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THIRD FIVE-YEAR REVIEW REPORT
FOR
SHEBOYGAN HARBOR & RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN

Prepared by

U.S. Environmental Protection Agency
Region 5
Chicago, Illinois

8/21/2020

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Signed by: DOUGLAS BALLOTTI

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LIST OF ABBREVIATIONS & ACRONYMS

AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirement
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
C&NW	Chicago & Northwestern
cy	cubic yards
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FYR	Five-Year Review
GLLA	Great Lakes Legacy Act
GLNPO	Great Lakes National Program Office
GLRI	Great Lakes Restoration Initiative
GMIT	Groundwater Monitoring/ Interceptor Trench
ICs	Institutional Controls
ICIAP	Institutional Control Implementation and Assurance Plan
mg/L	milligrams per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PAHs	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated biphenyls
PMP	Post-Remediation Monitoring Plan
ppm	parts per million
PRP	Potentially Responsible Party
PRS	Pollution Risk Services, LLC
RAOs	Remedial Action Objectives
RAWP	Remedial Action Work Plan
RI	Remedial Investigation
RMU	Remedial Management Unit
ROD	Record of Decision
RPM	Remedial Project Manager
SWAC	Surface Weighted Average Concentration
TBC	To be considered
Tecumseh	Tecumseh Products Company
TSCA	Toxic Substances Control Act
TSS	Total Suspended Solids
UCL	Upper Confidence Limit
USACE	United States Army Corps of Engineers
UU/UE	Unlimited Use and Unrestricted Exposure
WDNR	Wisconsin Department of Natural Resources
WWTP	Wastewater Treatment Plant

I. INTRODUCTION

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The United States Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP)(40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the third FYR for the Sheboygan Harbor & River Superfund Site ("Site"). The triggering action for this statutory review is the signature date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of a single sitewide operable unit (OU) that will be addressed in this FYR, and includes source areas, impacted floodplains and sediment.

The Sheboygan Harbor & River Superfund Site FYR was led by Terese A. Van Donsel, EPA Remedial Project Manager (RPM). Participants included Thomas Wentland with the Wisconsin Department of Natural Resources (WDNR) and EPA Community Involvement Coordinator (CIC) Susan Pastor. Keith Egan with SME, Inc. (SME) [contractor to Pollution Risk Services, LLC (PRS), one of the Site's Potentially Responsible Parties (PRPs)] and WDNR were notified of the initiation of the FYR. The review began on October 12, 2018.

Site Background

The Sheboygan River and Harbor Site was listed on the National Priorities List (NPL) on June 10, 1986. Impacted areas included polychlorinated biphenyl (PCB)-contaminated sediment in the river and harbor, floodplain soils, and soil and groundwater at the former Tecumseh Products Company (Tecumseh) plant in Sheboygan Falls, Wisconsin.

The Sheboygan Harbor and River Site is located on the western shore of Lake Michigan approximately 55 miles north of Milwaukee, Wisconsin, in Sheboygan County (see **Figures 1** and **2** in **Appendix B**). The site includes the lower 14 miles of the river from the Sheboygan Falls Dam downstream to, and including, the Inner Harbor. This segment of the river flows east through Sheboygan Falls, Kohler, and Sheboygan before entering Lake Michigan. EPA divided the river into three sections during the remedial investigations (RI) based on physical characteristics such as average depth, width, and level of PCB sediment contamination. The Upper River area extends from the Sheboygan Falls Dam downstream 4 miles to the Waelderhaus Dam in Kohler. The Middle River area extends 7 miles from the Waelderhaus Dam to the former Chicago & Northwestern (C&NW) railroad bridge. The Lower River area extends 3 miles from the C&NW railroad bridge to the Pennsylvania Avenue Bridge in downtown Sheboygan. The Inner Harbor includes the Sheboygan River from the Pennsylvania Avenue Bridge to the river's outlet to the Outer Harbor.

Land use along the river is highly variable, with a mix of industrial, residential, and recreational uses. Primary land uses are discussed below, along with general information about the primary sources of PCBs to the river.

- The primary source of PCB contamination was in the Upper River area at the former Tecumseh plant in Sheboygan Falls. Tecumseh was a manufacturer of refrigeration and air conditioning compressors and gasoline engines. The company's Diecast Division manufacturing processes used PCB-containing hydraulic fluids which were discharged via sewer lines to the river. Erodible PCB-contaminated soils along the riverbank were also a source of PCBs to the river. Tecumseh closed the plant in 2003. Structures at the facility have been demolished; the property is currently vacant, and much of the property is fenced to restrict access. The future use of the property is unknown. While property use has historically been industrial, an adjacent property is a city park and the City of Sheboygan Falls has expressed interest in expanding the park to include the former Tecumseh property

- The Middle River area includes a horse farm, tree nursery, the historic Kohler Riverbend Estate, the Black Wolf Run golf course, and the 800-acre, Kohler-owned River Wildlife Area, which is used as a private hunting and fishing club. The Middle River area is also the location of the Kohler Company and Kohler Co. Landfill Superfund site. The landfill was also a source of PCB contamination to the floodplain and sediments. No significant changes in land use are anticipated in this area.

- The City of Sheboygan's central business district is on the north bank of the river in the Inner Harbor area. Offices, restaurants, marinas, parks, and a boardwalk are located within this area. No significant changes in land use are anticipated in this area.

- There are no public beaches along the river or harbor. The Lower River and Inner Harbor are navigable, but the Upper and Middle River traffic is typically restricted to smaller craft (i.e. canoes and kayaks) which can be portaged around shallow areas and the dams in Kohler and Sheboygan Falls.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Sheboygan Harbor & River		
EPA ID: WID980996367		
Region: 5	**State:** WI	**City/County:** Sheboygan/ Sheboygan County

SITE STATUS	
NPL Status: Final	
Multiple OUs? No	**Has the site achieved construction completion?** Yes

REVIEW STATUS
Lead agency: EPA ***[If "Other Federal Agency", enter Agency name]*:**
Author name (Federal or State Project Manager): Terese A. Van Donsel
Author affiliation: EPA Region 5
Review period: 10/12/2018 - 4/28/2020
Date of site inspection: Not conducted due to COVID-19 travel restrictions.
Type of review: Statutory
Review number: 3
Triggering action date: 8/28/2014
Due date *(five years after triggering action date)*: 8/28/2019

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

The primary contaminants of concern for the Site were determined to be PCBs, polynuclear aromatic hydrocarbons (PAHs), and several heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc). The PCB contamination was the primary driver of risk, and, as a result, the cleanup was primarily focused on removing PCB-contaminated sediments and soils.

Site risks evaluated during the Remedial Investigation included risks to human and ecological receptors via dermal contact with contaminated sediment and/or floodplain soil, incidental ingestion of contaminated soil, sediment and/or surface water, and consumption of fish contaminated by PCBs. Additional risk pathways were present at the Tecumseh source area where potential future consumption of groundwater was also highlighted as an exposure pathway of concern. Multiple human health risk assessments were completed during the investigatory phases of work at the site. All assessments found carcinogenic risks either within or exceeding the CERCLA risk range.

The National Oceanic and Atmospheric Administration (NOAA) prepared an Aquatic Ecological Risk Assessment (AERA) to estimate the level of risk to the aquatic organisms and piscivorous birds and mammals from exposure to contaminated sediments, water, and biota. Potential ecological receptor species considered were benthic invertebrates (flies, beetles and clams), fish (sunfish, bass, carp, minnows, suckers, Coho salmon, Chinook salmon, and steelhead trout), birds (northern pintail, northern shoveler, lesser scaup, gulls, terns, cormorants, ospreys, mallards, black ducks, Canada geese, swallows and wood ducks, kingfishers and great blue herons) and mammals (muskrat, raccoon, beaver and mink). Since the risk assessment could not evaluate all species and all possible toxicological effects, important and representative species were selected as surrogates for the ecosystem and ecologically significant effects were emphasized. The AERA found that PCB-contaminated sediment poses a risk to fish and wildlife. The results of the study were utilized in the selection of sediment cleanup standards.

The floodplain terrestrial ecological risk assessment (TERA) is a companion to the AERA. The study looked at terrestrial wildlife present along the Upper River and utilized a model that looked at how robin exposures to PCBs would impact their eggs and the larger food web. The results of the modeling and risk characterization indicated increased risks of adverse reproductive effects in robins foraging in contaminated sections of the Sheboygan River floodplain.

Response Actions

In August 1990, EPA and Tecumseh entered into an Administrative Order on Consent (AOC) to conduct interim actions to address imminent risks at the Site. In response, Tecumseh removed approximately 6,000 cubic yards (cy) of contaminated sediment that was stored in two containment facilities at Tecumseh's Sheboygan Falls plant. In addition, Tecumseh capped or “armored” approximately 1,200 square yards of highly contaminated sediment to keep contaminated sediment from eroding further down river and to reduce ecological risks associated with elevated PCBs in surface sediment.

EPA issued a Record of Decision (ROD) for the Site on May 12, 2000. The remedy outlined specific actions to address PCB-contaminated sediment, PCB-contaminated floodplain soil, and groundwater contamination. The major components of the selected remedy in the 2000 ROD included:

- Upper River sediment characterization, removal of approximately 20,774 cy of PCB-contaminated sediment to achieve a soft sediment surface weighted average concentration (SWAC) of 0.5 ppm in the Upper River, and fish tissue and sediment sampling to document natural processes and ensure that over time the entire river will reach an average PCB sediment concentration of 0.5 ppm or less and that over time fish consumption advisories will be phased out. Soft sediment is defined as an area containing a sediment depth of 1 foot or greater.

- Middle River sediment characterization, removal of sediment if necessary to achieve a soft sediment SWAC of 0.5 ppm in the Middle River, and fish and sediment sampling to document natural processes and to ensure that over time the entire river will reach an average PCB sediment concentration of 0.5 ppm or less. *Note that the 2000 ROD did not specify the volume of sediment to be removed from the Middle River. Instead, this issue was left to the Remedial Design, which ultimately determined that no sediment removal from this section of the river was required. In general, the Middle River is a segment with fast water, a rocky substrate, and low water clearance.*

- Lower River sediment characterization, removal of sediment if necessary to achieve a soft sediment SWAC of 0.5 ppm or less over time in the Lower River, annual bathymetry surveys to identify areas susceptible to scour, and fish tissue and sediment sampling to document natural processes and ensure that over time the entire river will reach an average PCB sediment concentration of 0.5 ppm or less.

- Inner Harbor sediment characterization, removal of approximately 53,000 cy of PCB-contaminated sediment to achieve a SWAC of 0.5 ppm in the Inner Harbor, annual bathymetry surveys to identify areas susceptible to scour, fish and sediment sampling to document natural processes and ensure that over time the entire river will reach an average PCB sediment concentration of 0.5 ppm or less, and maintenance of the Outer Harbor breakwalls.

- Removal of floodplain soils to reach an average PCB soil concentration of 10 ppm or less. Upon completion of the soil removal activities, the affected areas will be restored via replacement of the excavated soil, seeding, restoration of any fencing, and planting of trees. The removal of PCB contaminated soil will be balanced with maintaining existing high-quality ecological habitat. Long-term monitoring of the floodplain soil will be conducted.

- Investigation and mitigation of potential groundwater contamination and possible continuing sources at the former Tecumseh Plant in Sheboygan Falls.

- Placement of institutional controls (ICs) to limit access to Tecumseh's Sheboygan Falls plant groundwater as a drinking water source and reliance on existing WDNR waterfowl and fish consumption advisories to limit human exposure to contaminated waterfowl and fish.

The ROD identified three primary Remedial Action Objectives (RAOs) and provided information about how the selected remedy would achieve meet the RAOs.

a. Protect human health and the environment from imminent and substantial endangerment due to PCBs attributed to the site.

To achieve this remediation objective, PCB contaminated soft sediment will be removed so that the entire river will reach an average PCB sediment concentration of 0.5 ppm or less over time. An average PCB sediment concentration of 0.5 ppm results in an excess human health carcinogenic risk of 1.0×10^{-4} or less over time through the consumption of PCB-contaminated fish.

Based on site-specific biota-to-sediment accumulation factors, the corresponding target PCB tissue levels for resident fish are:

Table 2: Target PCB Tissue Levels for Resident Fish

Sport Fish	Bottom Feeders
Small Mouth Bass – 0.31 ppm	Carp – 2.58 ppm
Walleye – 0.63 ppm	Catfish – 2.53 ppm
Trout – 0.09 ppm	

Achievement of the soft sediment concentration and fish tissue concentrations, over time, will be reevaluated every five years after completion of the remedy.

Reaching the river sediment objective of a 0.5 ppm average PCB concentration requires different approaches for the Upper, Middle, and Lower River, and the Inner Harbor because of the way sediment is distributed and whether the contaminated sediment is considered mobile given the dynamics of that specific river component.

For PCB-contaminated floodplain areas, this remediation objective will be achieved by removing sufficient contaminated soil to reach an average PCB soil concentration of 10 ppm or less. The areas of soil remediation will be backfilled to its previous grade and re-vegetated to prevent future soil erosion and siltation in the river. With respect to PCB-contaminated groundwater or other potential sources near Tecumseh's Sheboygan Falls plant, the remediation objective will be to investigate and stop all additional PCB sources to the river system.

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b. Mitigate potential PCB sources to the Sheboygan River/Harbor system and reduce PCB transport within the river system.

