene	46	0.98	0.42	0.0006	0.029	0.038	0.013	0.006	0.006	0.027
Benzo(a) pyrene	39	0.88	0.43	0.00405	0.023	0.026	0.00405	0.00405	0.00405	0.0295
Benzo(b) fluoranthene	48	1.2	0.65	0.00375	0.038	0.04	0.0098	0.00375	0.00375	0.021
Benzo (g,h,i) perylene	17	0.26	0.14	0.00425	0.021	0.023	0.00425	0.00425	0.00425	0.041
Benzo(k) fluoranthene	20	0.41	0.21	0.007	0.017	0.007	0.007	0.007	0.007	0.0395
Chrysene	44	0.92	0.46	0.01	0.035	0.045	0.01	0.01	0.01	0.019
Dibenz (a,h) anthracene	5.7	0.09	0.057	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.038
Fluoranthene	90	1.6	0.83	0.0081	0.074	0.068	0.021	0.0037	0.0037	0.021
Fluorene	7.8	0.25	0.016	0.00475	0.00475	0.011	0.00475	0.00475	0.00475	0.0205
Indeno (1,2,3-cd) pyrene	17	0.28	0.16	0.00475	0.014	0.013	0.00475	0.00475	0.00475	0.0345
1-Methyl naphthalene	2.35	0.0235	0.0235	0.0055	0.0055	0.059	0.0055	0.0055	0.0055	0.0185
2-Methyl naphthalene	1.1	0.031	0.011	0.006	0.006	0.043	0.006	0.006	0.006	0.036
Naphthalene	1.95	0.04	0.0195	0.0085	0.0085	0.0085	0.0085	0.0085	0.0085	0.02
Phenanthrene	58	1.3	0.39	0.00445	0.033	0.26	0.014	0.00445	0.00445	0.022
Pyrene	91	1.7	0.99	0.0055	0.055	0.068	0.018	0.0055	0.0055	0.029
BaP_{equiv} (µg/kg)	60.04	1.29	0.65	0.01	0.04	0.04	0.01	0.01	0.01	0.08
BaP_{equiv} (mg/kg)	0.0600	0.0013	0.0006	0.00001	0.00004	0.00004	0.00001	0.00001	0.00001	0.0001
Minimum (mg/kg)		0.00001								
Maximum (mg/kg)		0.12600								
Sample Count		47								
Standard Deviation		0.02470								
95% Upper Confidence Level		0.007								
Non-Industrial Ingestion RCL		880 µg/kg								
Industrial Ingestion RCL		3,900 µg/kg								

BaP_{equiv} Calculated benzo(a)pyrene equivalent concentration.

µg/kg Micrograms per kilogram.

mg/kg Milligrams per kilogram.

ARCADIS

Table 4. Soil Benzo(a)pyrene Equivalent Residual Contaminant Level Calculations and Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-12	MW-13	MW-14
Sample Date	08/02/04	08/02/04	08/03/04	08/03/04	08/03/04	08/03/04	08/03/04	08/09/04	08/09/04	08/09/04
Sample Depth (Feet)	12-14	9-11	12-14	13.5-14	15-17	3-5	2-3	4-6	4-6	4-6
PAHs (mg/kg)										
Acenaphthene	0.0205	0.0205	0.0205	0.097	0.0205	0.0205	0.11	1.4	0.0205	0.37
Acenaphthylene	0.021	0.021	0.021	0.021	0.021	0.021	0.31	0.24	0.021	0.021
Anthracene	0.017	0.017	0.017	0.2	0.017	0.017	0.41	5.7	0.017	0.17
Benz(a) anthracene	0.027	0.027	0.027	0.34	0.027	0.027	1.2	11	0.027	0.38
Benzo(a) pyrene	0.0295	0.0295	0.0295	0.32	0.0295	0.0295	1.3	9.7	0.0295	0.38
Benzo(b) fluoranthene	0.021	0.021	0.021	0.41	0.021	0.021	1.8	12	0.021	0.38
Benzo (g,h,i) perylene	0.041	0.041	0.041	0.11	0.041	0.041	0.3	4.6	0.041	0.041
Benzo(k) fluoranthene	0.0395	0.0395	0.0395	0.12	0.0395	0.0395	0.95	4.1	0.0395	0.27
Chrysene	0.019	0.019	0.019	0.33	0.019	0.019	1.5	11	0.019	0.43
Dibenz (a,h) anthracene	0.038	0.038	0.038	0.038	0.038	0.038	0.12	0.63	0.038	0.038
Fluoranthene	0.021	0.021	0.021	0.83	0.021	0.021	3.4	28	0.021	0.8
Fluorene	0.0205	0.0205	0.0205	0.14	0.0205	0.0205	0.17	2.3	0.0205	0.24
Indeno (1,2,3-cd) pyrene	0.0345	0.0345	0.0345	0.13	0.0345	0.0345	0.31	4.3	0.0345	0.074
1-Methyl naphthalene	0.0185	0.0185	0.0185	0.048	0.0185	0.0185	0.041	0.21	0.0185	0.11
2-Methyl naphthalene	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.24	0.036	0.22
Naphthalene	0.02	0.02	0.02	0.31	0.02	0.02	0.078	0.6	0.02	0.18
Phenanthrene	0.01	0.01	0.01	0.75	0.01	0.01	1.4	20	0.021	0.68
Pyrene	0.029	0.029	0.029	0.74	0.029	0.029	3	24	0.029	0.93
	0.08	0.08	0.08	0.47	0.08	0.08	1.89	14.07	0.08	0.54
	0.0001	0.0001	0.0001	0.0005	0.0001	0.0001	0.0019	0.0141	0.0001	0.0005
Minimum (mg/kg)	0.00001									
Maximum (mg/kg)	0.12600									
Sample Count	47									
Standard Deviation	0.02470									
95% Upper Confidence Level	0.007									
Non-Industrial Ingestion RCL	880 µg/kg									
Industrial Ingestion RCL	3,900 µg/kg									

BaP_{equiv} Calculated benzo(a)pyrene equivalent concentration.

µg/kg Micrograms per kilogram.

mg/kg Milligrams per kilogram.

ARCADIS

Table 5. Summary of Soil PCB Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	TSCA High Occupancy	TSCA	AGP-1	AGP-2	HA-1	HA-2	HA-3	HA-4
Sample Date	Cleanup Level/No Further	Regulated	4/16/2009	4/16/2009	4/16/2009	4/16/2009	4/16/2009	4/16/2009
Sample Depth (feet)	Conditions	Waste Limit	0 - 2	0 - 2	1 - 2	1 - 2	0 - 1	0 - 1
PCBs (mg/kg)								
Aroclor 1016	NE	NE	< 0.002	< 0.002	< 0.01	< 0.002	< 0.002	< 0.01
Aroclor 1221	NE	NE	< 0.0049	< 0.0049	< 0.0245	< 0.0049	< 0.0049	< 0.0245
Aroclor 1232	NE	NE	< 0.0072	< 0.0072	< 0.036	< 0.0072	< 0.0072	< 0.036
Aroclor 1242	NE	NE	< 0.0049	< 0.0049	< 0.0245	< 0.0049	< 0.0049	< 0.0245
Aroclor 1248	NE	NE	< 0.0027	< 0.0027	< 0.0135	< 0.0027	0.038	< 0.0135
Aroclor 1254	NE	NE	< 0.005	< 0.005	0.088	< 0.005	< 0.005	0.38
Aroclor 1260	NE	NE	< 0.0028	< 0.0028	< 0.014	< 0.0028	< 0.0028	< 0.014
Total PCBs	NE	50	0.0295	0.0295	0.2105	0.0295	0.0648	0.5025
Total Detected PCBs	≤1	NE	ND	ND	0.088	ND	0.038	0.38

mg/kg Milligrams per kilogram.

ND Not detected.

NE Not established.

PCB Polychlorinated Biphenyls.

TSCA Toxic Substance Control Act.

ARCADIS

Table 5. Summary of Soil PCB Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	MW-8	MW-14	SB-6	SB-7	SB-8	SB-9
Sample Date	8/9/2004	8/9/2004	2/20/2004	2/20/2004	2/20/2004	2/20/2004
Sample Depth (feet)	2 - 3	4 - 6	0 - 4	0 - 4	0 - 4	0 - 4
PCBs (mg/kg)						
Aroclor 1016	< 0.061	< 0.1	< 0.0158	< 0.0146	< 0.00299	< 0.00312
Aroclor 1221	< 0.061	< 0.1	< 0.0316	< 0.0293	< 0.00597	< 0.00624
Aroclor 1232	< 0.061	< 0.1	< 0.0548	< 0.0507	< 0.0103	< 0.0108
Aroclor 1242	< 0.061	< 0.1	< 0.0122	< 0.0113	< 0.0023	< 0.0024
Aroclor 1248	< 0.061	< 0.1	< 0.0377	< 0.0349	< 0.00712	< 0.00744
Aroclor 1254	< 0.061	0.26	< 0.0548	< 0.101	< 0.0207	< 0.054
Aroclor 1260	< 0.061	< 0.1	< 0.0852	< 0.0788	< 0.0322	< 0.084
Total PCBs	0.427	0.86	0.2921	0.3206	0.08158	0.16800
Total Detected PCBs	ND	0.26	ND	ND	ND	ND

mg/kg Milligrams per kilogram.
 ND Not detected.
 NE Not established.
 PCB Polychlorinated Biphenyls.
 TSCA Toxic Substance Control Act.

ARCADIS

Table 6. Summary of Soil Metal Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	NR 720	NR 720	AGP-1	AGP-2	HA-1	HA-2	HA-3	HA-4	SB-6	SB-7
Sample Date	Non-Industrial	Industrial	4/16/2009	4/16/2009	4/16/2009	4/16/2009	4/16/2009	4/16/2009	2/20/2004	2/20/2004
Sample Depth (feet)	RCL	RCL	0 - 2	0 - 2	1 - 2	1 - 2	0 - 1	0 - 1	0 - 4	0 - 4
Metals (mg/kg)										
Arsenic	0.039	1.6	2.9	2.5	<i>1.3</i>	2.4	4.7	3.8	< 3	3.06
Barium	NE	NE	74	99	31	30	101	64	69	42.6
Cadmium	8	510	< 0.037	< 0.037	< 0.037	< 0.037	0.63	0.42	< 0.6	< 0.6
Chromium	16,000	NE	31	38	15	14	26	18	19.6	8.99
Lead	50	500	18	12	11	11	69	46	62.4	32.1
Mercury	NE	NE	0.039	0.036	0.014 J	0.014 J	0.064	0.047	0.08	0.137
Selenium	NE	NE	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 3	< 3
Silver	NE	NE	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 3	< 3

Italic Concentration exceeds NR 720 Wis. adm. code non-industrial residual contaminant level.

BOLD Concentration exceeds NR 720 Wis. adm. code industrial residual contaminant level.

J Estimated.

mg/kg Milligrams per kilogram.

NE Not established.

ARCADIS

Table 6. Summary of Soil Metal Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Sample ID	SB-8	SB-9	SB-12	SB-18	SB-22
Sample Date	2/20/2004	2/20/2004	5/27/2004	5/27/2004	5/27/2004
Sample Depth (feet)	0 - 4	0 - 4	0 - 4	6.5 - 7.5	7 - 8
Metals (mg/kg)					
Arsenic	< 3	3.18	4	1.1	7.1
Barium	34.3	54.2	42	1.1	36
Cadmium	< 0.6	< 0.6	0.67	< 0.25	0.95
Chromium	9.95	16.8	10	2.6	8.2
Lead	41.3	65.4	19	< 0.25	26
Mercury	0.1957	0.047	0.031	< 0.02	0.055
Selenium	< 3	< 3	< 0.5	0.84	< 0.5
Silver	< 3	< 3	< 0.25	< 0.25	< 0.25

Italic Concentration exceeds NR 720 Wis. adm. code non-industrial residual contaminant level.