Additional investigations will occur to determine the effects of PCB-contaminated groundwater or possible additional PCBs sources from Tecumseh's Sheboygan Falls plant. In addition, because of the dynamic nature of the Upper River and Middle River segments of the Sheboygan River, PCB-contaminated soft sediment deposits will be removed to achieve an average soft sediment deposit SWAC of 0.5 ppm. This includes PCB mass removal of 88% in the Upper River. Lastly, PCB-contaminated floodplain soil may act as a future source to the river during high flow events; therefore, PCB contaminated soil will be removed in seven areas. As some of

the areas within these floodplain soils may be considered high-quality habitat, the removal of PCB-contaminated soil will be balanced with keeping high-quality habitat intact to the extent practicable.

c. Remove and dispose of Confined Treatment Facility (CTF)/Sediment Management Facility (SMF) sediments and previously armored/capped PCB-contaminated soft sediment deposits.

   The CTF and SMF were not designed to be permanent structures. As part of the remediation of the Site, sediments in the CTF and SMF will be disposed of in a WDNR approved off-site landfill. In doing so, this action will reduce the long-term management and maintenance requirements for the Site. In addition, because recent information collected by Tecumseh indicates that there may be continuing discharges of PCBs from Area 1 and because of concerns about the effectiveness of all of the previously armored/capped soft sediment deposits, the armored/capped sediment deposits, including Area 1, will be removed.

On December 15, 2010, EPA issued an Explanation of Significant Differences (ESD) to adjust the estimate of the volume of contaminated sediment to be removed from the river, the areas from which those sediments would be removed, and the estimated cost of the modified remedy. These adjustments were made following an evaluation of pre-design investigation data and development of the Lower River Remedial Design. The pre-design investigation data demonstrated that, compared to the estimates in the ROD, the more heavily-contaminated sediment was present in the upper soft sediment layers within the Lower River, and less contamination was present in the upper soft sediment layers in the Inner Harbor. The cost estimate was adjusted to reflect more current, accurate cost information for implementation of the remedy. The remedy difference described in the ESD are summarized below.

Table 3a: Difference between ROD Cost Estimate and Remedial Design Cost Estimate

May 2000 ROD Capital Cost Estimate	Capital Cost Estimate based on Lower River Remedial Design
$12.1 Million	$12.6 Million
% Cost Difference = 4.1%	

Table 3b: Difference between ROD Volume Estimate and Remedial Design Volume Estimate

	May 2000 ROD Contaminated Sediment Volume to be Removed	Lower River Remedial Design Contaminated Sediment Volume to be Removed
Lower River	None	16,158 cy
Inner Harbor	53,000 cy	34,390 cy
Total Volume of Contaminated Sediment to be Removed from the Lower River and Inner Harbor		50,548 cy
% Volume Difference of Contaminated Sediment to be Removed		-4.6%

Status of Implementation

Phases I and II

Because of the size of the Site and the complexity of the cleanup, the Remedial Action was divided into three phases. Phases I addressed groundwater, preferential pathways, source materials, and riverbank soils at the former Tecumseh plant facility. Phase II work addressed the Upper River, including near-shore sediments, a previously armored sediment area, Upper River soft sediments, and Upper River floodplain soils. Phase III addressed the Middle River, Lower River, and Inner Harbor.

In 2003, Tecumseh entered into a Consent Decree (CD) with EPA for the Phase I and II work. The Upper River CD was entered and became effective in 2004. On March 25, 2003, Tecumseh and Pollution Risk Services, LLC (PRS) entered into a "Liability Transfer and Assumption Agreement" under which PRS assumed specified obligations and liabilities for remediation of the Site and associated costs for which Tecumseh is responsible under the Upper River CD, which included the obligation to perform Phase I and II work under the CD.

PRS performed the remedial design/remedial action for the Tecumseh plant facility area and the Upper River area. Following completion of the remedial design, the remedial action was implemented in two phases from September 2004 to October 2007. The final Site inspection of the remedial action was conducted on November 7, 2007. EPA and WDNR determined that the following remedial action activities were completed according to the 2000 ROD and design specifications for the Tecumseh property and the Upper River area. Work completed included:

- Tecumseh Property- Construction and installation of a Groundwater Monitoring/ Interceptor Trench (GMIT), which was required by the ROD if it was determined that groundwater under the Tecumseh plant could discharge to the river.
- Tecumseh Property - Excavation of source materials and riverbank areas (see **Figure 4** in **Appendix B**);
- Tecumseh Property - Removal of preferential pathways which included the removal of soil in a 10-foot radius from two outfall locations at the former Tecumseh plant that could pose a threat of continued PCB loadings to the river system;
- Tecumseh Property - Installation of monitoring wells;
- Upper River - Removal of 20,728 cy of sediment, which included 552.45 pounds of PCBs from the Upper River portion of the Sheboygan River from the Sheboygan Falls Dam down to Waelderhaus Dam (see **Figure 5** in **Appendix B**); and
- All Phase I and II Areas - Site restoration.

The Phase II sediment removal noted above included removal of sediment from nine (9) previously armored Remedial Management Units (RMUs) and 122 Soft Sediment RMUs. The previously armored RMUs and Soft Sediment RMUs contained the majority of the PCB mass within the Upper River. PCB mass removal of each Soft Sediment RMU was deemed complete when 3 to 4 inches (or less), on average, of residual sediment remained in the deposit as determined by sediment probing after dredging, or after three passes with conventional dredging equipment. At completion, the Phase II remedial action removed 20,728 cy of sediment from the Upper River and 552 pounds of PCBs for a total mass removal percentage of 94.1%, exceeding the PCB mass reduction objective of 88%. No backfill or cover material was placed within the dredged areas.

The Upper River post-dredge baseline SWAC was calculated to be 1.96 ppm as documented in PRS's 2007 Construction Documentation Report. Where hardpan existed or PCBs were not detected, a value equal to the laboratory's detection limit was used in the SWAC calculation. This approach continues with routine sediment monitoring that is conducted every three years. Samples from the previously dredged RMUs are collected and analyzed for PCBs. If sufficient sediment is found to qualify the area as "soft sediment", the analytical result is used in the calculation. If insufficient sediment depth is found, then the laboratory detection limit is used in the calculation.

Phase III

On October 6, 2009, PRS entered into an AOC with EPA to perform recharacterization and remedial design activities for the Middle River, Lower River, Inner Harbor, and floodplain soils.

In determining what concentration of PCBs or what mass of PCBs would constitute a substantial threat to achieving an overall sediment SWAC of 0.5 ppm, EPA developed a geostatistical sediment sampling design. EPA determined that a substantial threat to achieving the 0.5 ppm SWAC would be a release that would recontaminate a surface area representing 20% or more of the Inner Harbor. EPA determined that it would be unacceptable if a release would lead to an overall Inner Harbor PCB surface sediment concentration of 2.0 ppm in the biologically active zone.

The geostatistical sampling design was used to develop the "trigger level" that would guide dredging decisions. Each sediment sample utilized in the model represented an 8,432 ft^2 area. Dividing the calculated mass by the representative volume of each sample (8,432 ft^2 to a depth of 2 ft), equals a sediment sample concentration of 26 ppm. This means that if a sediment sample was taken and had a PCB concentration of 26 ppm or higher, the 16,864 ft3 (625 yd3) volume needed to be addressed. The action was either removal of the 625 yd^3 area or a more detailed delineation of the sediment area to determine what volume of the area has PCB concentrations greater than 26 ppm. It was determined that this approach would lead to a post-dredging SWAC of 3.5 ppm, which correlates to a long-term recovery time of 30 years until the 0.5 ppm target SWAC would be met.

The approach to apply the 26 ppm trigger level was customized to each river segment. For the Lower River, PCB-contaminated sediment above 26 ppm within the top foot was to be removed where water depths were greater than five (5) feet, and PCB-contaminated sediment in excess of 26 ppm within the top two (2) feet was to be removed where water depths were less than five (5) feet. The Inner Harbor remedy included characterization and removal of two (2) feet of contaminated sediment from the Pennsylvania Avenue Bridge to just past the 8"' Street Bridge ("Area A"). Four (4) feet was to be removed in those areas (referenced as Area B and C) of the Inner Harbor where the bathymetry analysis showed scour greater than two (2) feet.

Remedy construction activities for Phase III were conducted in four main sub-phases: the 2010 Land-Based Mobilization, the 2011 Sediment Removal, the 2012 Sediment Removal, and the 2012 Floodplain Soil Removal.

2010 Land-Based Mobilization - Land-based mobilization activities were performed by PRS in 2010 (in advance of the 2011 Phase III Remedial Action Consent Decree) with approval from EPA in order to reduce the 2011 mobilization schedule. These activities included the construction of the dewatering and wastewater treatment plant (WWTP) infrastructure at 2025 Maryland Avenue.

In 2011, a CD was entered between PRS and the United States requiring PRS to implement the Phase III cleanup work, and the cleanup work began that same year. These areas were documented in the EPA-approved 100% Design dated November 2011 and the EPA-approved Remedial Action Work Plan (RAWP) dated March 2011 and revised in February 2012.

2011 and 2012 Sediment Removal - Mobilization for the Phase III work occurred between March 16 and April 11, 2011 and included all marine activities necessary to prepare the Site for sediment removal using 8-inch-diameter dredge equipment. From April 12 to August 19, 2011, Lower River dredging was performed with an 8-inch-diameter swinging ladder dredge, 8-inch dredge line and boosters, geotextile tubes for sediment dewatering, and the 2010-designed and installed WWTP system.

In June 2011, PRS investigated and initiated a second dredge mobilization, increasing the size of the dredge equipment. Due to the daily removal volume inefficiency in the 8-inch-diameter dredge equipment from impassible objects, 10-inch-diameter dredge equipment and an enhanced WWTP were mobilized to the site between July 29 and September 5, 2011. The larger dredge and enhanced WWTP system worked from September 6 to December 3, 2011. PRS remobilized the 10-inch-diameter dredge equipment and made modifications to the WWTP between April 4, 2012, and May 7, 2012. Dredging began on May 8, 2012, and was performed through October 11, 2012. Dredging in 2011 and 2012 removed a total of 65,475.10 cy of contaminated sediment.

2012 Floodplain Soil Removal - Remedial action work was performed in Floodplains 3, 4, and 6 within the Upper River during August and September 2012. The work performed was identified in an access agreement with the property owner, the Kohler Company. The soil removal activities were performed in accordance with the Floodplains 3 and 4 Remedial Action Work Plan, which was approved with comments by EPA in July 2012, and the Floodplain 6 Work Plan - Revision 3, which was approved by EPA in September 2012.

It's important to note that Phase III floodplain excavations within Kohler Co. (Kohler) properties were limited by the amount and extent of soil that was necessary to be removed to reach the SWAC for the reach. This meant that some PCB-contaminated soil was allowed to remain at depth in areas where there was considered little risk of erosion from flood-driven scour. This approach was noted in the response to comments to the 2000 ROD, whereby EPA noted that some localized areas with contaminated soil with more than 10 ppm may be left in place to avoid impacts to high-quality forested habitat. The ROD doesn't call out a requirement for ICs for these areas; however, EPA will evaluate whether ICs are appropriate given residual concentrations of PCBs.

Management of Toxic Substances Control Act (TSCA)-Regulated Materials - For all remedial action work, including floodplain soils and sediment, excavated and dredged material was segregated by PCB concentration. Materials containing 50 ppm total PCBs or greater were managed consistent with requirements. For Phase III dredging, this was done having dedicated TSCA and non-TSCA geotextile tubes. River grids that had been determined to contain TSCA levels of PCBs in sediment were routed to the identified and dedicated geotextile tubes, whereas non-TSCA sediment was routed to other geotextile tubes. When switching from non-TSCA to TSCA grids or from TSCA to non-TSCA grids, the dredge slurry line was completely emptied of sediment and washed clean. The determination of TSCA applicability was based on the in-situ concentration found in the sediment during the 2009 pre-design investigation and additional delineation performed in 2011.

Demobilization and Construction Completion - PRS conducted demobilization activities between October 12 and November 6, 2012. A walkthrough of the dewatering pad and WWTP area was conducted on November 7, 2012, with EPA and WDNR in attendance to note any deficiencies. A punch list was generated. The punch list was substantially completed on November 16, 2012, and approved by EPA. Construction completion was documented in a September 30, 2013, Preliminary Close-Out Report. At completion, PRS removed approximately 65,475.10 cy of sediment from the Lower River and Inner Harbor (see **Figure 6** in **Appendix B**), which totals 13,927.10 cy more than the estimated quantity included in the 100% Design (51,548.00 cy). During 2011 and 2012 dredging 67,492.97 tons of non-TSCA material and 7,795.70 tons of TSCA material was transported offsite and disposed of appropriately.

Phase III Post-Dredging SWAC Calculations - The Middle River SWAC, where active remediation activities were not required, was 1.71 ppm as indicated in the 100% Design and in the Pre-Design Investigation.

Because there were two Great Lakes National Program Office (GLNPO) sediment removal projects performed at the time of the completion of the Lower River Superfund work, PRS did not perform a post-dredge sampling program in the Lower River. As such, data for calculating the SWAC was limited to the SWAC data obtained from the GLNPO project following completion of that dredging work. Based on GLNPO Samples CS-1 to CS-42 and using 0.024 ppm as the surface concentration for areas where GLNPO placed cover sand after dredging, the SWAC for the Lower River following completion of the dredging projects was 0.53 ppm PCBs.

The SWAC for the Inner Harbor was also based on GLNPO data. The SWAC from Pennsylvania Avenue Bridge to the 8th Street Bridge was estimated at 0.78 ppm PCBs. The estimated post-dredging SWAC from the 8th Street Bridge to the river's mouth (including the GLNPO data for the area from the Pennsylvania Ave Bridge to the 8th Street Bridge and Superfund Pre-Design Investigation data for the area from the 8th Street Bridge to the river's mouth) was 1.00 ppm.