BOLD Concentration exceeds NR 720 Wis. adm. code industrial residual contaminant level.

J Estimated.

mg/kg Milligrams per kilogram.

NE Not established.

ARCADIS

Table 7. Groundwater VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID Sample Date	Preventive Action Limit	Enforcement Standard	MW-1				MW-2		MW-2R
			8/23/2004	5/10/2005	5/12/2009	8/18/2009	8/23/2004	5/10/2005	5/15/2009
VOC (ug/L)									
1,1,1-Trichloroethane	40	200	< 0.16	< 0.42	< 0.46	< 0.46	< 0.16	< 0.42	< 0.46
1,1-Dichloroethane	85	850	< 0.3	< 0.91	< 0.44	< 0.44	< 0.3	< 0.91	< 0.44
1,2,4-Trimethylbenzene	NE	NE	< 0.51	< 0.32	< 1.1	< 1.1	< 0.51	< 0.32	< 1.1
1,3,5-Trimethylbenzene	NE	NE	< 0.66	< 0.83	< 1.5	< 1.5	< 0.66	< 0.83	< 1.5
Total Trimethylbenzenes	96	480	< 1.17	< 1.15	< 2.6	< 2.6	< 1.17	< 1.15	< 2.6
Benzene	0.5	5	0.61 J	0.47 J	0.44 J	0.41 J	< 0.29	< 0.26	< 0.41
Chloroform	0.6	6	< 0.25	< 0.78	< 1.48	< 0.48	< 0.25	< 0.78	< 1.48
Chloromethane	0.3	3	NA	NA	< 0.5	< 0.5	NA	NA	< 0.5
cis-1,2-Dichloroethene	7	70	< 0.29	< 0.27	< 0.68	< 0.68	< 0.29	< 0.27	< 0.68
Ethylbenzene	140	700	< 0.56	< 0.3	< 0.87	< 0.87	< 0.56	< 0.3	< 0.87
Isopropylbenzene	NE	NE	< 0.19	< 0.56	< 0.39	< 0.39	< 0.19	< 0.56	< 0.39
Methyl tert-butyl ether	12	60	< 0.2	< 0.36	< 0.5	< 0.5	< 0.2	< 0.36	< 0.5
Naphthalene	10	100	3.2	2.52 J	5.2 J	4.6 J	< 0.6	< 0.85	< 1.7
n-Butylbenzene	NE	NE	< 0.39	< 0.61	< 1.5	< 1.5	< 0.39	< 0.61	< 1.5
n-Propyl benzene	NE	NE	< 0.32	< 0.56	< 0.33	< 0.33	< 0.32	< 0.56	< 0.33
p-Isopropyltoluene	NE	NE	< 0.3	< 0.5	< 0.57	< 0.57	< 0.3	< 0.5	< 0.57
sec-Butylbenzene	NE	NE	< 0.21	< 0.25	< 0.43	< 0.43	< 0.21	< 0.25	< 0.43
Toluene	200	1,000	< 0.57	< 0.52	< 0.51	< 0.51	< 0.57	< 0.52	< 0.51
Trichloroethene	0.5	5	< 0.27	< 0.37	< 0.39	< 0.39	< 0.27	< 0.37	< 0.39
Trichlorofluoromethane	698	3,490	< 0.22	< 0.48	< 0.72	< 0.72	< 0.22	< 0.48	< 0.72
Xylenes	1,000	10,000	< 0.64	< 0.79	< 2.13	< 2.13	< 0.64	< 0.79	< 2.13

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

J Estimated result.

µg/L Microgram per liter.

NA Not analyzed.

NE Not established.

VOC Volatile Organic Compounds.

ARCADIS

Table 7. Groundwater VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID Sample Date	MW-2R (continued)		MW-3			MW-4		
	8/20/2009	8/23/2004	5/10/2005	5/13/2009	8/19/2009	8/23/2004	5/10/2005	5/13/2009
VOC (ug/L)								
1,1,1-Trichloroethane	< 0.46	< 0.16	< 0.42	< 0.46	< 0.46	< 0.16	< 0.42	< 0.46
1,1-Dichloroethane	< 0.44	< 0.3	< 0.91	< 0.44	< 0.44	< 0.3	< 0.91	< 0.44
1,2,4-Trimethylbenzene	< 1.1	< 0.51	< 0.32	< 1.1	< 1.1	< 0.51	0.39 J	< 1.1
1,3,5-Trimethylbenzene	< 1.5	< 0.66	< 0.83	< 1.5	< 1.5	< 0.66	< 0.83	< 1.5
Total Trimethylbenzenes	< 2.6	< 1.17	< 1.15	< 2.6	< 2.6	< 1.17	1.22 J	< 2.6
Benzene	< 0.41	< 0.29	< 0.26	< 0.41	< 0.41	1.4	0.79 J	3.8
Chloroform	< 0.48	< 0.25	< 0.78	< 1.48	< 0.48	< 0.25	< 0.78	< 1.48
Chloromethane	< 0.5	NA	NA	< 0.5	< 0.5	NA	NA	< 0.5
cis-1,2-Dichloroethene	< 0.68	< 0.29	< 0.27	< 0.68	< 0.68	0.32 J	0.39 J	< 0.68
Ethylbenzene	< 0.87	< 0.56	< 0.3	< 0.87	< 0.87	< 0.56	< 0.3	< 0.87
Isopropylbenzene	< 0.39	< 0.19	< 0.56	< 0.39	< 0.39	< 0.19	< 0.56	< 0.39
Methyl tert-butyl ether	< 0.5	< 0.2	< 0.36	< 0.5	< 0.5	< 0.2	< 0.36	< 0.5
Naphthalene	< 1.7	< 0.6	< 0.85	< 1.7	< 1.7	8.4	4.1	< 1.7
n-Butylbenzene	< 1.5	< 0.39	< 0.61	< 1.5	< 1.5	< 0.39	< 0.61	< 1.5
n-Propyl benzene	< 0.33	< 0.32	< 0.56	< 0.33	< 0.33	< 0.32	< 0.56	< 0.33
p-Isopropyltoluene	< 0.57	< 0.3	< 0.5	< 0.57	< 0.57	< 0.3	< 0.5	< 0.57
sec-Butylbenzene	< 0.43	< 0.21	< 0.25	< 0.43	< 0.43	< 0.21	< 0.25	< 0.43
Toluene	< 0.51	< 0.57	< 0.52	< 0.51	< 0.51	1.25 J	1.16 J	1.88
Trichloroethene	< 0.39	< 0.27	< 0.37	< 0.39	< 0.39	0.37 J	0.53 J	< 0.39
Trichlorofluoromethane	< 0.72	< 0.22	< 0.48	< 0.72	< 0.72	< 0.22	< 0.48	< 0.72
Xylenes	< 2.13	< 0.64	< 0.79	< 2.13	< 2.13	< 0.64	0.51 J	< 2.13

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

J Estimated result.

µg/L Microgram per liter.

NA Not analyzed.

NE Not established.

VOC Volatile Organic Compounds.

ARCADIS

Table 7. Groundwater VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-4 (continued)		MW-5		MW-5 (DUP)		MW-5 (DUP)	MW-6
Sample Date	8/18/2009	8/23/2004	5/10/2005	5/14/2009	5/14/2009	8/19/2009	8/19/2009	8/23/2004
VOC (ug/L)								
1,1,1-Trichloroethane	< 0.46	< 0.16	< 0.42	< 0.46	< 0.46	< 0.46	< 0.46	< 0.16
1,1-Dichloroethane	< 0.44	< 0.3	< 0.91	< 0.44	< 0.44	< 0.44	< 0.44	< 0.3
1,2,4-Trimethylbenzene	< 1.1	0.61 J	0.65 J	< 1.1	< 1.1	< 1.1	< 1.1	0.71 J
1,3,5-Trimethylbenzene	< 1.5	< 0.66	< 0.83	< 1.5	< 1.5	< 1.5	< 1.5	< 0.66
Total Trimethylbenzenes	< 2.6	1.27 J	1.48 J	< 2.6	< 2.6	< 2.6	< 2.6	1.37 J
Benzene	2.48	1.8	1.6	1.88	1.85	2.04	1.92	1.6
Chloroform	< 0.48	< 0.25	< 0.78	< 1.48	< 1.48	< 0.48	< 0.48	< 0.25
Chloromethane	< 0.5	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	NA
cis-1,2-Dichloroethene	< 0.68	< 0.29	< 0.27	< 0.68	< 0.68	< 0.68	< 0.68	< 0.29
Ethylbenzene	< 0.87	< 0.56	0.31 J	< 0.87	< 0.87	< 0.87	< 0.87	1.03 J
Isopropylbenzene	< 0.39	< 0.19	< 0.56	< 0.39	< 0.39	< 0.39	< 0.39	< 0.19
Methyl tert-butyl ether	< 0.5	0.2	< 0.36	< 0.5	< 0.5	< 0.5	< 0.5	0.29 J
Naphthalene	1.72 J	31	34	22.5	22.5	28.5	23.2	16
n-Butylbenzene	< 1.5	< 0.39	< 0.61	< 1.5	< 1.5	< 1.5	< 1.5	< 0.39
n-Propyl benzene	< 0.33	< 0.32	< 0.56	< 0.33	< 0.33	< 0.33	< 0.33	< 0.32
p-Isopropyltoluene	< 0.57	0.52 J	< 0.5	< 0.57	< 0.57	< 0.57	< 0.57	< 0.3
sec-Butylbenzene	< 0.43	< 0.21	< 0.25	< 0.43	< 0.43	< 0.43	< 0.43	< 0.21
Toluene	1.41 J	1.26 J	1.24 J	1.38 J	1.37 J	1.15 J	1.27 J	1.9
Trichloroethene	< 0.39	0.42 J	< 0.37	< 0.39	< 0.39	< 0.39	< 0.39	< 0.27
Trichlorofluoromethane	< 0.72	< 0.22	< 0.48	< 0.72	< 0.72	< 0.72	< 0.72	< 0.22
Xylenes	< 2.13	0.66 J	0.77 J	0.55 J	0.57 J	< 2.13	0.54 J	6.7

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

J Estimated result.

µg/L Microgram per liter.

NA Not analyzed.

NE Not established.

VOC Volatile Organic Compounds.