Cover Placement - PRS did not place a sand cover over the remaining sediments after dredging because parallel projects under the Great Lakes Legacy Act (GLLA) and the Great Lakes Restoration Initiative (GLRI) would have had to remove some portion (if not all) of the sand to conduct the deeper dredging associated with the GLLA and GLRI projects. A sand cover was subsequently placed by the GLNPO/GLLA contractor in some areas to speed recovery of the river by improving the post-dredging SWAC.

2016 and 2018 Tecumseh Phase II Environmental Site Assessment - The Tecumseh property was one of several sites used for sediment dewatering during the dredging of the Sheboygan River. Because there were several breaks in the geotextile tubes used at the Tecumseh site (and also at a dewatering site on Maryland Avenue in Sheboygan), EPA directed PRS to conduct investigations to ensure that the properties had not been adversely impacted. PRS conducted a Phase II Environmental Site Assessment (ESA) in 2016 to review both locations, and instead of finding the low-level contamination at Tecumseh that would be expected from dewatering activities, the investigation found significant PCB and PAH contamination, more consistent with impacts from past manufacturing operations. Additional investigations in 2018 found extensive soil contamination around the foundation of the former plant building. Please see the Data Review section for a discussion of the analytical results and the work being planned to address the contamination.

Because the concentrations of PCBs found in the soil at the Tecumseh facility exceed the Principal Threat Waste threshold, the RPM consulted with the EPA Region 5 Emergency Response Section responsible for the State of Wisconsin to ensure that no time-critical removal actions were required to address an imminent threat to human health or the environment. Based on a joint Remedial / Emergency Response Site inspection conducted on June 16, 2020, it was determined that there are currently no complete pathways for human exposure that warrant a time-critical emergency response. The portion of the property with elevated PCB contamination is fenced, and access is restricted. Concrete and vegetation currently provide sufficient cover to limit erosion of contaminated soils under current conditions. A detailed investigation of the property and evaluation of human health and ecological risks is required to identify appropriate response actions and Applicable or Relevant and Appropriate Requirement (ARARs).

Institutional Controls

The May 2000 ROD specifically required that ICs be implemented to limit access to Tecumseh's Sheboygan Falls plant groundwater as a drinking water source. Additionally, the ROD requires that fish and waterfowl advisories be maintained throughout the river to limit human exposure to contaminated waterfowl and fish.

A summary of planned and implemented ICs for the Site can be found in **Table 4** below.

Table 4: Summary of Planned and/or Implemented ICs

Media, Engineered Controls, and Areas that Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Groundwater	Yes	Yes	Former Tecumseh Sheboygan Falls Plant Location	Prohibit interference with GMIT, prohibit groundwater consumption, and prohibit use of the property in a manner that would allow the release of contaminants or result in increased exposure to contamination.	Declaration of Restrictive Covenants (planned)
Soft Sediment	Yes	Yes	Upper River, Middle River, Lower River, and Inner Harbor	Limit human consumption of fish and waterfowl.	WDNR fish and waterfowl advisories. PCB-related fish consumption advisories were issued in 1979, and waterfowl consumption advisories were issued in 1987.

Status of Access Restrictions and ICs: While the planned ICs in the form of restrictive covenants on the Tecumseh property have not yet been formally executed, no actions have been taken at the Tecumseh property that would be inconsistent with or potentially damaging to the remedy, as implemented. Based on an inspection of the Tecumseh property on June 16, 2020, access to the Tecumseh property is restricted by a fence with a locked gate, and groundwater at the facility is not being used. No

construction or other intrusive activities have occurred which would impact the PCB-contaminated groundwater within the property. Regarding the consumption advisories for the Sheboygan River, the WDNR fish and waterfowl advisories remain in place, and the State has the authority to enforce the restrictions.

As part of the post-remediation activities for the site, EPA and WDNR are working with SME, PRS' contractor, to develop an Institutional Controls Implementation and Assurance Plan (ICIAP) to help ensure long-term protectiveness of the remedy. The ICIAP has not yet been finalized. Additional soil contamination has been found at the Tecumseh plant facility (see the discussion in the Data Review section of this FYR), and follow-up work is required to assess the extent of contamination and to determine an appropriate response action and the need for additional ICs. EPA is also reviewing past cleanup actions performed within the Kohler floodplains to determine if ICs are required to address PCBs left at depth in soil at concentrations greater than 10 ppm in areas of high-quality forested habitat. If there is a determination that ICs are required on the floodplain areas and/or the Tecumseh Plant Property, EPA will issue an ESD requiring the additional ICs needed for these Site areas.

IC Follow-up Actions Needed: Although PRS has submitted a draft ICIAP for EPA review, that document will need to be updated to incorporate any additional ICs that are identified as being needed for the Tecumseh plant property. Also, if EPA determines that ICs are necessary for Kohler floodplain areas, an ESD will be issued requiring those additional ICs for the Site area, and those IC requirements will also need to be incorporated into the ICIAP. The ICAP will also include a map showing the areas where ICs are applied.

Long-Term Stewardship: Since compliance with ICs is necessary to assure the protectiveness of the remedy, planning for long-term stewardship is important to help ensure that the ICs are maintained, monitored and enforced. Long-term stewardship involves assuring effective procedures are in place to properly maintain and monitor ICs for the Site. The Long-Term Stewardship Plan will be prepared as a separate deliverable or as a component of the ICIAP. Regardless of the format, the plan will identify the entities responsible for implementation, verification, and long-term stewardship of the ICs on the former Tecumseh property and throughout the river. If ICs are determined to be necessary for the floodplain areas where PCBs were left at concentrations greater than 10 ppm, then those areas will be included as well.

Systems Operations/Operation & Maintenance

PRS developed the long-term monitoring program as presented in the Post-Remediation Monitoring Plan (PMP), dated September 2008, to address sampling and inspection requirements for the river and floodplain. The program includes Floodplain Monitoring and Maintenance, Fish Monitoring, Earthworm Monitoring, Soft Sediment Monitoring, Indicator Parameter Monitoring and Maintenance, Breakwater Monitoring, and Bathymetry Monitoring. Not included in the 2008 plan was monitoring specific to the Tecumseh property. Monitoring responsibilities are summarized in **Table 5.**

There have been no changes to the PMP since the 2014 FYR. However, future updates to the PMP are expected to address anticipated follow-up work at the Tecumseh facility. In addition, responsibility for the Outer Harbor Breakwalls is under discussion. USACE has historically been responsible for this work, and PRS has proposed that their responsibility for this work, even in a "backup" capacity (should USACE not act), be terminated.

Table 5: Post-Remediation Monitoring for this FYR Period

	Scope of Required Post-Remediation Monitoring and Inspection Work	Timeframe	Status
Soft Sediment Monitoring	Composite Soft Sediment samples will be collected and analyzed at least once every five years from the Upper and Lower River to document changes in PCB SWAC. • Phase 1 - Post-remedial monitoring to verify the SWAC is following a trend toward the remedial objective. This includes sampling the defined units containing at least one foot of soft sediment every five years. • Phase 2 - Once the Phase 1 results indicated the remedial objective SWAC has been met, sampling will be performed annually for up to three years to confirm the sediment results have reached the SWAC. The sampling will be performed using a statistically based approach.	Phase 1: 1st and 3rd years after remediation. Then, every 5th year starting in the 5th year after remediation. Phase 2: Annually for three consecutive years.	Currently in Phase 1 monitoring. The last sampling event was in 2017. A table (**Table 8**) showing historical data can be found in the Data Review section. More detailed information can be found in the excerpt of the 2017 Surface Sediment Monitoring Report in Appendix C.
Fish Monitoring	The monitoring consists of the following: • Baseline monitoring after remediation of the Upper River and prior to remediation of the Lower River reaches to determine the mean PCB concentration of each fish species of interest. • Phase l annual monitoring of each reach. • Phase 2 confirmatory sampling to verify the fish have reached the remedial goals. Species targeted for monitoring include adult smallmouth bass, walleye, catfish, juvenile and adult white suckers or carp, longnose dace and rock bass.	Annually unless less frequent monitoring approved by EPA.	Phase I annual monitoring is continuing. The most recent sampling was in 2019 and is presented in **Table 9** in the Data Review section. Historical data and a trend analysis can be found in Appendix D.
Earthworm Monitoring	Earthworm monitoring will occur on a one-time basis seven years after completion of the remediation.	Once, seven years after completion of floodplain remediation.	Complete. Earthworm sampling was performed in 2019. See **Table 11** and the discussion in the Data Review section.
Benthic Monitoring	Benthic macroinvertebrate monitoring is not proposed for routine post-remedial monitoring. However, it is proposed in the event that the concentrations in fish do not show a trend of lower PCB concentrations.	Upon request by EPA.	EPA has not requested benthic invertebrate monitoring, as fish data is trending downward.
Breakwater Monitoring	At this time, jetties are inspected and maintained by USACE, and they have the responsibility to maintain the breakwaters. In the event that the USACE does not provide inspection and maintenance of the jetties, PRS will be responsible for the work. Work includes: • The presence of breaches or potential breaches in the structure. • The height and width of each portion (A-G) of the northern jetty and each portion (I-N) of the southern jetty. • A visual inspection of the riprap on each portion. • A visual inspection of the riprap on each portion. • An inspection of the cap (top stone and/or concrete). • An inspection of the end (toe) of the breakwater. • An evaluation of the integrity of the intersection of each portion of the jetty. • An evaluation of the integrity of the intersection of the jetties with the land surface (root). • An evaluation of the submerged portion of the jetties for erosion.	Annually. Maintenance will be performed by PRS within three months of identification of need (if not performed by USACE).	Work has been completed annually by USACE during this FYR period.

Table 5: Post-Remediation Monitoring (continued)

Bathymetry Monitoring	A bathymetry survey of the Lower River and Inner Harbor will be conducted on an annual basis to assess profile changes and determine if buried PCB-contaminated sediment with a volume of 625 cy, equal to or greater than 26 ppm, is vulnerable to disturbance and release.	Annually	Annual bathymetry monitoring continues. The most recent monitoring was completed in October 2019.
Groundwater at Tecumseh	Routine sampling from 6 monitoring wells along the GMIT. Data to be used to determine whether extraction of groundwater from the GMIT is necessary.	Biannually through 2011. Annually thereafter.	Biannual sampling continues. The most recent sampling event was in 2019. See **Table 11** for a summary of groundwater data from 2004 to 2018.

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the last FYR as well as the recommendations from the last FYR and the current status of those recommendations.

Table 6: Protectiveness Determinations/Statements from the 2014 FYR

OU #	Protectiveness Determination	Protectiveness Statement
OU1 (Sitewide)	Not Protective	This FYR found that the remedy at the Sheboygan Harbor and River site is not protective of human health and the environment. While the remedy has been implemented in accordance with the requirements of the decision documents and design specifications, current levels of PCBs in fish tissue and sediments exceed the RAOs and corresponding cleanup numbers, resulting in unacceptable risks to human and ecological receptors. Fish consumption advisories are in place, but fishing has been observed, with fish being taken off-site, and it is assumed that the fish are being consumed. Ecological receptors are still exposed to unacceptable risks posed by PCB contamination in sediments and fish. During the construction of the remedial action, EPA held regular meetings with local officials and community members to communicate the risks associated with the site contamination as well as the risks associated with fish consumption. In addition, signs were placed along the river shoreline explaining the fish advisories. In order for the remedy to be protective, the following actions need to be taken: monitoring data is needed to show that PCB concentrations in sediments and fish are decreasing and that they achieve the RAOs and cleanup numbers as intended in the decision documents; and that implementation of and compliance with effective ICs is taking place. Compliance with ICs will be ensured by maintaining, monitoring, and enforcing ICs, as well as maintaining the remedy components at the site.

Table 7: Status of Recommendations from the 2014 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
01	An Institutional Control Implementation and Assurance Plan (ICIAP) needs to be developed.	Prepare an ICIAP for approval. Prepare and implement an IC Monitoring or Long-Term Stewardship Plan, and include further evaluation and implementation of ICs, as necessary, to enhance the long-term protectiveness of the remedy.	Under Discussion	Not complete. PRS submitted a draft ICIAP on June 8, 2016. No separate Long-Term Stewardship Plan has been submitted, and the draft ICIAP doesn't contain sufficient detail to define long-term inspection and oversight responsibilities. Additionally, revisions may be needed to address anticipated additional work and ICs that may be needed at the Tecumseh plant property and potential ICs for floodplain soil where PCBs in excess of 10 ppm were allowed to remain to protect high quality habitat.	NA
01	Full implementation and monitoring of effective ICs are needed.	Implement effective ICs in accordance with the approved ICIAP.	Under Discussion	Not complete. WDNR fish and waterfowl advisories are in place. However, the restrictive covenants to address PCB-contaminated groundwater at the Tecumseh property are not yet in place. The scope of covenants for the Tecumseh property will be reassessed as part of the decision document that will be issued to address the PCB-contaminated soils identified in the 2016 & 2018 Phase II ESA. In addition, if a determination is made that ICs are appropriate for floodplain areas where PCB concentrations above 10 ppm remain, appropriate covenants will be required as part of the ICIAP and implemented.	NA

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

A public notice was made available by an advertisement titled "EPA Begins Review of Sheboygan River and Harbor Superfund Site" placed in the *Sheboygan Press* on 11/1/2018, stating that there was a FYR and inviting the public to submit any comments to EPA. No comments have been received and no inquiries have been made regarding the FYR.

No interviews were conducted in support of this FYR. The results of the review and the report will be made available at the Site information repository located at the Mead Public Library, 710 N 8th Street, Sheboygan, Wisconsin and on the Site's website (https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.docdata&id=0505188#AR).

Data Review

As noted in the "Response Actions" section of this FYR, the goal of the sediment remediation was to achieve a SWAC of 0.5 ppm. This target was believed to be sufficient to achieve a significant reduction in PCB loading in resident fish. The work at the Tecumseh facility was meant to remove highly-contaminated floodplain soils and prevent PCB-contaminated groundwater from entering the river. An assessment of progress toward these end goals is provided below based on data collected since the last FYR.

Sediment Monitoring: Sediment sampling was last performed in 2017. The results are shown in **Table 8**, along with historical data for comparison. Shaded entries show concentrations in excess of the 0.5 ROD target for the SWAC. The 2017 data showed that the cleanup is not currently meeting the SWAC target in the ROD. The primary driver of the elevated PCB SWAC is an area, RMU Deposit 26, in the Upper River. In 2012, PRS determined that RMU Deposit 26 was two distinct units (sampled as Dep26A-1 through Dep26A-12 and Dep26B-13 through Dep26B-15). When the deposit boundaries were verified in the field by SME it was determined that Deposit 26 was one continuous unit. Data from the 2017 sample analysis indicated that the highest PCB concentrations (maximum detection 53.4 ppm) in this deposit were from the subdivided deposit areas not previously sampled by PRS in 2012. The 2017 Upper River data show that RMU Deposit 26 accounts for approximately 62.6% of the total 2017 SWAC from the Upper River. For more detailed information (including discussion, figures and data tables), see the excerpt from the 2017 Surface Sediment Monitoring Report that is provided in **Appendix C**.

The Upper River sediment data exceeds the target SWAC for the reach and also causes an exceedance of the SWAC for the overall river (see **Table 8**, below). It is possible that flooding in the Sheboygan River redistributed the contaminated sediments that were sampled in 2017. However, since the next routine sediment sampling event isn't until 2022 and the reduction in fish tissue concentrations has been slow, it is recommended that focused re-sampling be performed in the Upper River to find out whether a new or continuing source exists that wasn't addressed. If RMU Deposit 26 is confirmed as a problem area, target dredging or excavation from the shoreline may be appropriate in order to achieve the SWAC of 0.5 ppm.

Table 8: Sheboygan River and Harbor 2017 Sediment Sampling with SWAC Historical Summary

River Reach	SWAC Historical Summary (ppm)								
	1997[1]	2004[2]	2007[3]	2009[4]	2011[5]	2012[6,7]	2015[8]	2017	ROD Target
Upper River	3.6	5.9	1.96	-	-	0.78	-	1.82	0.5
Middle River	1.5	-	-	1.71	-	-	-	0.22	
Lower River	5.5	-	-	5.29	4.17	1.09	2.2	0.30	
Inner Harbor	-	-	-	1.63	-	-	0.66	0.43	
Overall River	-	-	-	-	-	-	-	0.56	

- = no available data
Highlighted = above ROD Target SWAC of 0.5 ppm
1 United States Environmental Protection Agency. Record of Decision. May 2000
2 Pollution Risk Services, LLC. Pre-Design Investigation Results. April 2005
3 Pollution Risk Services, LLC. 2007 Post Construction Documentation Report. November 2007
4 Pollution Risk Services, LLC. Pre-Design Investigation Report. March 2010
5 C2HM Hill. Final Remediation Investigation Report. Lower River and Inner Harbor of the Sheboygan River. June 2011
6 C2HM Hill. Final Cleanup Validation Report. Great Lakes Legacy Act Dredging - Sheboygan River. August 2013
7 Pollution Risk Services, LLC. Upper River Sediment Monitoring Report. January 2013
8 SME. Serial Letter #24. Sheboygan River and Harbor Site. November 2015

Fish Tissue Sampling: In order to address unacceptable risks at the Site, EPA calculated sediment cleanup goals to be protective of human health. EPA made a conscious decision to model and be protective of the more contaminated resident fish species of smallmouth bass and carp at the Site. By selecting a cleanup goal protective of bass (or carp), it is believed that the cleanup will be protective of the lesser contaminated species such as walleye, trout, salmon, and steelhead. Target fish tissue levels corresponding to the SWAC Sediment Cleanup Goal include the following:

- Smallmouth Bass 0.31 ppm (skin on fillet)
- Carp 2.58 ppm (skin on fillet)
- Walleye 0.63 ppm (skin on fillet)
- Catfish 2.53 ppm (skin off fillet)
- Trout 0.09 ppm (skin on fillet)

The 2019 fish sampling event was conducted consistent with the 2008 PMP and the project Quality Assurance Project Plan (QAPP). The results of the 2019 fish sampling event are shown in **Table 9**, below:

Table 9: Mean Fish Tissue PCB Results by River Reach – Comparison of 2008 and 2019 Data

Fish Species	Comparison of 2008 Baseline Fish Tissue Mean PCB Concentrations (ppm) with 2019 Fish Tissue Mean PCB Concentrations (ppm) by River Reach (2008 Baseline Mean Concentration) 2019 Mean Concentration						
	Target Fish Tissue Level	Upper (Site 1) in ppm	Upper (Site 2) in ppm	Middle (Site 1) in ppm	Middle (Site 2) in ppm	Lower in ppm	Inner Harbor in ppm
Smallmouth Bass	0.31	(12.96) 1.94	(14.52) 1.64	(8.75) 0.71	(4.30) 1.46	(5.77) 1.01	(3.36) 0.68
Adult Carp	2.58	(25.88) 22.61	(14.72) 10.81	(4.44) 5.51	(1.27) 3.94	(11.30) 4.82	(3.16) 5.48
Adult White Suckers		(12.42) 16.18	(8.92) 3.75	(8.77) 5.19	(3.96) 1.39	(4.31) 0.79	(---) 0.78
Juvenile White Suckers		(6.01) ---	(6.82) ---	(---) ---	(1.37) ---	(---) ---	(---) ---
Rock Bass		(6.94) 3.59	(4.27) 1.22	(2.79) 1.14	(2.49) 1.06	(2.60) 0.80	(---) 0.73
Longnose Dace		(10.1) ---	(---) ---	(---) ---	(---) ---	(---) ---	(---) ---
Walleye	0.63	(---) ---	(---) ---	(2.79) 2.20	(---) ---	(---) ---	(---) ---

"---" No fish of this species were collected during this event.

As **Table 9** demonstrates, none of the fish sampled in 2019 met the corresponding target PCB fish tissue concentrations that were identified in the ROD. However, a comparison to historical concentrations shows that there has been some progress. A summary of historical fish data from the 2008 baseline to 2019 is provided in **Appendix D**, along with a trend analysis performed by PRS. A comprehensive review of the historical data is critical as not all species are recovered during each sampling year.

The collective PCB results from 2008 to 2019 show a general decrease in PCB concentrations in fish tissue across the river with less significant decrease in bottom feeding fish (Carp, White Suckers and Channel Catfish) and more significant decrease in sport fish (Smallmouth Bass, Rock Bass and Walleye). The collective PCB results in 2019 were higher than in 2018, but the 2019 results were generally comparable with and less than in 2016 and 2017. Most of the increases were observed in the bottom feeding fish affecting the overall trend for all fish. A brief summary of the significant trends and differences of PCB concentrations for all river reaches combined follows:

- Adult Carp – Significant decreasing trend and significant difference in PCB concentrations since 2008. The 95 percent Upper Confidence Limit (UCL) PCB concentration has decreased 44 percent since the completion of sediment remedial actions and 40 percent since the baseline event.

- Adult White Sucker – Significant decreasing trend and significant difference in PCB concentrations since 2008. The 95 percent UCL PCB concentration has increased 23 percent since the completion of sediment remedial actions but has decreased 8 percent since the baseline event.

- Juvenile White Sucker – No significant trends or differences since 2008 can be reported due to low recovery and limited data.

- Smallmouth Bass – Significant decreasing trend and significant difference in PCB concentrations since 2008. The 95 percent UCL PCB concentration has decreased 61 percent since the completion of sediment remedial actions and 84 percent since the baseline event.

- Rock Bass – Significant decreasing trend and significant difference in PCB concentrations since 2008. The 95 percent UCL PCB concentration has decreased 34 percent since the completion of sediment remedial actions and 52 percent since the baseline event. Note that Rock Bass were included as a monitored species as a potential surrogate sport fish in case sufficient Walleye could not be collected to meet sampling requirements.

- Walleye – Significant decreasing trend and significant difference in PCB concentrations since 2008. Limited walleye were collected in 2019, so a comparison of the 95 percent UCL was not possible.

- Channel Catfish – General decreasing trend; however, no significant trend or differences since 2008 can be reported due to low recovery and limited data. No catfish were collected in 2019.

- Longnose Dace – Longnose Dace were not collected in 2019.

- All Fish Species - Significant decreasing trend and significant difference in PCB concentrations since 2008. The 95 percent UCL PCB concentration has decreased 39 percent since the completion of sediment remedial actions and 38 percent since the baseline event in 2008.

Earthworm Monitoring in Floodplains: Pursuant to the 2008 PMP, floodplain habitat monitoring and maintenance activities were to be performed semi-annually for a period of two years following the completion of floodplain remedial actions. Earthworm monitoring was to occur on a one-time basis seven years after completion of the remediation. The one-time earthworm monitoring event was completed in 2019.

The baseline for earthworm analyses is the work done in 1999 as part of the Sheboygan River and Harbor Floodplain Terrestrial Ecological Risk Assessment (TERA). Concentrations of total PCBs in earthworms collected from project floodplain areas along the Upper River ranged from 0.035 ppm (Floodplain Area 5) to 53.5 ppm (Floodplain Area 6) with an average of 25 ppm. The PCB concentration in earthworms collected from a reference location was 0.003 ppm. The EPA TERA determined an earthworm concentration of 6.5 ppm fresh weight (fw) would be protective to foraging robins.

There is no remediation requirement specifically for worms. The remedial requirement was to achieve an average floodplain soil concentration of 10 ppm total PCBs. The ROD requirement was implemented by excavating all contaminated soil above 50 ppm and excavating soil to achieve 10 ppm or less total PCBs on average within each robin foraging area (each 100' x 295').

As part of the 2019 sampling event, twenty-nine (29) earthworms were collected on May 3, 2019 and May 4, 2019 from four different floodplain sample locations totaling one-hundred and sixteen (116) earthworms. The sampling locations were in Floodplains 3, 4, 5 and 6 in the Upper River. The 29 samples collected in each floodplain area were composited and analyzed for one average result.

Table 10: Summary of PCBs in Floodplain Earthworms

Sample	Date Collected	Average Concentration (ppm)	Action Level (ppm)
PRM-FP3-EW	5/3/2019	1.24	6.5
PRM-FP4-EW	5/3/2019	3.25	
PRM-FP5-EW	5/4/2019	1.36	
PRM-FP6-EW	5/4/2019	5.32	

The 2019 earthworm data shows that the excavation work completed in the floodplain areas has achieved the desired end result in terms of protectiveness for foraging robins.

Annual Bathymetry Monitoring**:** This FYR looked at the three most recent bathymetry reports. All reports showed general increases in sediment thickness. There is no evidence that areas of residual contamination are subject to scour.

Groundwater Monitoring at the Tecumseh Plant Property: Wells along the GMIT are sampled annually to verify that PCB-contaminated groundwater is not moving south toward the Sheboygan River. Should elevated PCBs be found in the wells, the GMIT would be put into use and groundwater would be extracted for treatment and/or disposal. Based on the data collected during the timeframe relevant to this FYR, there is no significant movement of PCB-contaminated groundwater away from the former manufacturing area of the Tecumseh property.

Table 11: Summary of PCBs in Groundwater, Tecumseh Facility

WELL / DATE	MW9	MW10	MW12	MW13	MW16	MW17
06/19/2014	ND	0.57	0.33J	0.91	ND	0.27J*
06/11/2015	ND	0.44J	0.30J	1.20	ND	ND
07/13/2016	ND	0.61	0.52	0.66	ND	ND
08/30/2017	ND	0.65	0.59	0.65	ND	ND
05/10/2018	ND	ND	ND	0.35J	ND	ND
06/04/2019	ND	ND	ND	0.26J	0.16J	0.13J

Results in µg/L
ND - Not Detected
J - Concentration is less than Limit of Quantitation (LOQ) and is estimated
* PCBs were not detected in the duplicate sample

2016 and 2018 Soil Data from Tecumseh Phase II Environmental Site Assessment: In 2016, PRS conducted a Phase II ESA to look for low-level PCB contamination associated with dewatering activities previously conducted at the property. The investigation found high levels of PCBs in soil around the foundation of the former Tecumseh plant building more consistent with impacts from past

manufacturing operations. At the direction of EPA, PRS conducted a follow-up investigation in 2018 to identify the horizontal and vertical extent of the contamination at the Tecumseh property. Of most concern is the PCB-contaminated soil, which was found impacted at levels (max = 15,200 ppm, average = 965 ppm, 95% UCL = 1,124 ppm) that exceed the Principal Threat Waste[1] threshold for PCBs. **See Appendix E** for figures and data tables from the 2016 and 2018 investigations.

At EPA's request, PRS has submitted a draft Data Gap Analysis to assess past characterization efforts and identify areas where surface and subsurface soil data are not available or are inadequate. The draft document is provided in **Appendix F**. The results of that effort will be used to develop a statistically defensible Sampling and Analysis Plan (SAP) which will guide additional investigations. The goal is to conduct the additional investigations in calendar year 2020, subject to COVID-19 travel restrictions. The information from the investigations will be used to evaluate what non-time critical removal action or follow-up remedial work is most appropriate to address Site risks.