ARCADIS

Table 7. Groundwater VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID Sample Date	MW-6 (continued)			MW-7		MW-7R		MW-8	
	5/10/2005	5/14/2009	8/20/2009	8/23/2004	5/10/2005	5/12/2009	8/18/2009	8/23/2004	5/10/2005
VOC (ug/L)									
1,1,1-Trichloroethane	< 0.42	< 0.46	< 0.46	< 0.16	< 0.42	< 0.46	< 0.46	< 0.16	< 0.42
1,1-Dichloroethane	< 0.91	< 0.44	< 0.44	< 0.3	< 0.91	< 0.44	< 0.44	< 0.3	< 0.91
1,2,4-Trimethylbenzene	0.73 J	< 1.1	1.23 J	< 0.51	< 0.32	< 1.1	< 1.1	< 0.51	< 0.32
1,3,5-Trimethylbenzene	< 0.83	< 1.5	< 1.5	< 0.66	< 0.83	< 1.5	< 1.5	< 0.66	< 0.83
Total Trimethylbenzenes	1.56 J	< 2.6	2.73 J	< 1.17	< 1.15	< 2.6	< 2.6	< 1.17	< 1.15
Benzene	1.4	1.34	1.39	< 0.29	< 0.26	< 0.41	< 0.41	< 0.29	< 0.26
Chloroform	< 0.78	< 1.48	< 0.48	< 0.25	< 0.78	< 1.48	< 0.48	< 0.25	< 0.78
Chloromethane	NA	< 0.5	1.73	NA	NA	< 0.5	< 0.5	NA	NA
cis-1,2-Dichloroethene	< 0.27	< 0.68	< 0.68	< 0.29	< 0.27	< 0.68	< 0.68	< 0.29	< 0.27
Ethylbenzene	0.97	1.81 J	2.24 J	< 0.56	< 0.3	< 0.87	< 0.87	< 0.56	< 0.3
Isopropylbenzene	< 0.56	< 0.39	< 0.39	< 0.19	< 0.56	< 0.39	< 0.39	< 0.19	< 0.56
Methyl tert-butyl ether	< 0.36	< 0.5	< 0.5	< 0.2	< 0.36	< 0.5	< 0.5	0.46 J	0.4 J
Naphthalene	19	10.8	15.6	< 0.6	< 0.85	< 1.7	< 1.7	< 0.6	< 0.85
n-Butylbenzene	< 0.61	< 1.5	< 1.5	< 0.39	< 0.61	< 1.5	< 1.5	< 0.39	< 0.61
n-Propyl benzene	< 0.56	< 0.33	< 0.33	< 0.32	< 0.56	< 0.33	< 0.33	< 0.32	< 0.56
p-Isopropyltoluene	< 0.5	< 0.57	< 0.57	< 0.3	< 0.5	< 0.57	< 0.57	< 0.3	< 0.5
sec-Butylbenzene	< 0.25	< 0.43	< 0.43	< 0.21	< 0.25	< 0.43	< 0.43	< 0.21	< 0.25
Toluene	1.6	1.44 J	1.78	< 0.57	< 0.52	< 0.51	< 0.51	< 0.57	< 0.52
Trichloroethene	< 0.37	< 0.39	< 0.39	< 0.27	< 0.37	< 0.39	< 0.39	< 0.27	< 0.37
Trichlorofluoromethane	< 0.48	< 0.72	< 0.72	< 0.22	< 0.48	< 0.72	< 0.72	< 0.22	< 0.48
Xylenes	6.2	11.7	14.7	< 0.64	< 0.79	< 2.13	< 2.13	< 0.64	< 0.79

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

J Estimated result.

µg/L Microgram per liter.

NA Not analyzed.

NE Not established.

VOC Volatile Organic Compounds.

ARCADIS

Table 7. Groundwater VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID Sample Date	MW-8R		MW-9				MW-10		
	5/15/2009	8/20/2009	8/23/2004	5/10/2005	5/13/2009	8/19/2009	8/23/2004	5/10/2005	5/14/2009
VOC (ug/L)									
1,1,1-Trichloroethane	< 0.46	< 0.46	< 0.16	< 0.42	< 0.46	< 0.46	< 0.16	< 0.42	< 0.46
1,1-Dichloroethane	1.06 J	0.48 J	0.3	< 0.91	< 0.44	< 0.44	< 0.3	< 0.91	< 0.44
1,2,4-Trimethylbenzene	< 1.1	< 1.1	< 0.51	< 0.32	< 1.1	< 1.1	< 0.51	< 0.32	< 1.1
1,3,5-Trimethylbenzene	< 1.5	< 1.5	< 0.66	< 0.83	< 1.5	< 1.5	< 0.66	< 0.83	< 1.5
Total Trimethylbenzenes	2.6	2.6	1.17	< 1.15	< 2.6	< 2.6	< 1.17	< 1.15	< 2.6
Benzene	< 0.41	< 0.41	< 0.29	< 0.26	< 0.41	< 0.41	< 0.29	< 0.26	< 0.41
Chloroform	< 1.48	< 0.48	< 0.25	< 0.78	< 1.48	< 0.48	< 0.25	< 0.78	< 1.48
Chloromethane	< 0.5	0.55 J	NA	NA	< 0.5	< 0.5	NA	NA	< 0.5
cis-1,2-Dichloroethene	< 0.68	< 0.68	< 0.29	< 0.27	< 0.68	< 0.68	< 0.29	< 0.27	< 0.68
Ethylbenzene	< 0.87	< 0.87	< 0.56	< 0.3	< 0.87	< 0.87	< 0.56	< 0.3	< 0.87
Isopropylbenzene	< 0.39	< 0.39	< 0.19	< 0.56	< 0.39	< 0.39	< 0.19	< 0.56	< 0.39
Methyl tert-butyl ether	< 0.5	< 0.5	< 0.2	< 0.36	< 0.5	< 0.5	< 0.2	< 0.36	< 0.5
Naphthalene	< 1.7	< 1.7	< 0.6	< 0.85	< 1.7	< 1.7	< 0.6	< 0.85	< 1.7
n-Butylbenzene	< 1.5	< 1.5	< 0.39	< 0.61	< 1.5	< 1.5	< 0.39	< 0.61	< 1.5
n-Propyl benzene	< 0.33	< 0.33	< 0.32	< 0.56	< 0.33	< 0.33	< 0.32	< 0.56	< 0.33
p-Isopropyltoluene	< 0.57	< 0.57	< 0.3	< 0.5	< 0.57	< 0.57	< 0.3	< 0.5	< 0.57
sec-Butylbenzene	< 0.43	< 0.43	< 0.21	< 0.25	< 0.43	< 0.43	< 0.21	< 0.25	< 0.43
Toluene	< 0.51	< 0.51	< 0.57	< 0.52	< 0.51	< 0.51	< 0.57	< 0.52	< 0.51
Trichloroethene	< 0.39	< 0.39	< 0.27	< 0.37	< 0.39	< 0.39	< 0.27	< 0.37	< 0.39
Trichlorofluoromethane	0.79 J	< 0.72	< 0.22	< 0.48	< 0.72	< 0.72	< 0.22	< 0.48	< 0.72
Xylenes	< 2.13	< 2.13	< 0.64	< 0.79	< 2.13	< 2.13	< 0.64	< 0.79	< 2.13

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

J Estimated result.

µg/L Microgram per liter.

NA Not analyzed.

NE Not established.

VOC Volatile Organic Compounds.

ARCADIS

Table 7. Groundwater VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-10 (continued)		MW-11		MW-11R		MW-12	
Sample Date	8/19/2009	8/23/2004	5/10/2005	5/10/2005	5/12/2009	8/18/2009	8/23/2004	5/10/2005
VOC (ug/L)								
1,1,1-Trichloroethane	< 0.46	< 0.16	< 0.42	< 0.42	< 0.46	< 0.46	< 0.16	< 0.42
1,1-Dichloroethane	< 0.44	< 0.3	< 0.91	< 0.91	< 0.44	< 0.44	< 0.3	< 0.91
1,2,4-Trimethylbenzene	< 1.1	< 0.51	< 0.32	< 0.32	< 1.1	< 1.1	< 0.51	< 0.32
1,3,5-Trimethylbenzene	< 1.5	< 0.66	< 0.83	< 0.83	< 1.5	< 1.5	< 0.66	< 0.83
Total Trimethylbenzenes	< 2.6	< 1.17	< 1.15	< 1.15	< 2.6	< 2.6	< 1.17	< 1.15
Benzene	< 0.41	< 0.29	< 0.26	< 0.26	< 0.41	1.39	1.8	1.8
Chloroform	< 0.48	< 0.25	1.78 J	1.73 J	< 1.48	< 0.48	< 0.25	< 0.78
Chloromethane	< 0.5	NA	NA	NA	< 0.5	< 0.5	NA	NA
cis-1,2-Dichloroethene	< 0.68	< 0.29	< 0.27	< 0.27	< 0.68	< 0.68	< 0.29	< 0.27
Ethylbenzene	< 0.87	< 0.56	< 0.3	< 0.3	< 0.87	< 0.87	< 0.56	< 0.3
Isopropylbenzene	< 0.39	< 0.19	< 0.56	< 0.56	< 0.39	< 0.39	< 0.19	< 0.56
Methyl tert-butyl ether	< 0.5	< 0.2	< 0.36	< 0.36	< 0.5	< 0.5	< 0.2	< 0.36
Naphthalene	< 1.7	< 0.6	< 0.85	< 0.85	< 1.7	2.08 J	21	16
n-Butylbenzene	< 1.5	< 0.39	< 0.61	< 0.61	< 1.5	< 1.5	< 0.39	< 0.61
n-Propyl benzene	< 0.33	< 0.32	< 0.56	< 0.56	< 0.33	< 0.33	< 0.32	< 0.56
p-Isopropyltoluene	< 0.57	< 0.3	< 0.5	< 0.5	< 0.57	< 0.57	< 0.3	< 0.5
sec-Butylbenzene	< 0.43	< 0.21	< 0.25	< 0.25	< 0.43	< 0.43	< 0.21	< 0.25
Toluene	< 0.51	< 0.57	< 0.52	< 0.52	< 0.51	0.65 J	0.59 J	< 0.52
Trichloroethene	< 0.39	< 0.27	< 0.37	< 0.37	< 0.39	< 0.39	0.32 J	< 0.37
Trichlorofluoromethane	< 0.72	< 0.22	< 0.48	< 0.48	< 0.72	< 0.72	< 0.22	< 0.48
Xylenes	< 2.13	< 0.64	< 0.79	< 0.79	< 2.13	< 2.13	< 0.64	< 0.79

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

J Estimated result.

µg/L Microgram per liter.

NA Not analyzed.

NE Not established.

VOC Volatile Organic Compounds.

ARCADIS

Table 7. Groundwater VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-12 (continued)		MW-13				MW-14		
	5/14/2009	8/19/2009	8/23/2004	5/10/2005	5/13/2009	8/18/2009	8/23/2004	5/10/2005	5/14/2009
VOC (ug/L)									
1,1,1-Trichloroethane	< 0.46	< 0.46	3.3	6.2	4.3	4.1	< 0.16	< 0.42	< 0.46
1,1-Dichloroethane	< 0.44	< 0.44	< 0.3	< 0.91	< 0.44	< 0.44	< 0.3	< 0.91	< 0.44
1,2,4-Trimethylbenzene	< 1.1	< 1.1	< 0.51	< 0.32	< 1.1	< 1.1	7.8	13	4.8
1,3,5-Trimethylbenzene	< 1.5	< 1.5	< 0.66	< 0.83	< 1.5	< 1.5	2.05 J	3	< 1.5
Total Trimethylbenzenes	< 2.6	< 2.6	1.17	1.15	2.6	2.6	9.85 J	16	6.3
Benzene	< 0.41	< 0.41	< 0.29	< 0.26	< 0.41	< 0.41	1.2	1.2	0.68 J
Chloroform	< 1.48	< 0.48	< 0.25	< 0.78	< 1.48	< 0.48	< 0.25	< 0.78	< 1.48
Chloromethane	< 0.5	< 0.5	NA	NA	< 0.5	< 0.5	NA	NA	< 0.5
cis-1,2-Dichloroethene	< 0.68	< 0.68	< 0.29	< 0.27	< 0.68	< 0.68	< 0.29	< 0.27	< 0.68
Ethylbenzene	< 0.87	< 0.87	< 0.56	< 0.3	< 0.87	< 0.87	3.2	5.6	2 J
Isopropylbenzene	< 0.39	< 0.39	< 0.19	< 0.56	< 0.39	< 0.39	1	1.9	0.73 J
Methyl tert-butyl ether	< 0.5	< 0.5	< 0.2	< 0.36	< 0.5	< 0.5	< 0.2	< 0.36	< 0.5
Naphthalene	< 1.7	4 J	0.62 J	< 0.85	< 1.7	< 1.7	17	28	15
n-Butylbenzene	< 1.5	< 1.5	< 0.39	< 0.61	< 1.5	< 1.5	0.49 J	0.72 J	< 1.5
n-Propyl benzene	< 0.33	< 0.33	< 0.32	< 0.56	< 0.33	< 0.33	1.4	2.4	1.21
p-Isopropyltoluene	< 0.57	< 0.57	< 0.3	< 0.5	< 0.57	< 0.57	0.44 J	0.79 J	< 0.57
sec-Butylbenzene	< 0.43	< 0.43	< 0.21	< 0.25	< 0.43	< 0.43	0.53 J	0.91	0.59 J
Toluene	< 0.51	< 0.51	< 0.57	< 0.52	< 0.51	< 0.51	5.3	6	3.5
Trichloroethene	< 0.39	< 0.39	< 0.27	< 0.37	< 0.39	< 0.39	< 0.27	< 0.37	< 0.39
Trichlorofluoromethane	< 0.72	< 0.72	< 0.22	< 0.48	< 0.72	< 0.72	< 0.22	< 0.48	< 0.72
Xylenes	< 2.13	< 2.13	< 0.64	< 0.79	< 2.13	< 2.13	12.3	19.4	6.61 J

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

- J Estimated result.
- µg/L Microgram per liter.
- NA Not analyzed.
- NE Not established.
- VOC Volatile Organic Compounds.

ARCADIS

Table 7. Groundwater VOC Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-14 (continued)		MW-15		MW-16		
Sample Date	8/19/2009	2/12/2007	5/12/2009	8/17/2009	2/12/2007	5/12/2009	8/17/2009
VOC (ug/L)							
1,1,1-Trichloroethane	< 0.46	< 0.5	< 0.46	< 0.46	< 0.5	< 0.46	< 0.46
1,1-Dichloroethane	< 0.44	< 0.56	< 0.44	< 0.44	< 0.56	< 0.44	< 0.44
1,2,4-Trimethylbenzene	5.6	< 4.2	< 1.1	< 1.1	< 4.2	< 1.1	< 1.1
1,3,5-Trimethylbenzene	< 1.5	< 0.37	< 1.5	< 1.5	< 0.37	< 1.5	< 1.5
Total Trimethylbenzenes	7.1	< 4.57	< 2.6	< 2.6	< 4.57	< 2.6	< 2.6
Benzene	1.35	< 0.47	< 0.41	< 0.41	< 0.47	< 0.41	< 0.41
Chloroform	< 0.48	< 0.48	< 1.48	< 0.48	< 0.48	< 1.48	< 0.48
Chloromethane	< 0.5	NA	< 0.5	< 0.5	NA	< 0.5	< 0.5
cis-1,2-Dichloroethene	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68
Ethylbenzene	1.93 J	< 0.38	< 0.87	< 0.87	< 0.38	< 0.87	< 0.87
Isopropylbenzene	0.76 J	< 0.48	< 0.39	< 0.39	< 0.48	< 0.39	< 0.39
Methyl tert-butyl ether	< 0.5	< 0.52	< 0.5	< 0.5	< 0.52	< 0.5	< 0.5
Naphthalene	17.6	< 1.8	< 1.7	< 1.7	< 1.8	< 1.7	< 1.7
n-Butylbenzene	< 1.5	< 0.52	< 1.5	< 1.5	< 0.52	< 1.5	< 1.5
n-Propyl benzene	1.01	< 0.38	< 0.33	< 0.33	< 0.38	< 0.33	< 0.33
p-Isopropyltoluene	< 0.57	< 0.35	< 0.57	< 0.57	< 0.35	< 0.57	< 0.57
sec-Butylbenzene	0.54 J	< 0.36	< 0.43	< 0.43	< 0.36	< 0.43	< 0.43
Toluene	6.1	< 0.46	< 0.51	< 0.51	< 0.46	< 0.51	< 0.51
Trichloroethene	< 0.39	< 0.44	< 0.39	< 0.39	< 0.44	< 0.39	< 0.39
Trichlorofluoromethane	< 0.72	< 0.61	< 0.72	< 0.72	< 0.61	< 0.72	< 0.72
Xylenes	7.82 J	< 0.67	< 2.13	< 2.13	< 0.67	< 2.13	< 2.13

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

J Estimated result.

µg/L Microgram per liter.

NA Not analyzed.

NE Not established.

VOC Volatile Organic Compounds.

ARCADIS

Table 8. Groundwater pH Results, 67th Place Industrial Park, West Allis, Wisconsin.

Well	Preventive Action Limit	MW-1				MW-2R		MW-3			
		02/23/09	04/03/09	05/12/09	08/18/09	05/15/09	08/20/09	02/23/09	04/03/09	05/13/09	08/19/09
pH	5.5-9.1	12.6	12.6	12.78	12.94	6.95	7.11	6.9	7.5	7.26	7.61

12.6 Concentration exceeds the NR 140 Wis. Adm. Code preventive action limit.

ARCADIS

Table 8. Groundwater pH Results, 67th Place Industrial Park, West Allis, Wisconsin.

Well	Preventive	MW-4				MW-5			MW-6			
Sample Date	Action Limit	02/23/09	04/03/09	05/13/09	08/18/19	02/23/09	05/14/09	08/19/09	02/23/09	04/03/09	05/14/09	08/20/09
pH	5.5-9.1	9.2	9.2	9.28	12.16	11.8	12.66	12.39	12.3	12.9	12.75	12.24

Italic Concentration exceeds the NR 140 Wis. Adm. Code preventive action limit.

ARCADIS

Table 8. Groundwater pH Results, 67th Place Industrial Park, West Allis, Wisconsin.

Well	Preventive Action Limit	MW-7R		MW-8R		MW-9				MW-10			
		05/12/09	08/18/09	05/15/09	08/20/09	02/23/09	04/03/09	05/13/09	08/19/09	02/23/09	04/03/09	05/14/09	08/19/09
pH	5.5-9.1	6.61	6.97	7.53	7.58	6.5	6.9	7.14	7.1	6.8	8.3	6.82	7.21

Italic Concentration exceeds the NR 140 Wis. Adm. Code preventive action limit.

ARCADIS

Table 8. Groundwater pH Results, 67th Place Industrial Park, West Allis, Wisconsin.

Well	Preventive	MW-11R		MW-12				MW-13				MW-14	
Sample Date	Action Limit	05/12/09	08/18/09	02/23/09	04/03/09	05/14/09	08/19/09	02/23/09	04/03/09	05/13/09	08/18/09	02/23/09	04/03/09
pH	5.5-9.1	12.39	12.57	6.9	8.3	7.83	9.61	6.8	7.6	7.11	7.19	12.5	13.1

12.39 Concentration exceeds the NR 140 Wis. Adm. Code preventive action limit.

ARCADIS

Table 8. Groundwater pH Results, 67th Place Industrial Park, West Allis, Wisconsin.

Well	Preventive Action Limit	MW-14 (continued)		MW-15					MW-16				
		05/14/09	08/19/09	02/23/09	03/17/09	04/03/09	05/12/09	08/17/09	02/23/09	03/17/09	04/03/09	05/12/09	08/17/09
pH	5.5-9.1	12.66	12.51	8.1	8.1	7.9	7.72	8	8.1	8.1	7.9	7.76	7.92

12.66 Concentration exceeds the NR 140 Wis. Adm. Code preventive action limit.

ARCADIS

Table 9. Groundwater PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	Preventive Action Limit	Enforcement Standard	MW-1				MW-2	
			8/23/2004	5/10/2005	5/12/2009	8/18/2009	8/23/2004	5/10/2005
PAH (ug/L)								
1-Methylnaphthalene	NE	NE	0.44	0.041 J	0.56	0.45	< 0.26	< 1.8
2-Methylnaphthalene	NE	NE	0.46	0.048 J	0.47	0.36	< 0.3	< 2.1
Acenaphthene	NE	NE	0.35	0.075	0.86	0.62	0.6 J	9.7
Acenaphthylene	NE	NE	0.059	< 0.012	0.047	0.054	0.5 J	4.4
Anthracene	600	3000	0.15	0.023 J	0.301	0.297	1.7	18
Benzo(a)anthracene	NE	NE	0.17	< 0.012	0.052 J	0.02 J	6.4	80
Benzo(a)pyrene	0.02	0.2	0.17	< 0.008	0.016 J	< 0.014	8.6	96
Benzo(b)fluoranthene	0.02	0.2	0.29	< 0.009	0.03 J	< 0.018	13	127
Benzo(g,h,i)perylene	NE	NE	0.21	< 0.01	< 0.018	< 0.018	6.8	50
Benzo(k)fluoranthene	NE	NE	0.12	< 0.009	< 0.029	< 0.029	3.7	46
Chrysene	0.02	0.2	0.22	< 0.011	0.024 J	< 0.01	7.9	86
Dibenzo(a,h)anthracene	NE	NE	< 0.037	< 0.009	< 0.019	< 0.019	< 0.37	9.2
Fluoranthene	80	400	0.55	0.022 J	0.4	0.24	16	219
Fluorene	80	400	0.29	0.064	0.55	0.46	0.4 J	5.8
Indeno(1,2,3-cd)pyrene	NE	NE	< 0.021	< 0.015	< 0.019	< 0.019	5.6	56
Naphthalene	10	100	2.1	0.24	3.05	2.94	< 0.26	< 2.8
Phenanthrene	NE	NE	0.84	0.11	1.31	1.03	3.2	40
Pyrene	50	250	0.42	0.04 J	0.241	0.137	13	164

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

PAH Polycyclic Aromatic Hydrocarbons.

ARCADIS

Table 9. Groundwater PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-2R		MW-3				MW-4		
	5/15/2009	8/20/2009	8/23/2004	5/10/2005	5/13/2009	8/19/2009	8/23/2004	5/10/2005	5/13/2009
PAH (ug/L)									
1-Methylnaphthalene	< 0.013	< 0.013	0.027 J	< 0.018	< 0.013	< 0.013	0.76	0.31	0.066
2-Methylnaphthalene	< 0.019	< 0.019	0.059 J	< 0.021	< 0.019	< 0.019	0.9	0.32	0.061
Acenaphthene	0.083	< 0.009	< 0.032	< 0.016	< 0.009	< 0.009	1.3	0.52	0.104
Acenaphthylene	0.016 J	0.014 J	0.023 J	< 0.012	< 0.011	< 0.011	0.11	0.036 J	< 0.011
Anthracene	0.071	0.106	0.033 J	< 0.013	< 0.01	< 0.01	0.45	0.15	0.045
Benzo(a)anthracene	0.034 J	0.018 J	0.1	0.023 J	< 0.017	< 0.017	0.14	0.023 J	0.02 J
Benzo(a)pyrene	0.023 J	< 0.014	0.14	0.017 J	< 0.014	< 0.014	0.12	< 0.008	< 0.014
Benzo(b)fluoranthene	0.041 J	0.02 J	0.24	0.027 J	< 0.018	< 0.018	0.19	0.013 J	< 0.018
Benzo(g,h,i)perylene	< 0.018	< 0.018	0.34	0.023 J	< 0.018	< 0.018	0.12	< 0.01	< 0.018
Benzo(k)fluoranthene	< 0.029	< 0.029	0.068 J	0.026 J	< 0.029	< 0.029	0.064 J	< 0.009	< 0.029
Chrysene	0.016 J	0.011 J	0.14	0.017 J	< 0.01	< 0.01	0.16	0.015 J	< 0.01
Dibenzo(a,h)anthracene	< 0.019	< 0.019	< 0.037	< 0.009	< 0.019	< 0.019	< 0.037	< 0.009	< 0.019
Fluoranthene	0.065	0.063	0.28	0.035	< 0.013	< 0.013	0.65	0.18	0.075
Fluorene	< 0.013	0.025 J	0.019 J	< 0.015	< 0.013	< 0.013	1	0.36	0.05
Indeno(1,2,3-cd)pyrene	< 0.019	< 0.019	< 0.021	< 0.015	< 0.019	< 0.019	< 0.021	< 0.015	< 0.019
Naphthalene	< 0.024	< 0.024	0.063 J	< 0.028	< 0.024	< 0.024	5	2	0.48
Phenanthrene	0.017 J	< 0.015	0.13 J	0.013 J	< 0.015	< 0.015	2.2	0.67	0.087
Pyrene	0.036 J	0.032 J	0.34	0.027 J	< 0.012	< 0.012	0.53	0.11	0.056

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.
Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.
 J Concentration is between the limit of detection and limit of quantitation.
 µg/L Micrograms per liter.
 PAH Polycyclic Aromatic Hydrocarbons.