Site Inspection

A Site inspection could not be completed for this FYR. In 2019, no inspection occurred due to limited staff availability and staff turnover. In 2020, the site inspection was planned for Spring 2020 but was ultimately cancelled due to COVID-19 travel restrictions.

As previously discussed, a joint Remedial / Emergency Response Site inspection for the Tecumseh plant property was conducted on June 16, 2020; however, this inspection was solely for the Tecumseh plant property and did not address the entire Sheboygan Site. The scope of the inspection was limited to determining whether there exists a current pathway for human health or ecological exposure that warrants a time-critical removal action. The inspection found that the areas of known contamination were sufficiently restricted by a fence with a locked gate and that areas of highest contamination are either well vegetated or covered by concrete. Based on the review of the property, the RPM and OSC did not recommend a time-critical removal action at this time.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:

No. All active remediation work was completed in late 2012, and long-term monitoring has been ongoing since that time. While the remedial action activities were completed in accordance with the requirements of the 2000 ROD and approved remedial design documents, there has been insufficient

[1] Per OSWER Directive 9380.3-06, Principal Threat Wastes are defined as "those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. They include liquids and other highly mobile compounds (e.g., solvents) or materials having high concentrations of toxic compounds. No "threshold level" of toxicity/risk has been established to equate to 'principal threat'. However, where toxicity and mobility of source material combine to pose a potential risk of 10^{-3} or greater, generally treatment alternatives should be evaluated." OSWER Directive 9380.3-06FS further states that "Wastes that generally will be considered principal threats include, but are not limited to… (3rd bullet) Highly-toxic source material – buried drummed non-liquid wastes, buried tanks containing non-liquid wastes, or soils containing significant concentrations of highly-toxic materials". See also OSWER Directive 9355.4-01 for the application of the principal threat concept to Superfund sites with PCB contamination.

progress toward meeting the remedial targets for sediment and fish tissue and there are new concerns about elevated concentrations of PCBs found in the soil at the former Tecumseh plant facility.

Sediment concentrations in the river have generally decreased since the completion of the remedial action, but the most recent data found increased PCB concentrations in Upper River sediment. It is likely that this is historical contamination, found in recent years due to a change in the sample collection locations. Simply put, if the RMU Deposit 26 area had not previously been sufficiently sampled, it would not have been sufficiently remediated. Future sampling will monitor the Upper River closely to ensure that the elevated levels recently seen in sediment are not indicative of an unaddressed source. If the sediment in RMU Deposit 26 is confirmed to still contain PCBs above the dredging action level, EPA will require the PRP to take action to address the contaminated sediment to facilitate achievement of the SWAC.

With the recent discovery of additional soil contamination at the Tecumseh property, a re-review of potential sources in the upper river area is appropriate. Based on preliminary information, there are currently no complete pathways for human exposure that warrant a time-critical removal action. The primary area of concern is fenced, and access is restricted. No current pathway has been found for movement of the contaminated soil at Tecumseh to the river, but the discovery of significant contamination at this point in the project highlights the value of reassessing areas thought to have been sufficiently investigated. Additional investigation at the property will be required to determine the full nature and extent of contamination, potential human health and ecological risks, and ARARs relevant to remedial alternatives.

The planned ICs in the form of restrictive covenants have not been formally executed yet at the Site. In addition to the investigative and remedial activities noted above, additional IC actions are necessary to: (1) complete the ICIAP and Long-Term Stewardship Plan, (2) address any post-cleanup restrictions that may be necessary at the Tecumseh property, and (3) to evaluate the need for an ESD to establish IC restrictions where PCBs above 10 ppm remain in floodplain soils.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy section still valid?

Question B Summary:

No. The 2016 and 2018 sampling conducted at the Tecumseh plant property found extensive PCB soil contamination at levels of concern for potential human health and ecological exposures. Additional investigation is required to determine the nature and extent of contamination, and remedial alternatives will need to be developed and evaluated to address exposure pathways applicable to potential future uses of the property, mechanisms of contaminant transport to the river system, and actions and/or controls appropriate for the property's location within a Special Flood Hazard Area Zone AE.

PCB cleanup work in floodplain areas was limited, but where work was performed, the approach still appears to be valid. Worm data is indicative that ecological impacts from PCBs have significantly lessened. However, not all floodplain areas identified in the ROD were required to meet the 10 ppm total PCB target. Accommodations were made for Kohler-owned floodplain properties that were heavily forested and determined to be high quality ecological habitat. However, no ICs were required for these areas. This FYR recommends an assessment of these areas to determine whether ICs should be required

for long-term monitoring to verify that the areas are not impacted by erosion or otherwise disturbed by development.

The exposure assumptions, toxicity data, cleanup levels, and RAOs for river sediment remain valid. Recovery is continuing toward the SWAC sediment target of 0.5 ppm total PCBs. The ROD focus on PCBs as the primary driver of risk remains valid. Metals contamination in sediment was less significant than PCBs and was to a great extent co-located with PCBs. Therefore, surface sediment concentrations for metals would have improve as a result of the Superfund and GLNPO dredging actions. PAH contamination in sediment was most significantly from the WPSC Camp Marina Site, which was addressed by EPA as a separate action. GLNPO dredging also addressed PAH sediment within the Lower River and Inner Harbor. There are no new promulgated standards applicable to the sediment cleanup.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

Question C Summary:

No. No other information has come to light that could affect the protectiveness of the remedy. There have been no climate-related effects or natural disaster events since 2015 which may have adversely affected remedy components or the remedy's effectiveness.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
None.

Issues and Recommendations Identified in the Five-Year Review:

OU(s): OU1 (Sitewide)	**Issue Category:** Changed Site Conditions			
	Issue: The extent of PCB and PAH contamination at the former Tecumseh plant facility needs to be delineated, data gaps need to be resolved, and risks to human health and the environment need to be assessed.			
	Recommendation: Fully investigate PCB and PAH contamination at the Tecumseh property.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
Yes	Yes	PRP	EPA/State	9/30/2021

OU(s): OU1 (Sitewide)	**Issue Category:** Changed Site Conditions			
	Issue: PCB and PAH contamination at the former Tecumseh facility poses a potential threat to human health and the environment.			
	Recommendation: Fully address PCB and PAH contamination at the Tecumseh property to meet ARARs and site-specific standards and to mitigate risks to human health and the environment.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
Yes	Yes	PRP	EPA/State	12/31/2022

OU(s): OU1 (Sitewide)	**Issue Category:** Remedy Performance			
	Issue: The SWAC in the Upper River exceeds the 2000 ROD cleanup standard. The current concentration of PCBs in RMU Deposit 26 needs to be investigated. If RMU Deposit 26 still contains elevated levels of PCBs, the area should be remediated to allow for achievement of the SWAC for the Upper River and for the river overall.			
	Recommendation: Perform targeted resampling of RMU Deposit 26. Mitigate RMU Deposit 26 if re-sampling confirms an area of contamination that exceeds the Remedial Design action level.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
Yes	Yes	PRP	EPA/State	8/30/2021

OU(s): OU1 (Sitewide)	**Issue Category:** Institutional Controls			
	Issue: An Institutional Control Implementation and Assurance Plan (ICIAP) needs to be developed.			
	Recommendation: Prepare an ICIAP for approval. Prepare and implement an IC Monitoring or Long-Term Stewardship Plan, and include further evaluation and implementation of ICs, as necessary, to enhance the long-term protectiveness of the remedy.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	4/30/2021

OU(s): OU1 (Sitewide)	**Issue Category:** Institutional Controls			
	Issue: Full implementation and enforcement of effective ICs is needed.			
	Recommendation: Implement effective ICs in accordance with the approved ICIAP.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA/State	9/30/2021

OU(s): OU1 (Sitewide)	**Issue Category:** Institutional Controls			
	Issue: An assessment is needed to determine if ICs are appropriate and needed for floodplain areas where PCBs remain at levels greater than 10 ppm and for the Tecumseh plant property.			
	Recommendation: Assess floodplain data to determine if residual concentrations of PCBs warrant ICs to reduce contact and/or prohibit disturbance. As part of the evaluation of the Tecumseh plant property, assess whether ICs are an appropriate component of the remedial action.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA	EPA	9/30/2021

OU(s): OU1 (Sitewide)	**Issue Category:** Institutional Controls			
	Issue: No ICs are defined for floodplain areas where PCBs greater than 10 ppm were allowed to remain and for contaminated soils in the Tecumseh plant property.			
	Recommendation: If EPA determines that ICs are appropriate and needed in these areas, it will issue an ESD to establish the IC requirement(s). If EPA finds that no ICs are required, it will prepare a Memo to File to document the determination.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA	EPA	12/31/2021

OU(s): OU1 (Sitewide)	**Issue Category:** Monitoring			
	Issue: The FYR Site inspection was not conducted as part of this FYR due to travel restrictions from COVID-19.			
	Recommendation: Conduct a Site inspection once COVID-19 travel restrictions are lifted. Document results of inspection in writing and include photographs.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA	EPA	12/31/2020

VII. PROTECTIVENESS STATEMENT

OU1/Sitewide Protectiveness Statement
Protectiveness Determination: Not Protective
Protectiveness Statement: The remedy at the Sheboygan Harbor & River Site is not protective because of the following issues: 1. Previously unknown PCB and PAH contamination has been found at the Tecumseh facility. While the June 2020 joint RPM/OSC Site inspection found no current human health or ecological exposure exposures that warrant a time-critical removal action, additional investigation is required to determine the nature and extent of contamination and fully evaluate current and future risks. 2. The SWAC in the Upper River exceeds the 2000 ROD target, due primarily to PCB concentrations within RMU Deposit 26. The following actions need to be taken to ensure current and long-term protectiveness: 1. An investigation of the Tecumseh property is necessary to delineate the extent of contamination, resolve data gaps, and assess risks to human health and the environment. Contamination should then be addressed to mitigate risks and meet ARARs and site-specific standards. 2. RMU Deposit 26 needs to be resampled and action should be taken if concentrations exceed the dredging action level. While not at issue for short-term protectiveness, the following actions need to be taken to ensure protectiveness in the long term: 1. The current draft ICIAP needs to be updated to address any Tecumseh-specific requirements and to include EPA's determination regarding residual PCBs in floodplain soils. The ICIAP then needs to be implemented to ensure that ICs are properly implemented, monitored and enforced. 2. If EPA determines that ICs are warranted for floodplain areas where residual concentrations of PCBs greater than 10 ppm remain, EPA shall issue an IC ESD. If there is a determination that no ICs are required, EPA will issue a Memo to File to document the result of the assessment. 3. Conduct a Site inspection once COVID-19 travel restrictions are lifted. Document results of inspection in writing and include photographs.

VIII. NEXT REVIEW

The next FYR report for the Sheboygan Harbor & River Superfund Site is required five years from the completion date of this FYR.

APPENDIX A

APPENDIX A – REFERENCE LIST

1. Correspondence from K. Egan (SME) to T. Van Donsel (EPA), Serial Letter #61, Sheboygan River and Harbor Superfund Site – EPA Review of Remedial Action Plan for Tecumseh Falls and Maryland Avenue Sites, SME Project No. 069638.00.051.000, April 23, 2020

2. Correspondence from K. Egan (SME) to T. Van Donsel (EPA), Serial Letter #62, Sheboygan River and Harbor Superfund Site, SME Project No. 069638.00.051.000, April 23, 2020 (Data Gap Analysis)

3. 2019 Annual Fish Monitoring Report, Sheboygan River and Inner Harbor Superfund Site, Sheboygan, Kohler, and Sheboygan Falls, Wisconsin, SME Project Number: 069638.00.044, December 20, 2019

4. Correspondence from K. Egan (SME) to P. Valentin (EPA), RE: SME Serial Letter #57, Sheboygan River and Harbor Site, SME Project No. 069638.00.045.001, November 18, 2019 (2019 Bathymetry Study)

5. Correspondence from K. Egan (SME) to P. Valentin (EPA), RE: 2019 Groundwater Monitoring Report, Sheboygan River and Harbor Site, Sheboygan, Wisconsin, SME Project No. 069638.00.046.001, July 11, 2019

6. Correspondence from M. Schaner (SME) and K. Egan (SME) to P. Valentin (EPA), 2019 Floodplain Worm Sampling Report Sheboygan River and Harbor Site Sheboygan, Wisconsin SME Project No. 069638.00.046, July 9, 2019

7. Correspondence from K. Egan (SME) to P. Valentin (EPA), RE: SME Serial Letter #54, Sheboygan River and Harbor Site, SME Project No. 069638.00.037.001, 2018 December 27, 2018 (2018 Bathymetry Study)

8. Remedial Action Plan, Revision 1, Sheboygan River and Harbor Site, Tecumseh Dewatering Site, Sheboygan Falls, WI and Maryland Avenue Dewatering Site, Sheboygan, WI, SME Project Number 069638.00.034.001, November 8, 2018

9. Correspondence from K. Egan (SME) to P. Valentin (EPA), RE: SME Serial Letter #52, Sheboygan River and Inner Harbor Site, SME Project No. 069638.00.036.00, October 30, 2018 (2018 Annual Fish Monitoring Report)

10. Report of Supplemental Phase II Environmental Site Assessment, Sheboygan River and Harbor Superfund Site, Tecumseh Site, Sheboygan Falls, WI, SME Project Number: 069638.00.034.001, September 14, 2018

11. Email from K. Egan (SME), Sheboygan River and Harbor Meeting Summary, March 6, 2018 Meeting Date, March 8, 2018

12. Correspondence from K. Egan (SME) to P. Valentin (EPA), RE: SME Serial Letter #45, Sheboygan River and Harbor Site, SME Project No. 069638.00.028.001, December 27, 2017 (2017 Bathymetry Study)