ARCADIS

Table 9. Groundwater PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-4 (continued)		MW-5			MW-6		
Sample Date	8/18/2009	8/23/2004	5/10/2005	5/14/2009	8/19/2009	8/23/2004	5/10/2005	5/14/2009
PAH (ug/L)								
1-Methylnaphthalene	0.181	2.2	2.1	0.55	1.36	2	0.98	0.92
2-Methylnaphthalene	0.181	3.2	2.1	0.63	1.5	1.7	1	0.66
Acenaphthene	0.262	2.2	1.7	0.55	1.07	2.7	2	1.25
Acenaphthylene	0.021 J	0.4 J	0.28	0.083	0.191	0.23 J	0.18	0.075
Anthracene	0.087	0.53 J	0.43	0.156	0.299	1.1	0.88	0.52
Benzo(a)anthracene	< 0.017	< 0.31	0.027 J	0.026 J	0.041 J	0.17 J	0.58	0.042 J
Benzo(a)pyrene	< 0.014	< 0.08	< 0.008	< 0.014	< 0.028	0.1 J	0.47	< 0.014
Benzo(b)fluoranthene	< 0.018	0.13 J	0.013 J	< 0.018	< 0.036	0.17	0.67	< 0.018
Benzo(g,h,i)perylene	< 0.018	< 0.16	< 0.01	< 0.018	< 0.036	< 0.08	0.26	< 0.018
Benzo(k)fluoranthene	< 0.029	< 0.24	< 0.009	< 0.029	< 0.058	< 0.12	0.25	< 0.029
Chrysene	< 0.01	0.15 J	0.017 J	0.011 J	0.026 J	0.17	0.61	0.012 J
Dibenzo(a,h)anthracene	< 0.019	< 0.37	< 0.009	< 0.019	< 0.038	< 0.185	0.053	< 0.019
Fluoranthene	0.077	0.68 J	0.34	0.183	0.35	0.93	2.1	0.43
Fluorene	0.172	2.1	1.7	0.51	0.99	2.5	2	1.06
Indeno(1,2,3-cd)pyrene	< 0.019	< 0.21	< 0.015	< 0.019	< 0.038	< 0.105	0.28	< 0.019
Naphthalene	1.25	33	28	6.3	16.1	12	8.2	4.8
Phenanthrene	0.303	3	2.2	0.61	1.23	3.9	3.3	1.59
Pyrene	0.047	0.49 J	0.2	0.115	0.219	0.54	1.4	0.243

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

PAH Polycyclic Aromatic Hydrocarbons.

ARCADIS

Table 9. Groundwater PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-6 (continued)	MW-7		MW-7R		MW-8		MW-8R
Sample Date	8/20/2009	8/23/2004	5/10/2005	5/12/2009	8/18/2009	8/23/2004	5/10/2005	5/15/2009
PAH (ug/L)								
1-Methylnaphthalene	0.98	0.07 J	< 0.018	0.129	0.018 J	< 0.026	< 0.018	0.017 J
2-Methylnaphthalene	0.79	< 0.03	< 0.021	< 0.019	0.021 J	< 0.03	< 0.021	0.02 J
Acenaphthene	1.45	< 0.032	< 0.016	< 0.009	< 0.009	< 0.032	< 0.016	0.07
Acenaphthylene	0.109	< 0.015	< 0.012	< 0.011	< 0.011	< 0.015	0.014 J	< 0.011
Anthracene	0.66	< 0.023	< 0.013	< 0.01	< 0.01	< 0.023	0.014 J	0.012 J
Benzo(a)anthracene	0.029 J	< 0.031	0.018 J	< 0.017	< 0.017	< 0.031	0.041	< 0.017
Benzo(a)pyrene	< 0.014	0.016 J	0.01 J	< 0.014	< 0.014	0.011 J	0.037	< 0.014
Benzo(b)fluoranthene	< 0.018	0.029	0.016 J	< 0.018	< 0.018	0.023 J	0.064	< 0.018
Benzo(g,h,i)perylene	< 0.018	0.041 J	< 0.01	< 0.018	< 0.018	< 0.016	0.045	< 0.018
Benzo(k)fluoranthene	< 0.029	< 0.024	< 0.009	< 0.029	< 0.029	< 0.024	0.023 J	< 0.029
Chrysene	0.01 J	0.023 J	0.013 J	< 0.01	< 0.01	0.014 J	0.54	< 0.01
Dibenzo(a,h)anthracene	< 0.019	< 0.037	< 0.009	< 0.019	< 0.019	< 0.037	< 0.009	< 0.019
Fluoranthene	0.42	0.046 J	0.029 J	< 0.013	< 0.013	< 0.024	0.11	0.015 J
Fluorene	1.23	< 0.015	< 0.015	< 0.013	< 0.013	< 0.015	< 0.015	0.017 J
Indeno(1,2,3-cd)pyrene	< 0.019	< 0.021	< 0.015	< 0.019	< 0.019	< 0.021	0.025 J	< 0.019
Naphthalene	7	0.029 J	< 0.028	0.025 J	0.045 J	< 0.026	0.03 J	0.055 J
Phenanthrene	1.86	< 0.045	0.017 J	< 0.015	< 0.015	< 0.045	0.038	< 0.015
Pyrene	0.224	0.074	0.023 J	< 0.012	< 0.012	< 0.023	0.1	0.016 J

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

PAH Polycyclic Aromatic Hydrocarbons.

ARCADIS

Table 9. Groundwater PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-8R (continued)			MW-9			MW-10		
Sample Date	8/20/2009	8/23/2004	5/10/2005	5/13/2009	8/19/2009	8/23/2004	5/10/2005	5/14/2009	
PAH (ug/L)									
1-Methylnaphthalene	< 0.013	< 0.026	< 0.018	< 0.013	< 0.013	< 0.026	< 0.018	< 0.013	
2-Methylnaphthalene	< 0.019	0.037 J	< 0.021	< 0.019	< 0.019	< 0.03	< 0.021	< 0.019	
Acenaphthene	< 0.009	< 0.032	< 0.016	< 0.009	< 0.009	< 0.032	< 0.016	< 0.009	
Acenaphthylene	< 0.011	0.085	0.019 J	< 0.011	< 0.011	< 0.015	< 0.012	< 0.011	
Anthracene	0.021 J	0.088	0.029 J	0.017 J	0.026 J	< 0.023	< 0.013	< 0.01	
Benzo(a)anthracene	< 0.017	0.38	0.091	< 0.017	< 0.017	< 0.031	0.023 J	< 0.017	
Benzo(a)pyrene	< 0.014	0.57	0.11	< 0.014	< 0.014	< 0.008	0.017 J	< 0.014	
Benzo(b)fluoranthene	< 0.018	0.96	0.18	< 0.018	< 0.018	0.01 J	0.03	< 0.018	
Benzo(g,h,i)perylene	< 0.018	0.88	0.11	< 0.018	< 0.018	0.039 J	0.041	< 0.018	
Benzo(k)fluoranthene	< 0.029	0.32	0.072	< 0.029	< 0.029	< 0.024	0.01 J	< 0.029	
Chrysene	< 0.01	0.52	0.11	< 0.01	< 0.01	0.008 J	0.018 J	< 0.01	
Dibenzo(a,h)anthracene	< 0.019	< 0.037	0.013 J	< 0.019	< 0.019	< 0.037	< 0.009	< 0.019	
Fluoranthene	0.022 J	0.83	0.19	< 0.013	< 0.013	0.094	0.038	< 0.013	
Fluorene	< 0.013	0.027 J	< 0.015	< 0.013	< 0.013	< 0.015	< 0.015	< 0.013	
Indeno(1,2,3-cd)pyrene	< 0.019	0.56	0.083	< 0.019	< 0.019	< 0.021	< 0.015	< 0.019	
Naphthalene	0.035 J	0.035 J	< 0.028	< 0.024	< 0.024	< 0.026	< 0.028	< 0.024	
Phenanthrene	< 0.015	0.26	0.055	< 0.015	< 0.015	< 0.045	< 0.011	< 0.015	
Pyrene	0.02 J	0.83	0.16	< 0.012	< 0.012	0.14	0.034	< 0.012	

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

PAH Polycyclic Aromatic Hydrocarbons.

ARCADIS

Table 9. Groundwater PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-10 (continued)	MW-11		MW-11R		MW-12		
Sample Date	8/19/2009	8/23/2004	5/10/2005	5/12/2009	8/18/2009	8/23/2004	5/10/2005	5/14/2009
PAH (ug/L)								
1-Methylnaphthalene	< 0.013	< 0.026	< 0.018	0.13	0.129	1.1	1.5	0.067
2-Methylnaphthalene	< 0.019	< 0.03	< 0.021	0.165	0.111	1.4	1.5	0.066
Acenaphthene	< 0.009	< 0.032	< 0.016	0.105	0.064	1.6	2.3	0.139
Acenaphthylene	< 0.011	< 0.015	< 0.012	0.021 J	0.017 J	0.31	0.32	0.014 J
Anthracene	< 0.01	< 0.023	< 0.013	0.03 J	0.038	0.39	0.42	0.056
Benzo(a)anthracene	< 0.017	< 0.031	0.014 J	0.02 J	< 0.017	< 0.16	0.037	0.02 J
Benzo(a)pyrene	< 0.014	0.011 J	0.009 J	< 0.014	< 0.014	< 0.04	0.023 J	< 0.014
Benzo(b)fluoranthene	< 0.018	0.02 J	0.016 J	< 0.018	< 0.018	0.065 J	0.037	< 0.018
Benzo(g,h,i)perylene	< 0.018	< 0.016	0.059	< 0.018	< 0.018	< 0.08	0.045	0.028 J
Benzo(k)fluoranthene	< 0.029	< 0.024	< 0.009	< 0.029	< 0.029	< 0.12	0.016 J	< 0.029
Chrysene	< 0.01	0.016 J	< 0.011	< 0.01	< 0.01	0.071 J	0.042	< 0.01
Dibenzo(a,h)anthracene	< 0.019	< 0.037	< 0.009	< 0.019	< 0.019	< 0.19	< 0.009	< 0.019
Fluoranthene	< 0.013	0.12	0.026 J	0.074	0.034 J	0.66	0.5	0.042 J
Fluorene	< 0.013	< 0.015	< 0.015	0.104	0.076	1.6	2.2	0.11
Indeno(1,2,3-cd)pyrene	< 0.019	< 0.021	< 0.015	< 0.019	< 0.019	< 0.11	0.016 J	< 0.019
Naphthalene	< 0.024	< 0.026	< 0.028	0.61	1.22	10	9.4	0.242
Phenanthrene	< 0.015	< 0.045	< 0.011	0.201	0.139	2.4	2.7	0.096
Pyrene	< 0.012	0.2	0.038	0.053	0.021 J	0.54	0.3	0.029 J

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

PAH Polycyclic Aromatic Hydrocarbons.

ARCADIS

Table 9. Groundwater PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-12 (continued)		MW-13			MW-14		
Sample Date	8/19/2009	8/23/2004	5/10/2005	5/13/2009	8/18/2009	8/23/2004	5/10/2005	5/14/2009
PAH (ug/L)								
1-Methylnaphthalene	0.5	< 0.026	< 0.018	< 0.013	< 0.013	4	4.2	2.55
2-Methylnaphthalene	0.45	< 0.03	< 0.021	< 0.019	< 0.019	6.2	7.4	4
Acenaphthene	1.17	< 0.032	< 0.016	< 0.009	< 0.009	1.7	1.6	1.37
Acenaphthylene	0.056	0.017 J	< 0.012	< 0.011	< 0.011	0.088 J	0.075	0.046
Anthracene	0.261	0.029 J	< 0.013	< 0.01	< 0.01	0.51	0.41	0.309
Benzo(a)anthracene	< 0.017	0.14	0.015 J	< 0.017	< 0.017	< 0.16	0.028 J	0.027 J
Benzo(a)pyrene	< 0.014	0.16	0.012 J	< 0.014	< 0.014	< 0.04	0.016 J	< 0.014
Benzo(b)fluoranthene	< 0.018	0.32	0.018 J	< 0.018	< 0.018	< 0.045	0.03	< 0.018
Benzo(g,h,i)perylene	0.021 J	0.28	0.052	< 0.018	< 0.018	< 0.08	0.042	< 0.018
Benzo(k)fluoranthene	< 0.029	0.11	0.01 J	< 0.029	< 0.029	< 0.12	0.012 J	< 0.029
Chrysene	< 0.01	0.2	< 0.011	< 0.01	< 0.01	0.048 J	0.028 J	< 0.01
Dibenzo(a,h)anthracene	< 0.019	< 0.037	< 0.009	< 0.019	< 0.019	< 0.19	< 0.009	< 0.019
Fluoranthene	0.208	0.5	0.019 J	< 0.013	< 0.013	0.47	0.31	0.222
Fluorene	1.03	0.022 J	< 0.015	< 0.013	< 0.013	1.2	1	0.83
Indeno(1,2,3-cd)pyrene	< 0.019	< 0.021	< 0.015	< 0.019	< 0.019	< 0.105	< 0.015	< 0.019
Naphthalene	1.88	0.059 J	< 0.028	< 0.024	< 0.024	14	15	6.8
Phenanthrene	0.92	0.13 J	< 0.011	< 0.015	< 0.015	2	1.3	1.14
Pyrene	0.117	0.67	0.017 J	< 0.012	< 0.012	0.3 J	0.017	0.127

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

PAH Polycyclic Aromatic Hydrocarbons.

ARCADIS

Table 9. Groundwater PAH Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-14 (continued)	MW-15			MW-16		
Sample Date	8/19/2009	2/12/2007	5/12/2009	8/17/2009	2/12/2007	5/12/2009	8/17/2009
PAH (ug/L)							
1-Methylnaphthalene	2.87	< 0.018	< 0.013	< 0.013	0.02 J	< 0.013	< 0.013
2-Methylnaphthalene	4.5	0.031 J	< 0.019	< 0.019	0.03 J	< 0.019	< 0.019
Acenaphthene	1.57	< 0.015	< 0.009	< 0.009	< 0.015	< 0.009	< 0.009
Acenaphthylene	0.064	< 0.016	< 0.011	< 0.011	< 0.016	< 0.011	< 0.011
Anthracene	0.48	< 0.013	< 0.01	< 0.01	< 0.013	< 0.01	< 0.01
Benzo(a)anthracene	0.023 J	0.02 J	< 0.017	< 0.017	< 0.015	< 0.017	< 0.017
Benzo(a)pyrene	< 0.014	< 0.015	< 0.014	< 0.014	< 0.015	< 0.014	< 0.014
Benzo(b)fluoranthene	< 0.018	0.021 J	< 0.018	< 0.018	< 0.014	< 0.018	< 0.018
Benzo(g,h,i)perylene	< 0.018	< 0.015	< 0.018	< 0.018	< 0.015	< 0.018	< 0.018
Benzo(k)fluoranthene	< 0.029	< 0.023	< 0.029	< 0.029	< 0.023	< 0.029	< 0.029
Chrysene	0.015 J	< 0.016	< 0.01	< 0.01	< 0.016	< 0.01	< 0.01
Dibenzo(a,h)anthracene	< 0.019	< 0.015	< 0.019	< 0.019	< 0.015	< 0.019	< 0.019
Fluoranthene	0.284	0.029 J	< 0.013	< 0.013	< 0.015	< 0.013	< 0.013
Fluorene	1	< 0.019	< 0.013	< 0.013	< 0.019	< 0.013	< 0.013
Indeno(1,2,3-cd)pyrene	< 0.019	< 0.014	< 0.019	< 0.019	< 0.014	< 0.019	< 0.019
Naphthalene	8	0.029 J	< 0.024	< 0.024	0.027 J	< 0.024	< 0.024
Phenanthrene	1.37	0.018 J	< 0.015	< 0.015	< 0.017	< 0.015	< 0.015
Pyrene	0.164	0.028 J	< 0.012	< 0.012	< 0.015	< 0.012	< 0.012

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

PAH Polycyclic Aromatic Hydrocarbons.

ARCADIS

Table 10. Groundwater Dissolved Metal Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	Preventive	Enforcement	MW-1		MW-2R		MW-3		MW-4
Sample Date	Action Limit	Standard	5/12/2009	8/18/2009	5/15/2009	8/20/2009	5/13/2009	8/19/2009	5/10/2005
Dissolved Metals (µg/L)									
Arsenic	1	10	3.2	3.2	1 J	0.69 J	0.8 J	1	< 7.4
Barium	400	2,000	406	540	279	190	37.8	37	250
Cadmium	0.5	5	< 0.5	0.36 J	< 0.5	0.28 J	< 0.5	0.33 J	0.9 J
Chromium	10	100	< 1.2	0.75 J	< 1.2	0.79 J	< 1.2	1.5 J	10
Lead	1.5	15	< 0.7	0.4 J	< 0.7	0.49 J	< 0.7	0.35 J	< 4.12
Mercury	0.2	2	0.17	< 0.044	< 0.04	< 0.044	< 0.04	< 0.044	0.2 J
Selenium	10	50	1.2 J	6.7	< 0.9	0.79 J	< 0.9	2.4	21
Silver	10	50	< 10.3	< 0.13	< 10.3	< 0.13	< 10.3	< 0.13	< 3

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

ARCADIS

Table 10. Groundwater Dissolved Metal Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-4 (continued)		MW-5		MW-6		MW-7R		MW-8
Sample Date	5/13/2009	8/18/2009	5/14/2009	8/19/2009	5/14/2009	8/20/2009	5/12/2009	8/18/2009	5/10/2005
Dissolved Metals (µg/L)									
Arsenic	16.4	10	16.2	11	21.2	11	< 0.6	2.2	< 7.4
Barium	52.9	110	341	320	312	370	150	86	96
Cadmium	< 0.5	0.31 J	< 0.5	0.44 J	< 0.5	0.31 J	< 0.5	0.33 J	< 0.7
Chromium	< 1.2	0.88 J	< 1.2	1.5 J	< 1.2	0.98 J	< 1.2	1.9 J	3.3 J
Lead	< 0.7	0.56 J	< 0.7	0.31 J	2.6	0.99 J	< 0.7	0.37 J	4.4 J
Mercury	0.1 J	0.06 J	0.26	0.17 J	0.18	0.63	< 0.04	< 0.044	< 0.066
Selenium	< 0.9	4.8	1.6 J	5.7	1.2 J	2.8	< 0.9	8.8	< 7.2
Silver	< 10.3	< 0.13	< 10.3	< 0.13	< 10.3	< 0.13	< 10.3	< 0.13	< 3

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

ARCADIS

Table 10. Groundwater Dissolved Metal Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-8R		MW-9		MW-10		MW-11	MW-11R	
Sample Date	5/15/2009	8/20/2009	5/13/2009	8/19/2009	5/14/2009	8/19/2009	5/10/2005	5/12/2009	8/18/2009
Dissolved Metals (µg/L)									
Arsenic	11.7	1.9	< 0.6	0.8 J	1.1 J	2.5	< 7.4	1.5 J	7.2
Barium	150	140	98.7	75	56.1	51	120	83.6	350
Cadmium	< 0.5	0.3 J	< 0.5	0.32 J	< 0.5	0.26 J	< 0.7	< 0.5	< 0.15
Chromium	< 1.2	1.9 J	< 1.2	2.2	< 1.2	1.9 J	5.7 J	< 1.2	1.8 J
Lead	< 0.7	0.39 J	< 0.7	0.33 J	< 0.7	0.29 J	< 4.1	< 0.7	0.16 J
Mercury	< 0.04	< 0.044	< 0.04	< 0.044	< 0.04	< 0.044	< 0.066	0.08 J	0.37
Selenium	< 0.9	0.81 J	< 0.9	1.5	< 0.9	2.6	< 7.2	< 0.9	5.6
Silver	< 10.3	< 0.13	< 10.3	< 0.13	< 10.3	< 0.13	< 3	< 10.3	0.15 J

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

ARCADIS

Table 10. Groundwater Dissolved Metal Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-12		MW-13		MW-14			MW-15	
Sample Date	5/14/2009	8/19/2009	5/13/2009	8/18/2009	5/10/2005	5/14/2009	8/19/2009	5/12/2009	8/17/2009
Dissolved Metals (µg/L)									
Arsenic	6.5	6.8	< 0.6	0.69 J	< 7.4	4.2	3.6	4.2	4.6
Barium	20.6	7.1	71.8	82	360	190	190	30.8	29
Cadmium	< 0.5	0.34 J	< 0.5	0.26 J	3.1	< 0.5	0.29 J	< 0.5	0.34 J
Chromium	< 1.2	0.76 J	< 1.2	1.6	12	< 1.2	0.67 J	< 1.2	1.8
Lead	0.7 J	0.49 J	< 0.7	0.37 J	5.1 J	< 0.7	0.37 J	< 0.7	0.3 J
Mercury	< 0.04	< 0.044	< 0.04	< 0.044	0.48	0.18	0.6	< 0.04	< 0.044
Selenium	< 0.9	3.1	< 0.9	1.7	21	< 0.9	2.3	< 0.9	0.66 J
Silver	< 10.3	< 0.13	< 10.3	< 0.13	21	< 10.3	< 0.13	< 10.3	< 0.13

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

ARCADIS

Table 10. Groundwater Dissolved Metal Analytical Results, 67th Place Industrial Park, West Allis, Wisconsin.

Location ID	MW-16	
Sample Date	5/12/2009	8/17/2009
Dissolved Metals (µg/L)		
Arsenic	8.4	7.2
Barium	29.8	26
Cadmium	< 0.5	0.34 J
Chromium	< 1.2	0.6 J
Lead	< 0.7	0.26 J
Mercury	< 0.04	< 0.044
Selenium	< 0.9	1.3
Silver	25.2 J	< 0.13

Italic Concentration exceeds the NR140 Wis. Adm. Code preventive action limit.

Bold Concentration exceeds the NR140 Wis. Adm. Code enforcement standard.

J Concentration is between the limit of detection and limit of quantitation.

µg/L Micrograms per liter.

Table 11. Methane Monitoring Results, 67th Place Industrial Park, West Allis, Wisconsin.