13. Correspondence from K. Egan (SME) to P. Valentin (EPA), RE: SME Serial Letter #44, RE: 2017 Surface Sediment Monitoring Report, Sheboygan River and Inner Harbor Superfund Site, SME Project No. 069638.00.032.001, November 21, 2017

14. Correspondence from K. Egan (SME) to P. Valentin (EPA), RE: SME Serial Letter #20, Sheboygan River and Harbor Site, SME Project No. 069638.00.021.001, June 8, 2016 (transmittal memo for draft ICIAP / contains Response to Comments on Prior Draft)

15. Draft Institutional Control, Implementation, and Assurance Plan, Sheboygan River and Harbor Superfund Site, SME Project Number: 069638.00.021.001, June 8, 2016

16. Second Five Year Review Report, Sheboygan Harbor and River Superfund Site, Sheboygan, Wisconsin, August 24, 2014

17. Post-Remediation Monitoring Plan, Sheboygan River and Harbor Superfund Site Upper and Lower River, PRS, September 2008

18. Final Construction Documentation, Phase II – Upper River Sediment Removal, Sheboygan River and Harbor Superfund Site, PRS, Inc., November 2007

19. U.S. EPA Superfund Record of Decision, Sheboygan River and Harbor, Sheboygan, Wisconsin, May 2000

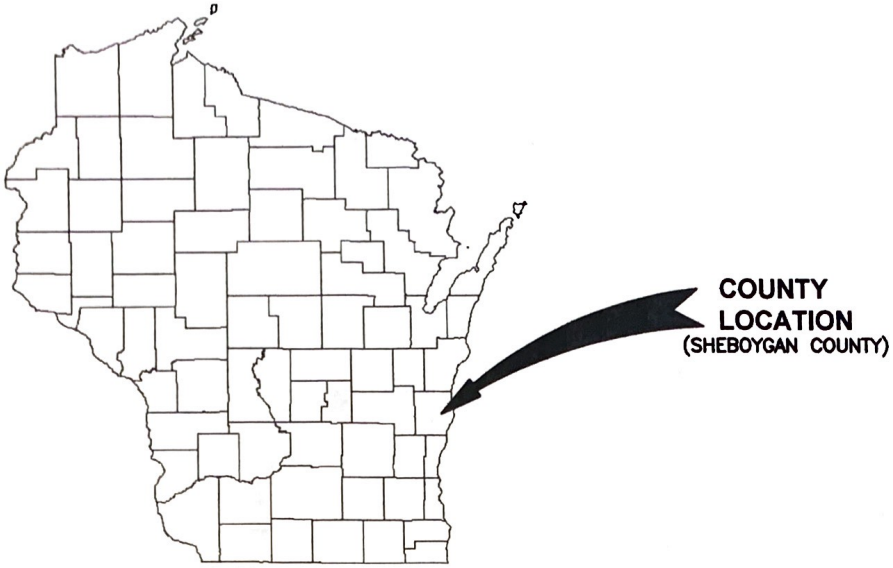
20. Technical Memorandum – External Source Assessment, Tecumseh Products Company, Sheboygan Falls, Wisconsin, Blasland, Bouck & Lee, November 1999

21. Administrative Order by Consent, In the Matter of: Sheboygan River and Harbor Site Removal Action, Respondent: Tecumseh Products Company, August 19, 1990

22. Remedial Investigation / Enhanced Screening Report, Sheboygan River and Harbor, Foley & Lardner / Tecumseh Products Company, Blasland, Bouck & Lee, May 1990

23. Administrative Order by Consent, In the Matter of: Sheboygan Harbor and River, Sheboygan, Wisconsin, Respondent: Tecumseh Products Company – Diecast Division, Docket No. V-W-'86-C-005, April 11, 1986

APPENDIX B



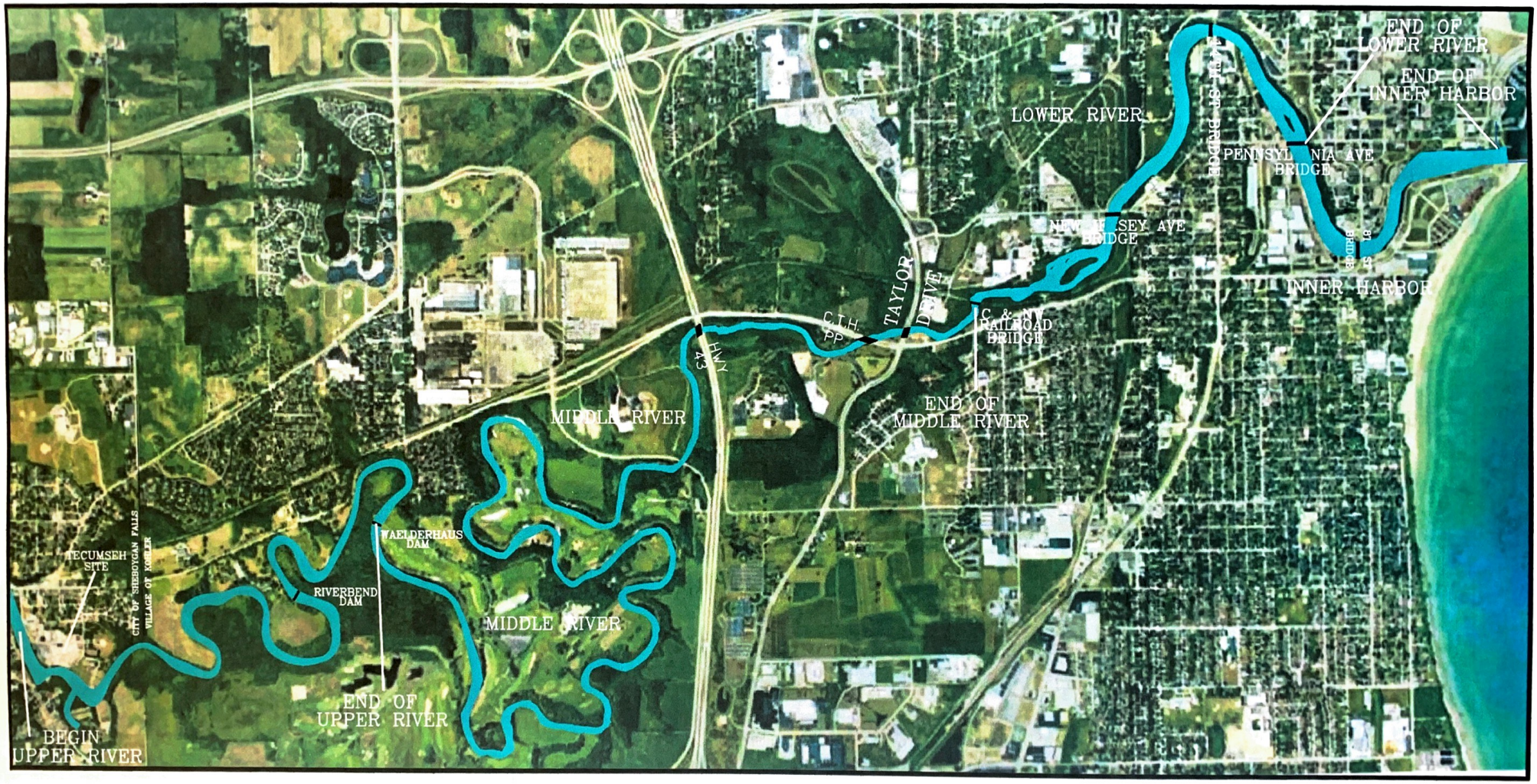
COUNTY LOCATION MAP

NOT TO SCALE

GRAPHIC SCALE: 1" = 4000'

SHEBOYGAN RIVER

NOTE:
DRAWING INFORMATION PROVIDED BY POLLUTION RISK SERVICES.



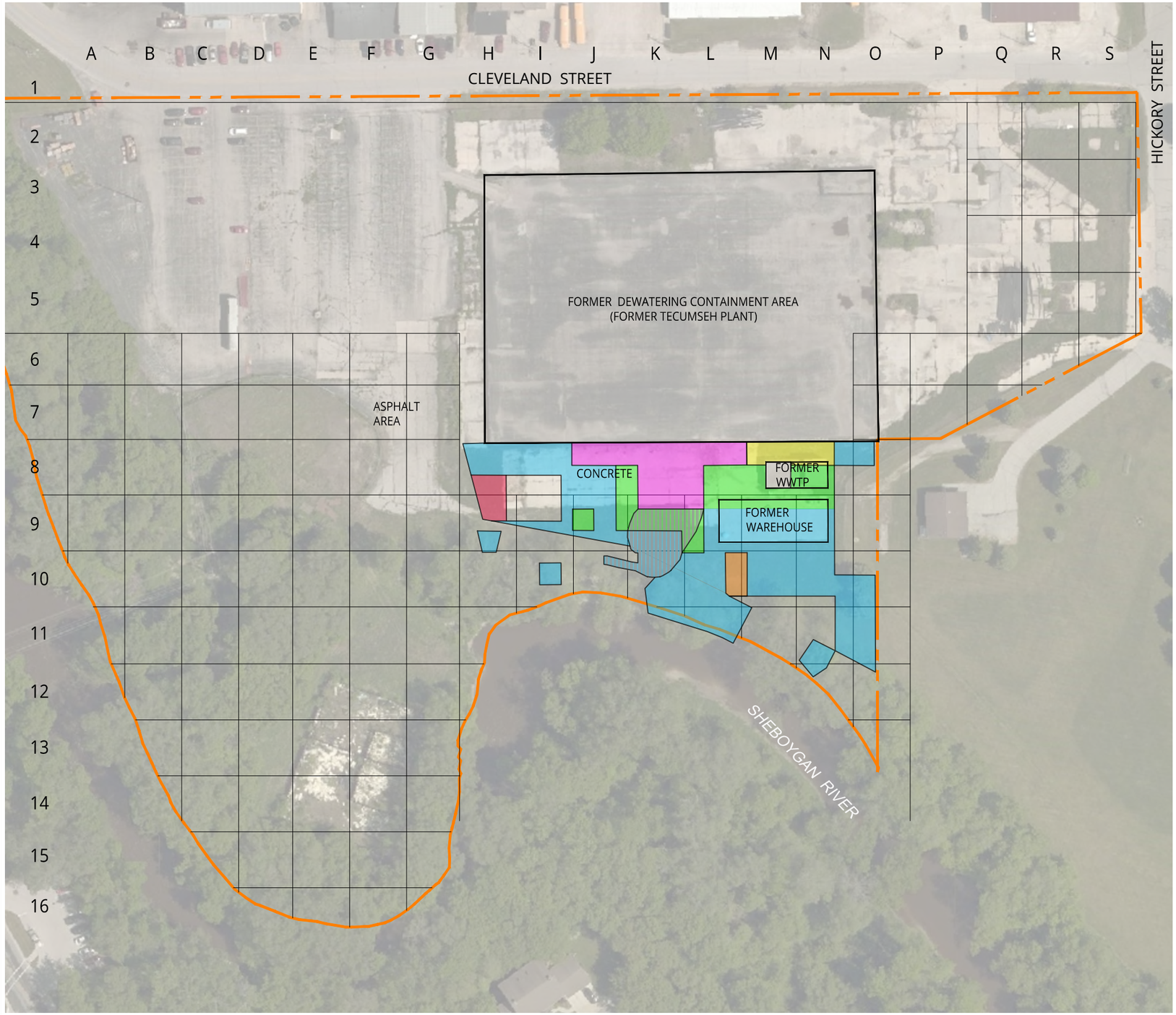
NOTE:
DRAWING INFORMATION PROVIDED BY POLLUTION RISK SERVICES.

NORTH

0' 2000' 4000'

GRAPHIC SCALE: 1" = 2000'

Apr 25, 2014 - 2:50pm - jblake



N
W E
S

0' 100' 200'

GRAPHIC SCALE: 1" = 100'

LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE LIMITS OF OIL SLICK EXCAVATION
- EXCAVATION TO 0.5 FEET
- EXCAVATION TO 1 FOOT
- EXCAVATION TO 2 FEET
- EXCAVATION TO 3 FEET
- EXCAVATION TO 4 FEET
- EXCAVATION TO 7 FEET

NOTES:
1. BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.
2. EXCAVATION LIMITS PROVIDED BY PDF TITLED 1979 BACK-YARD EXCAVATION MAP, FIGURE C, BY BLASLAND, BOUCK & LEE, INC. WITH A DATE ON THE DRAWING OF 11/10/99.

SME
www.sme-usa.com

Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
AREAS OF 1979 REMEDIATION ACTIVITIES

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 8A

PLOT DATE: Apr 21, 2020 - 3:38pm - jblake
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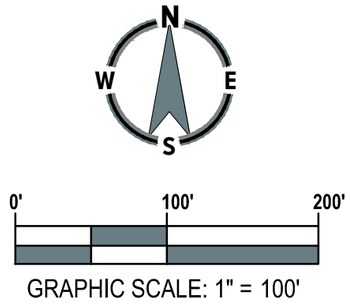

LEGEND

- APPROXIMATE SITE BOUNDARY
- PLANT SOURCE (PS) EXCAVATION AREA (0 - 1 FOOT)
- PLANT SOURCE (PS) EXCAVATION AREA TO DEPTH OF WATER TABLE (APPROXIMATELY 6 FEET)
- RIVERBANK (RB) EXCAVATION AREA (0 TO 1 FOOT)
- PREFERENTIAL PATHWAY 1 (PP1) EXCAVATION AREA (0 - 1 FOOT)
- PREFERENTIAL PATHWAY 2 (PP2) EXCAVATION AREA TO DEPTH OF WATER TABLE (DEPTHS 1 - 7 FEET)

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.
2. EXCAVATION LIMITS PROVIDED FROM PRS FIGURES AB-4, AB-5, AND AB-6. DATED NOVEMBER 2004.
3. OVERLAPPING EXCAVATION AREAS WITH THE SAME EXCAVATION DEPTHS (PS, RB, AND PP1) WERE REMOVED TO A DEPTH OF 1 FOOT; HOWEVER, SAMPLING WAS CONDUCTED AS SEPARATE AREAS.
4. OVERLAPPING EXCAVATION AREAS WITH DIFFERENT EXCAVATION DEPTHS (PS, RB, AND PP1) WERE REMOVED TO THE DEPTH OF THE WATER TABLE; HOWEVER, SAMPLING WAS CONDUCTED AS SEPARATE AREAS.