Well	Date	FID (ppm)	LEL (%) ppm conversion	Unsubmerged Screen (feet)
MW-1	1/29/2009	278	0.56	
	3/2/2009	246	0.49	
	3/17/2009	1,667	3.33	3.22
	4/3/2009	4,159	8.32	3.60
	4/17/2009	2,345	4.69	3.74
	4/30/2009	39,400	78.8	2.35
	5/29/2009	1,569	3.14	3.23
MW-2	1/29/2009	---		
	3/2/2009	---		
	3/17/2009	---		
	4/3/2009	---		
	4/17/2009	--		
MW-2R	5/1/2009	5.25	0.01	0.15
	5/29/2009	120	0.2	1.37
MW-3	1/29/2009	0.14	0.0003	
	3/2/2009	0		
	3/17/2009	0		0.70
	4/3/2009	0		0.49
	4/17/2009	0		1.02
	4/30/2009	0		0.20
	5/29/2009	0		1.78
MW-4	1/29/2009	1,756	3.51	
	3/2/2009	9,549	19.1	
	3/17/2009	1,186	2.37	1.97
	4/3/2009	18,400	36.8	2.21
	4/17/2009	29,300	58.6	2.90
	4/30/2009	9,350	18.7	2.06
	5/29/2009	11,200	22.4	3.16
MW-5	1/29/2009	---		
	3/2/2009	52.05	0.1	
	3/17/2009	99.94	0.2	3.29
	4/3/2009	171	0.34	3.38
	4/17/2009	270	0.54	4.44
	4/30/2009	50.72	0.1	3.14
	5/29/2009	119	0.24	4.91
MW-6	1/29/2009	---		
	3/2/2009	104	0.21	
	3/17/2009	0		1.36
	4/3/2009	17.69	0.04	1.50
	4/17/2009	39.8	0.08	2.40
	4/30/2009	40.61	0.08	1.68
	5/29/2009	594	1.19	3.18

Footnotes on Page 3.

Table 11. Methane Monitoring Results, 67th Place Industrial Park, West Allis, Wisconsin.

Well	Date	FID (ppm)	LEL (%) ppm conversion	Unsubmerged Screen (feet)
MW-7	1/29/2009	---		
	3/2/2009	---		
	3/17/2009	---		
	4/3/2009	---		
	4/17/2009	--		
MW-7R	5/1/2009	5.41	0.01	0.00
	5/29/2009	1.94	0.004	1.71
MW-8	1/29/2009	---		
	3/2/2009	---		
	3/17/2009	---		
	4/3/2009	---		
	4/17/2009	--		
MW-8R	5/1/2009	1.53	0.003	0.00
	5/29/2009	0		0.66
MW-9	1/29/2009	---		
	3/2/2009	0		
	3/17/2009	0		0.12
	4/3/2009	0		0.56
	4/17/2009	0		1.00
	4/30/2009	0		0.21
	5/29/2009	0		1.77
MW-10	1/29/2009	1.24	0.002	
	3/2/2009	0		
	3/17/2009	0		0.00
	4/3/2009	0		0.00
	4/17/2009	0		0.00
	4/30/2009	0		0.00
	5/29/2009	1.93	0.004	0.00
MW-11	1/29/2009	0.25	0.001	
	3/2/2009	0		
	3/17/2009	0		
	4/3/2009	0		
	4/17/2009	0		
MW-11R	5/1/2009	94.09	0.19	0.00
	5/29/2009	101,200	202.40	0.98
MW-12	1/29/2009	0		
	3/2/2009	0		
	3/17/2009	0		4.62
	4/3/2009	0		4.69
	4/17/2009	11.68	0.02	5.64
	4/30/2009	0		4.58
	5/29/2009	0		6.09

Footnotes on Page 3.

Table 11. Methane Monitoring Results, 67th Place Industrial Park, West Allis, Wisconsin.

Well	Date	FID (ppm)	LEL (%) ppm conversion	Unsubmerged Screen (feet)
MW-13	1/29/2009	0.30	0.001	
	3/2/2009	0		
	3/17/2009	1.65	0.003	0.00
	4/3/2009	0		0.00
	4/17/2009	0		0.24
	4/30/2009	0		0.00
	5/29/2009	0		1.28
MW-14	1/29/2009	6,778	13.6	
	3/2/2009	24.87	0.05	
	3/17/2009	3.10	0.01	0.05
	4/3/2009	21.24	0.04	0.60
	4/17/2009	0		1.81
	4/30/2009	5.89	0.01	0.00
	5/29/2009	7.27	0.01	1.97
MW-15	1/29/2009	---		---
	3/2/2009	---		---
	3/17/2009	0		0.00
	4/3/2009	0		0.00
	4/17/2009	0		0.00
	4/30/2009	0		0.00
	5/29/2009	0		0.00
MW-16	1/29/2009	---		---
	3/2/2009	---		---
	3/17/2009	0		0.00
	4/3/2009	0		0.00
	4/17/2009	0		0.00
	4/30/2009	0		0.00
	5/29/2009	0		0.00

--- Not measured.
 % Percent.
 FID Flame ionization detector.
 LEL Lower explosive limit.
 ppm Parts per million.

278	0.03
246	0.02
1667	0.17
4159	0.42
2345	0.23
39400	3.94
1569	0.16
5.25	0.00
120	0.01
0.14	0.00
1756	0.18
9549	0.95
1186	0.12
18400	1.84
29300	2.93
9350	0.94
11200	1.12
52.05	0.01
99.94	0.01
171	0.02
270	0.03
50.72	0.01
119	0.01
104	0.01
17.69	0.00
39.8	0.00
40.61	0.00
594	0.06
5.41	0.00
1.94	0.00
1.53	0.00
1.24	0.00
1.93	0.00
0.25	0.00
94.09	0.01
101200	10.12
11.68	0.00
0.3	0.00
1.65	0.00
6778	0.68
24.87	0.00
3.1	0.00
21.24	0.00
5.89	0.00
7.27	0.00

Proposed Redevelopment

The following sections present the proposed redevelopment for the 67th Place Industrial Park Site.

Goals

The goal of the proposed redevelopment is to take a underused property and convert into a property that create jobs and tax revenue for the community. Current planning considers that future Site use will be industrial. Attached is a draft conceptual plan for the Site. However, scenarios for redevelopment have also considered commercial as well as mixed use of commercial/industrial and even subdividing the Site into separate parcels. The onsite wet detention pond and Site grading features have been designed to account for future runoff that will be generated when Site conditions change from pervious to impervious.

Consistent with Remedial Action Objectives

The proposed redevelopment will be consistent with the remedial objectives for the Site. The redevelopment will serve as an engineered barrier, including the building, asphalt parking, and landscaped green spaces. A Material Handling and Cap Maintenance Plan will be prepared for the Site that will specify the regulatory notification, future cap maintenance, and material handling requirements. The plan will be modified in the future once the actual redevelopment is complete.

W. BURNHAM STREET
(R/W VARIES)

W. ROGERS STREET

West Rogers Street

S. 67TH PLACE

South 67th Place

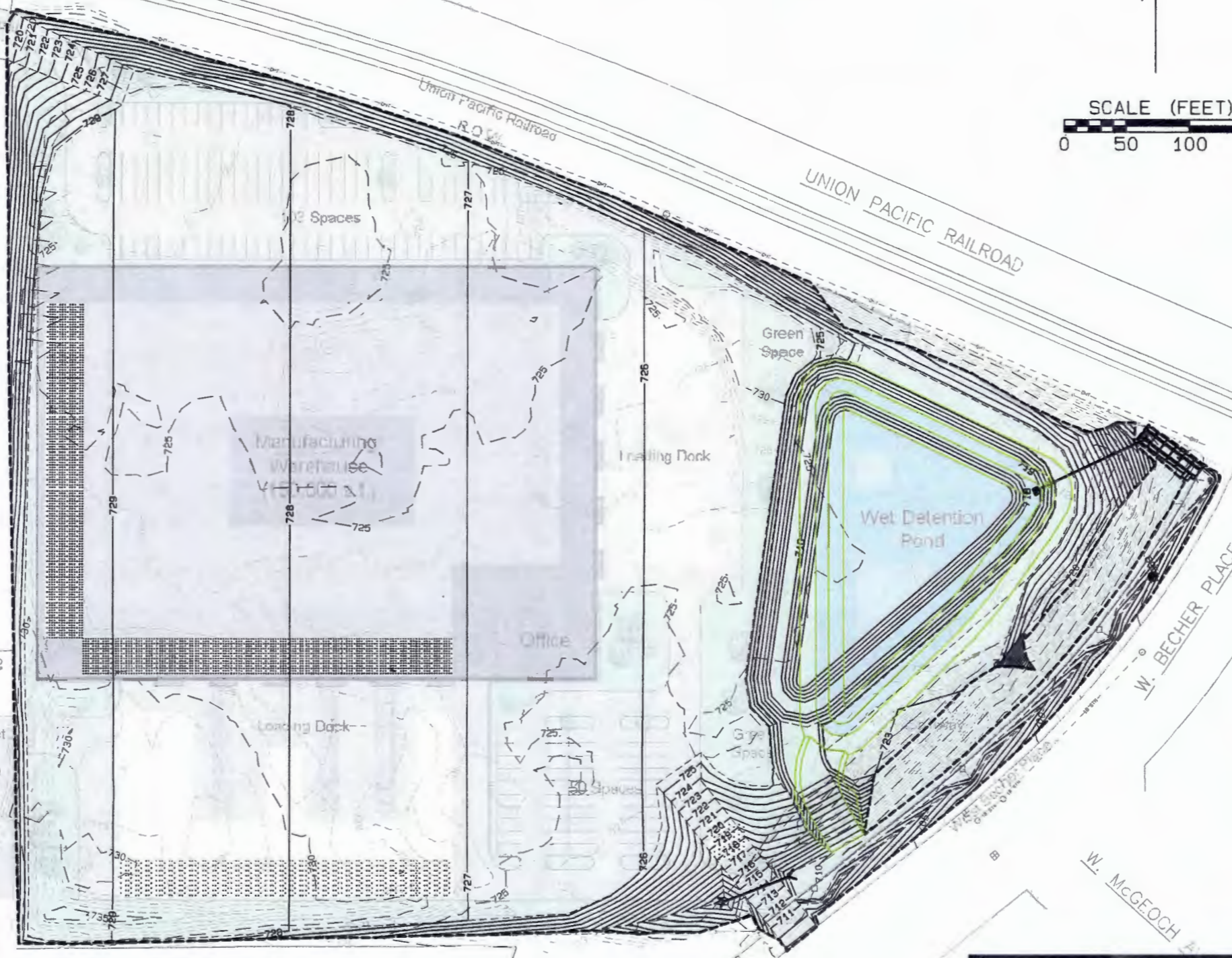
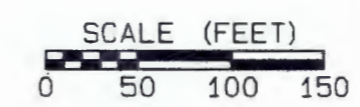
Union Pacific Railroad

UNION PACIFIC RAILROAD

W. BECHER PLACE

W. MCGEOCH PLACE

ARCADIS



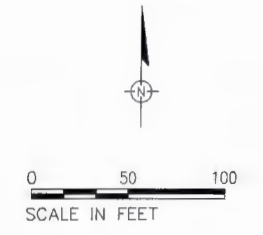
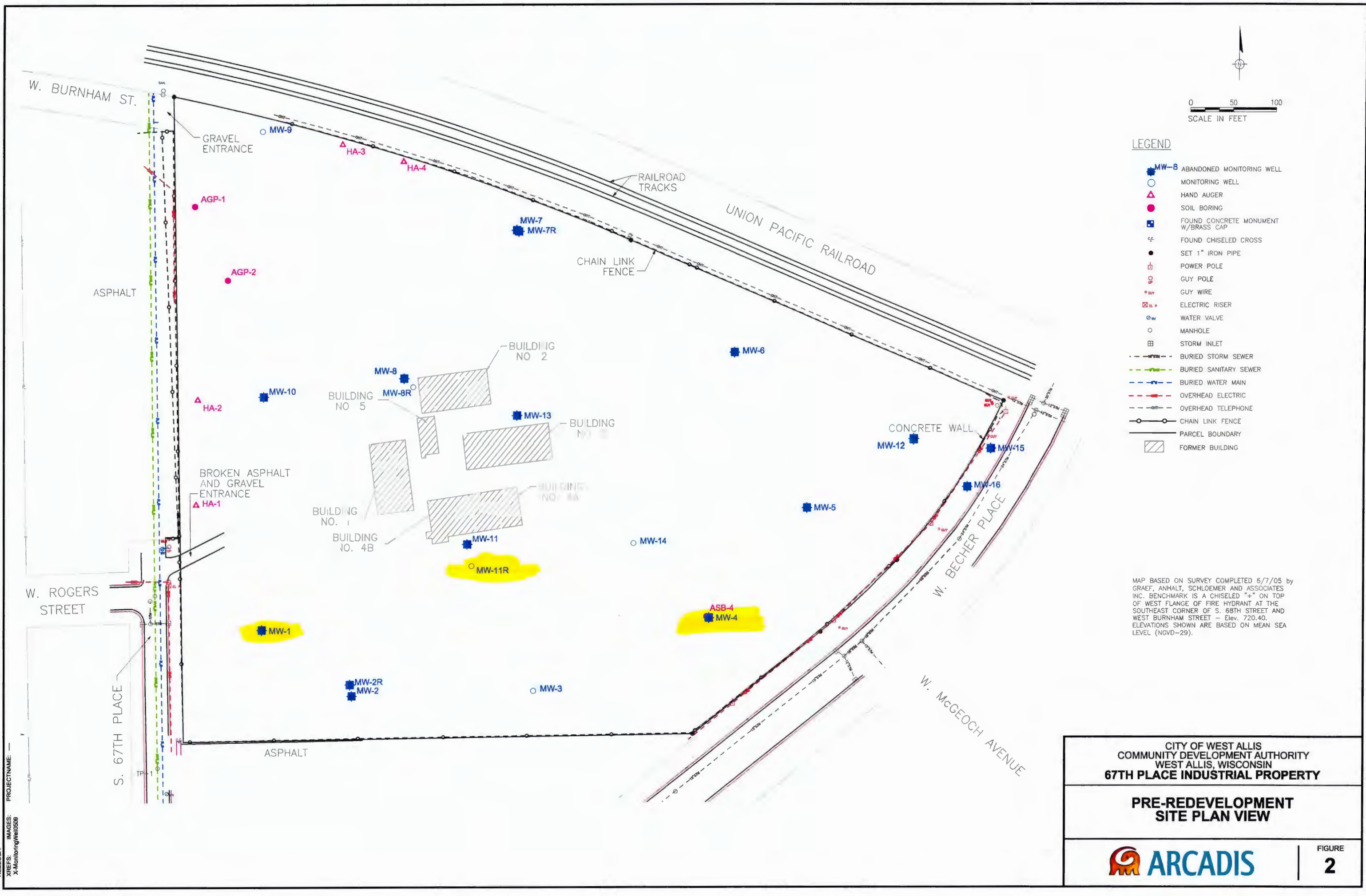
10/02/09
67THPLACE.PRO

Parking P
Office
(1 space
Warehouse

CITY OF WEST ALLIS COMMUNITY DEVELOPMENT AUTHORITY
WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PARK

**REVISED POND LAYOUT
AND GRADING DESIGN**

CITY: MILWAUKEE DIV: GROUP: ENVIRONMENTAL DB: R. ROBBENNOLT P: M.B. VERBURG T: M.T. SCHOEN
 G:\Project\PresSteel\W10741\LinePlan\CADD\banverburg\Closure\Line Plan Site Based\0110.dwg LAYOUT: MONITORING WELLS
 PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH)
 PLOTTED: 2/2/2010 3:22 PM BY: ROBBENNOLT, REBECCA
 PROJECT NAME: X-MonitoringWells099



- LEGEND**
- MW-8 ABANDONED MONITORING WELL
 - MONITORING WELL
 - ▲ HAND AUGER
 - SOIL BORING
 - FOUND CONCRETE MONUMENT W/BRASS CAP
 - + FOUND CHISELED CROSS
 - SET 1" IRON PIPE
 - ⊙ POWER POLE
 - GUY POLE
 - GUY WIRE
 - ⊠ ELECTRIC RISER
 - ⊙ WATER VALVE
 - MANHOLE
 - ⊠ STORM INLET
 - BURIED STORM SEWER
 - BURIED SANITARY SEWER
 - BURIED WATER MAIN
 - OVERHEAD ELECTRIC
 - OVERHEAD TELEPHONE
 - CHAIN LINK FENCE
 - PARCEL BOUNDARY
 - FORMER BUILDING

MAP BASED ON SURVEY COMPLETED 6/7/05 by GRAEF, ANHALT, SCHLOEMER AND ASSOCIATES INC. BENCHMARK IS A CHISELED "+" ON TOP OF WEST FLANGE OF FIRE HYDRANT AT THE SOUTHEAST CORNER OF S. 68TH STREET AND WEST BURNHAM STREET - Elev. 720.40. ELEVATIONS SHOWN ARE BASED ON MEAN SEA LEVEL (NGVD-29).

CITY OF WEST ALLIS
 COMMUNITY DEVELOPMENT AUTHORITY
 WEST ALLIS, WISCONSIN
67TH PLACE INDUSTRIAL PROPERTY

**PRE-REDEVELOPMENT
 SITE PLAN VIEW**

FIGURE
2

SUMMARY OF PROTECTIVE ACTIONS

Summary of Protective Actions

The following sections present a summary of the proposed protective actions for the 67th Place Industrial Park located in West Allis, Wisconsin.

The Wisconsin Department of Natural Resources (WDNR) has prepared three documents that relate to development of sites that have historic fill. To evaluate the potential problems, ARCADIS referenced the Development at Historic Fill Sites and Licensed Landfills: Considerations and Potential Problems (PUB-66-685, WDNR April 2002) and has summarized the proposed protective actions by the potential problems given in pages 2 and 3 in the aforementioned document.

Methane Gas Accumulation in Buildings and Enclosed Structures

Methane gas has been observed in select monitoring wells installed at the Site. The methane is generally observed in the backfilled lagoons and is not sustained (i.e., purging removes the methane that accumulates in the wells). The proposed protective action is a subslab depressurization system that will consist of polyvinyl chloride (PVC) pipes that will be embedded in pea gravel. The pipes will be connected to vertical risers and completed with passive wind turbines.

Toxic Gases Collection in Buildings and Other Structures

There are no contaminants (e.g., VOCs) at concentrations that would pose a threat to indoor air quality.

Disturbance of the Soil Cap

As part of pursuing Site closure under NR726 Wisconsin Administrative Code, a Material Handling and Cap Maintenance Plan will be prepared for the Site. The Material Handling and Cap Maintenance Plan is designed to specify future obligations of the redevelopment. At the Site, the cap is intended to mitigate the potential for direct contact.

Utility Lines Acting as Conduits for Gas and Leachate and Water Supply Wells

Bedding material surrounding subsurface utilities can act as a conduit for contaminant migration. This material usually consists of pea gravel, which may have a higher hydraulic conductivity than the surrounding native soil. Utilities passing through the fill material will be constructed to reduce the potential for migration of contaminants or gas. Clay plugs or anti-seep collars will be placed at the entrance and exit of each utility line passing through the fill material.

It is noted that WDNR water supply regulations prohibit the placement of a water supply well within 1,200 feet of the limits of the fill material. The Site is serviced by the local municipal water supply system. Consequently, this requirement is satisfied.

Dewatering Problems

Dewatering problems are not considered an issue with the current redevelopment scenario for the Site.

Settlement Problems

Geotechnical surveys have been conducted at the Site. Phase I of the redevelopment has been completed that included a site grading plan, construction of a wet detention pond, and other surface water drainage features. Settlement problems in areas of fill will be addressed through active participation between the city of West Allis and the future developer.

Worker Exposure

Construction workers engaged in the redevelopment may come into contact with the fill materials. These materials may be encountered during activities such as site grading, utility placement, or construction of footings/foundations.

Prior to redevelopment of the property, construction documents will be prepared for the general contractor and selected subcontractors. These documents will contain information pertaining to the nature and distribution of the fill material on the southern portion of the Site. The general contractor and subcontractors who may potentially encounter the fill material will be required to inform workers of the fill material and to provide instructions on procedures to follow when the fill material is encountered.

Material Handling

Fill materials may be disturbed during construction activities, including site grading, utility placement, and footing/foundation construction. A material handling plan will be prepared to address the fill materials following approval of a development plan by the city of West Allis Community Development Authority.

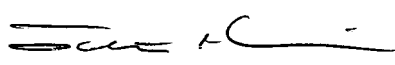
Route to: Watershed/Wastewater Waste Management
 Remediation/Redevelopment Other _____

Facility/Project Name Lime Pit/WI001074.0007		License/Permit/Monitoring Number		Boring Number MW-11R	
Boring Drilled By: Name of crew chief (first, last) and Firm First Name Charles Last Name Rens Firm Giles Engineering			Date Drilling Started 04/28/09	Date Drilling Completed 04/28/09	Drilling Method Hollow Stem Auger
WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level _____ Feet	Surface Elevation _____ Feet MSL	Borehole Diameter 8.25 inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>			Local Grid Location		
State Plane _____ N, _____ E S <input type="checkbox"/> / C <input type="checkbox"/> / N <input type="checkbox"/>			Lat _____ <input type="checkbox"/> N <input type="checkbox"/> E		
NW 1/4 of NE 1/4 of Section 3 , T 6 N, R 21 <input checked="" type="checkbox"/> E <input type="checkbox"/> W			Long _____ Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W		

Facility ID 241037940	County Milwaukee	County Code 41	Civil Town/City/or Village West Allis
---------------------------------	----------------------------	--------------------------	---

Sample Number and Type	Length All. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	
1	21.6	2 6 5 4	0	0-2/ 0-1.8' Clay: Dark yellowish brown (10 YR 4/6), HP = 1-4, some gravel, some medium to coarse sand, organics, mottling, brick fragments, moist, no odor, fill.				0-2 174						
2	21.6	4 4 4 4	2	2-4/ 0-1.8' Clay: Same as above, turns to (10 YR 3/1) very dark gray (10 YR 2/1) black at 0.3, glass shards.				2-4 1415						
3	24	3 4 3 3	4	4-6/ 0-1.2' Clay: Same as above. 1.2-2.0' Lime: Light bluish gray (2 GLEY 7/1) soft, HP = 0.0, mostly smooth with some harder pieces, wet, lime odor.				4-6 1446						
4	19.2	1 2 1 2	6	6-8/ 0-1.6' Silty Clay: Very dark grayish brown (2.5 Y 3/2), HP = 0, soft, pliable, high plasticity, little gravel up to 1/2", trace very fine to fine sand, trace (-) organic staining, moist/wet, organic odor.				6-8 1357						
5	.6	1 14 2 2	8	8-10/ 0-0.5' Silty Clay: Same as above, organics (sticks, grass).				8-10 948						
6	13.2	2 2 2 6	10	10-12/ 0-1.1' Silty Clay: Same as above, saturated.				10-12 1146						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 

Firm **ARCADIS**
126 N. Jefferson St., Suite 400
Milwaukee, WI (414) 276-7742

Sample		Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length All. & Recovered (in)								Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	
7	21.6	2 2 2 2	12	12-14/ 0-1.8' Lime: Same as above.				12-14 345						
8	24	4 4 4 4	14	14-16/ 0-2.0' Lime: Same as above.				14-16 747						
9	24	4 6 10 9	16	16-18/ 0-0.4' Lime: Same as above. 0.4-2.0' Clay: Yellowish brown (10 YR 5/6), HP = max, somewhat pliable, little plasticity, trace (-) subround to subangular gravel up to 1/4", smooth uniform, moist, no odor.				16-18 25.17						
			18	EOB @ 18'										
			20											
			22											
			24											
			26											
			28											