SME
www.sme-usa.com

Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
AREAS OF 2004 REMEDIATION ACTIVITIES

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 8B

PLOT DATE: Apr 21, 2020 - 4:00pm - jblake
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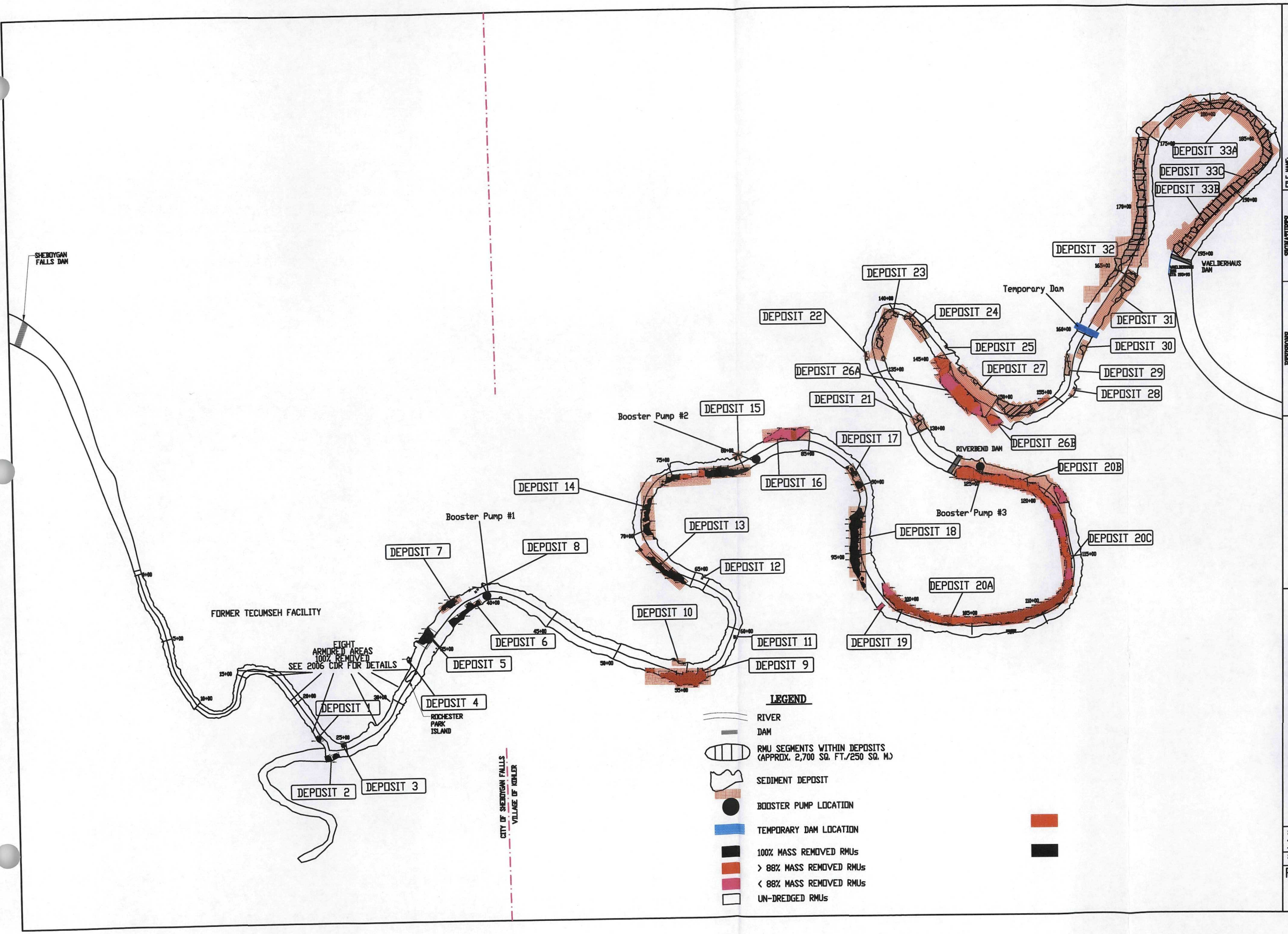


REVISIONS			SIGNATURES		
NO.	BY	DATE		BY	DATE
1			APPROVED		
2			REVIEWED		
3			DESIGNED		

RECORD DRAWINGS OF COMPLETED CONSTRUCTION CONFORMING TO CONTRACTORS AND/OR OWNERS RECORDS. BY DATE

FILE NAME:
DRAWN BY: KDA DATE: FEBRUARY 2007

PRS Pollution Risk Services
7870 E Kemper Road, Suite 240
Cincinnati, Ohio 45249
Phone: 513-489-2793
Fax 513-489-2794

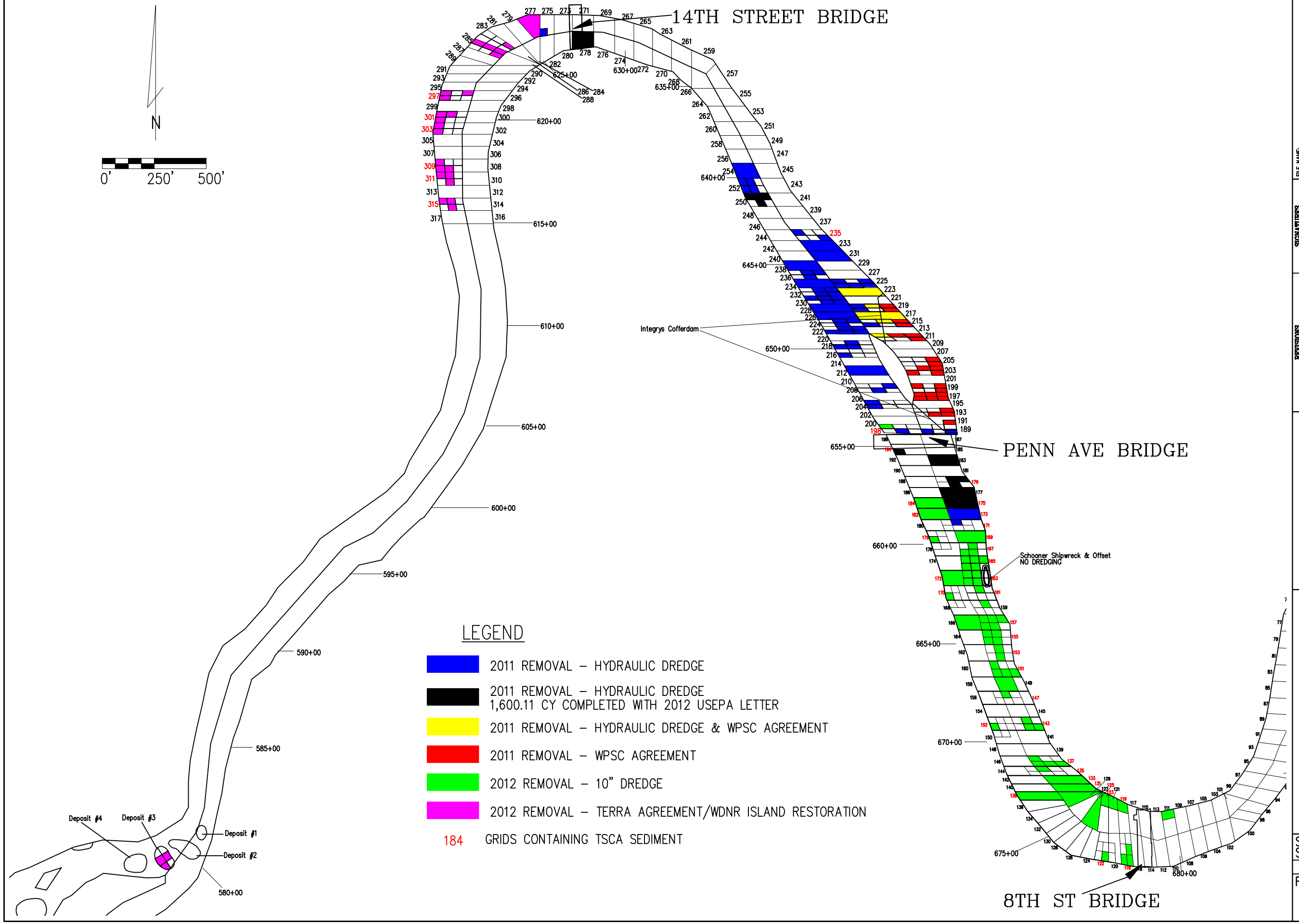
SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE
FINAL CONSTRUCTION DOCUMENTATION REPORT
PHASE II - UPPER RIVER
SHEBOYGAN FALLS, WISCONSIN

POST-DREDGE MASS REMOVED BY RMU

SCALE: 1" = 571'

SCOPE ID

FIGURE NO. 3



FILE NAME:
DRAWN BY: KDA DATE: JANUARY 2013

SIGNATURES

	BY	DATE
APPROVED		
REVIEWED		
DESIGNED		

REVISIONS

NO.	BY	DATE
1	KDA	FEBRUARY 2011

Pollution Risk Services
7870 East Kemper Road, Suite 240
Cincinnati, Ohio 45249
Phone: 513-489-2793
Fax: 513-489-2794

SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE
COMPLETION OF REMEDIAL ACTION REPORT
SHEBOYGAN, WISCONSIN

DREDGE REMOVAL LOCATIONS – 2011/2012

Scale: SHOWN

FIGURE NO. 2

APPENDIX C

2017 SURFACE SEDIMENT MONITORING REPORT

SHEBOYGAN RIVER AND INNER HARBOR SUPERFUND SITE
SHEBOYGAN, KOHLER AND SHEBOYGAN FALLS, WISCONSIN

SME Project Number: 069638.00.032.001

November 21, 2017

Prepared for United States Environmental Protection Agency Region 5

TABLE OF CONTENTS

TABLES

FIGURES

APPENDIX A

APPENDIX B

1. INTRODUCTION

This *Sheboygan River and Harbor Superfund Site 2017 Surface Sediment Monitoring Report* presents the results of the post-remedial sediment monitoring conducted by SME on the Sheboygan River and Harbor Superfund Site (Site) in accordance with the *Post-Remediation Monitoring Plan* (PMP) (PRS, 2008) and the *Quality Assurance Project Plan* (QAPP) (PRS QAPP, 2008). These plans were conditionally approved by the United States Environmental Protection Agency (USEPA) with comments on August 13, 2008. The objective of this monitoring is to document changes over time in Surface Weighted Average Concentration (SWAC) of polychlorinated biphenyls (PCBs) following the completion of the remedial action performed in this river.

As stated in the PMP, the post-remediation sediment monitoring is being conducted in two phases consisting of the following:

- Phase 1 Sediment Monitoring – Post-remedial monitoring will be conducted to verify that the SWAC continues to decrease toward the remedial objective of 0.5 parts per million (ppm).[1] This will include a sampling event every five years.
- Phase 2 Sediment Monitoring – Once the Phase 1 results indicate the remedial SWAC of 0.5 ppm has been met, sampling will be performed annually for up to three years to confirm the sediment results have reached the SWAC goal of 0.5 ppm.

The remediation of the Upper River was completed in 2007 and the Lower River and Inner Harbor was completed in 2012. This report documents the first post-remedial monitoring of the entire river since remediation was completed. This report presents the 2017 Phase 1 Sediment Monitoring results for the Upper River, Middle River, Lower River, and Inner Harbor reaches of the Sheboygan River and Harbor Superfund Site.

1.1 SITE HISTORY

Sediment samples collected near the former Tecumseh facility in 1989 and 1990 had PCB concentrations from 1.4 ppm to 4,500 ppm (USEPA, 2000). PCB-contaminated sediment was removed from this area in 1990 and 1991. Subsequent sampling of the same area showed concentrations ranging from less than laboratory reporting limits up to 840 ppm (USEPA, 2000). Other areas of the Tecumseh facility were investigated beginning in 2015 and the investigation continues to date.

The Upper and Middle River reaches consists of discrete Soft Sediment deposits and non-Soft Sediment areas which include a mix of Soft Sediment, rocks, cobbles, and bare river bottom. The sediment contamination in the Upper River acts as a partial source of PCB-contaminated sediment for the rest of the river system during high river conditions in addition to the other sources identified in the Middle River, Lower River, and Inner Harbor. The soft sediment in the Lower River occurs in discrete deposits within the first few hundred feet of the reach but its presence is continuous from that point to the end of the and Inner Harbor.

Remedial Design (RD) and Remedial Action (RA) work at the Site was implemented by PRS in phases in order to achieve proper source control prior to initiating down river work (PRS, 2006, 2007). Phase I RA work for the Upper River was performed in 2004 and included the Tecumseh plant soils, groundwater, and adjoining riverbank soils. Phase II RA work for the Upper River was performed in 2006 and 2007 and included addressing the Near-Shore Sediments, Armored Areas, and Soft Sediment deposits. Phase III RA work for the Lower River was performed in 2011 and 2012 and included addressing Soft Sediment grids from the Lower River and Inner Harbor.

[1] "ppm" is equivalent to milligrams to kilogram (mg/Kg)

The concentrations of PCBs in the sediment vary due to the dynamic nature of this river reach. During 2006 and 2007, sediment was removed from nine (9) Armored Area Remedial Management Units (RMUs) and 122 Soft Sediment RMUs[2]. The Soft Sediment RMUs and Armored Area RMUs removed in 2006/2007 contained the majority of the PCB mass within the Upper River. This remedial action removed 20,728 cubic yards of sediment and 552 pounds of PCBs for a total mass removal percentage of 94.1%, exceeding the PCB mass reduction objective of 88%.

In addition to the soft sediments in the Upper River, floodplain areas along the Upper River were found to have PCB contaminated soil ranging from 4 to 220 ppm. PCB-contaminated soil posed a risk to wildlife that come in contact with contaminated floodplain soil. The USEPA analyzed ecological risk, in consultation with the natural resource trustees. Although the optimal cleanup goal would be to achieve 0.81 ppm in floodplain soil, USEPA concluded that a cleanup goal of approximately 10 ppm PCBs in floodplain soils would be sufficient (USEPA 1999). The *Floodplain Pre-Design Investigation Report* (PRS, 2005) identified concentrations of polychlorinated biphenyls (PCBs) in various samples collected within five of the floodplains associated with this river (i.e., Floodplains 3, 4, 5, 6, and 7). Floodplain remediation was performed in the late summer of 2012 and the *Floodplain Completion Report* (PRS, 2013) presented the results of the remedial actions performed for Floodplains 3, 4, and 6. No remedial action was required in Floodplains 5 and 7 as the pre-design investigation report results met the criteria established by the USEPA in the Record of Decision (ROD).

Implementation of the remedial action for the Middle River, Lower River, and Inner Harbor was conducted over the 2011 and 2012 construction seasons. Mobilization activities for the 2011 construction season began in April 2011, in accordance with the construction schedule and included all activities necessary to prepare the site for the sediment remedial action. Mobilization was performed in accordance with the Remedial Action Work Plan (RAWP). Actual dredging in the Lower River began in May 2011 using a cutterhead dredge. Dredging activities were completed for the construction season in November 2011 and 21,740 cubic yards of PCB-contaminated sediment were removed. Mobilization activities for the 2012 construction season began in March 2012. Mobilization was performed in accordance with the RAWP. Actual dredging in the Lower River for the 2012 season began in May 2012 using a cutterhead dredge. Dredging activities were completed on December 17, 2012, and 43,148 cubic yards of PCB-contaminated sediment were removed.

1.2 PRIOR SWAC CONCENTRATIONS

The SWAC calculation methodology used is described in the Engineering Computation provided in the USEPA-approved *Upper River Phase II Sediment Removal Design* (PRS, 2006).

According to the 2000 Record of Decision (ROD) the 2000 pre-remedial SWAC for the Upper River was 3.6 ppm (USEPA, 2000). According to a pre-remedial investigation conducted on the Upper River reaches in 2004 (PRS, 2005), the 2004 Upper River pre-remedial SWAC was 5.9 ppm. Phase II RA work for the Upper River was performed in 2006 and 2007. According to sediment sampling conducted during completion of the RA in 2007, the 2007 Upper River post-dredge SWAC was 1.96 ppm (PRS, 2007). PRS conducted post-remedial sediment monitoring conducted on the Upper River reach in 2012; the Upper River post-dredge SWAC was 0.78 ppm (PRS, 2013).

According to the 2000 USEPA Superfund Record of Decision (ROD) the 2000 pre-remedial SWAC for the Middle River was 1.5 ppm (USEPA, 2000). During the pre-remedial investigation conducted on the Middle River by PRS in 2009, the 2009 Middle River SWAC was 1.71 ppm (PRS Pre-Design Investigation, 2010).

[2] The definition for a Remedial Management Unit (RMU) will be defined in Section 2.0.

The Record of Decision (ROD) reported the 2000 pre-remedial SWAC for the Lower River was 5.5 ppm (USEPA, 2000). According to a pre-remedial investigation conducted on the Lower River by PRS in 2009, the 2009 pre-remedial Lower River SWAC was 5.29 ppm (PRS Pre-Design Investigation, 2010). Following the pre-remedial investigation conducted on the Inner Harbor by PRS in 2009, the 2009 Inner Harbor SWAC was 1.63 ppm (PRS Pre-Design Investigation, 2010). According to a pre-remedial investigation associated with Great Lakes Legacy Act Dredging project and conducted by C2HM Hill (a USEPA oversight contractor), the combined Lower River and Inner Harbor SWAC was 4.17 ppm (C2HM Hill, 2011). Phase III RA work for the Lower River was performed in 2011 and 2012 and included the Lower River and Inner Harbor. In addition, four dredging projects (including the Strategic Navigational Dredging Project, Camp Marina and the Legacy Act Project) were conducted on the Lower River and Inner Harbor between 2011 and 2013. Based on the verification sampling conducted by C2HM Hill following the completion of the dredging projects in 2013, the combined Lower River and Inner Harbor SWAC for the was 1.09 ppm (estimated based on placement of sand cover materials) (C2HM Hill, 2013). According to a compilation of verification sampling results and post-remedial sampling conducted on Inner Harbor (downstream of the 8th street dam) by PRS in 2015, the SWAC for the Lower River and Inner Harbor were 2.2 ppm and 0.66 ppm, respectively (SME, 2015).

2. SAMPLING AND ANALYSIS

2.1 SUMMARY OF SAMPLING PLAN

In order to maintain sampling location consistency throughout the duration of this Superfund project (i.e., pre-design investigation, post-dredge verification, and post-remediation monitoring), the concept of a defined unit was established. A defined unit for the Upper River is identified as a Remedial Management Unit (RMU), which encompasses up to 2,700 square feet in area. A defined unit for the Middle River and Lower River where sediment is found intermittently is a Deposit, which consists of 313 to 625 cubic yards in volume. A defined unit for the Lower River and Inner Harbor (where sediment exists continuously) is a Grid, which encompasses 8,100 square feet in area. The locations of the previous sediment samples were obtained from the sediment sample figures included in the previous reports. GPS coordinates were determined, using AutoCAD, for the center of each of RMU (Upper River), Deposit or Sub-deposit (Middle and Lower River soft sediment deposits) or Grid (Lower River and Inner Harbor continuous sediment).

2.2 SAMPLE LOCATIONS AND COLLECTION

The former sediment deposit locations were downloaded into the onboard Global Positioning System (GPS, Trimble GeoXT 2006) and used for navigation. The sampling was conducted in accordance with the Post Remedial Monitoring Plan (PRS, 2008).

For soft sediment deposit locations (Upper, Middle and portions of the Lower River), the sample team navigated to the location of the former deposits using the GPS unit and inspected for the presence of soft sediment. The area of the defined unit (RMU or deposit) was determined by probing the soft sediment using the previously identified spacing used during characterization starting two (2) feet from the bank. The two foot starting point was used to be consistent with the procedures in the *Upper River Verification Sampling Plan* (PRS 100% Design) and the dredge limit established (1 foot from bank) in Section 4.3 of the *Upper River Mitigation Plan* (PRS 100% Design). Probing was performed to determine where soft sediment thickness exists greater than one (1) foot to set the boundaries of the sediment. For large deposits, we used the GPS unit to collect measurements as we traversed the boundaries of the sediment. If the deposit was greater than 2,700-square feet, the deposit was sub-divided into equally sized RMU. For small deposits, we used a measuring tape to collect measurements for the boundaries of the sediment. Sediment samples were randomly collected from the defined units containing at least one foot of sediment.

For continuous sediment locations (portions of the Lower River and Inner Harbor), the sample team used the GPS unit to returned to the defined Grid location. Sediment is present in a continuous deposit in this portion of the river and therefore verification of sediment size in the Grid was not necessary. As part of the 2012 Lower River and Inner Harbor remediation efforts, sand was placed on the river bottom at select locations to act as cover material. If the first sediment grab sample contained primarily sand, the sample team made at least three additional attempts to locate sediment in the Grid.

Sediment grab samples were randomly collected using a Petite Ponar Dredge from four locations within each RMU, Deposit, or Grid. The four discrete samples were placed into a disposable aluminum pan and composited into a single homogenous sample. The composited sediment samples were placed into four-ounce jars with labels affixed and each jar then placed into a cooler.

The following provides a summary of the sampling locations and efforts in each reach of the river.

2.2.1 UPPER RIVER SAMPLE LOCATIONS

For the Upper River, sediment sampling was performed by SME from September 18, 2017 through September 21, 2017. A total of 372 discrete samples were collected, which were composited into 93 samples. Three attempts were made in DEP3, DEP11, DEP12, DEP24, DEP25, DEP29 and DEP30 with no retrieval of soft sediment. These RMUs were deemed as hardpan and the laboratory (Pace) detection limit of 0.043 ppm was applied as the result per the *Verification Sampling Plan* (Appendix E, PRS, 2006). Figures 3 through 5 show approximate locations of RMUs previously identified by PRS and verified in the field by SME.

2.2.2 MIDDLE RIVER SAMPLE LOCATIONS

For the Middle River, the sediment sampling was performed by SME on September 25 and September 26, 2017. A total of 168 discrete samples were collected, which were composited into 42 samples. Three attempts were made in DEP10, DEP12, DEP14, DEP16, DEP22, DEP29, DEP34, DEP38, DEP43, DEP50, DEP58, DEP59 and DEP60 with no retrieval of soft sediment. These deposits were deemed as hardpan and the laboratory (Pace) detection limit of 0.043 ppm was applied as the result per the *Verification Sampling Plan* (Appendix E, PRS, 2006). Figure 6 and 7 shows the approximate locations of deposits previously identified by PRS and verified in the field by SME.

2.2.4 LOWER RIVER SAMPLE LOCATIONS

The Lower River discrete sediment deposits sampling was performed by SME on September 22 and September 27, 2017. The Lower River continuous sediment sampling (GRID317 through GRID189-odds and GRID316 through GRID198-evens) was performed by SME from September 27, 2017 through October 2, 2017. A total of 472 discrete samples were collected, which were composited into 118 samples. Three attempts were made in the discrete deposit DEP8 with no retrieval of soft sediment. Additionally, three attempts were made in GRID316, GRID 314, GRID312, GRID310, GRID278, GRID277, GRID275, GRID274, GRID271, GRID267, GRID265, GRID264, GRID263, GRID261, GRID259, GRID257 and GRID253 with no retrieval of soft sediment. These grids were deemed as sand "cover material" placed during remediation activities in 2012 and half of the laboratory (Pace) detection limit of 0.043 ppm was applied as the result per the *Verification Sampling Plan* (Appendix E, PRS 100% Design, 2010). Figure 8 shows the approximate locations of the discrete deposits previously identified by PRS and verified in the field by SME. Figure 9 shows the approximate locations of the continuous sediment grids previously identified by PRS.

2.2.5 INNER HARBOR SAMPLE LOCATIONS

The Inner Harbor continuous sediment sampling was performed by SME from September 27 through October 11, 2017. A total of 724 discrete samples were collected, which were composited into 181 samples. Three attempts were made in GRID170, GRID168, GRID162, GRID160, GRID158, GRID154, GRID152, GRID146 and GRID120 with no retrieval of soft sediment. These grids were deemed as sand "cover material" placed during remediation activities in 2012 and half of the laboratory (Pace) detection limit of 0.043 ppm was applied as the result per the *Verification Sampling Plan* (Appendix E, PRS 100% Design, 2010). GRID112 and GRID114 were located beneath the 8th Street Bridge and were inaccessible at the time of sampling due to bridge maintenance. Data from the 2009 Pre-Design Investigation was substituted at these two points in order to perform the SWAC calculation. Figure 10 shows the approximate locations of continuous sediment grids previously identified by PRS.

2.3 FIELD QUALITY ASSURANCE

Our field team members wore a new pair of disposable nitrile sampling gloves during collection of each sample to minimize cross-contamination. The analytical laboratory supplied pre-cleaned containers for sample collection. Following collection, the sediment samples were placed into a cooler, leaving enough room for bagged ice on top of the jars. A chain-of-custody form was placed in a sealable plastic bag and kept with samples for the duration of the custody period. The coolers were collected by the laboratory and as such, custody seals were not necessary. Field instrument calibration, sample handling and custody requirements, and QA procedures were in general accordance with our standard operating procedures.

2.4 CHEMICAL ANALYSIS

We submitted 434 sediment samples to Pace Analytical Services (Pace) of Green Bay, Wisconsin (Wisconsin-certified laboratory) for chemical analyses of total PCBs (Aroclor basis) and percent solids. Pace prepared and analyzed the samples in accordance with analytical method USEPA SW846-8082 Modified and Laboratory Standard Operating Procedures (SOPs). The Pace reported PCB method detection limit was 0.043 mg/kg. Laboratory quality assurance/quality control (QA/QC) samples consisted of a matrix spike and matrix spike duplicate. A minimum of one matrix spike/matrix spike duplicate analysis was performed with every sample batch analyzed for PCBs. Batch sizes were limited to no more than 20 samples.

3. SAMPLING RESULTS

3.1 SEDIMENT RESULTS

A summary of the individual dredge management unit PCB concentrations and deposit size are provided in Table 1 for the Upper River Reach, Table 2 for the Middle River Reach, Table 3 for the Lower River Reach, Table 4 for the Inner Harbor Reach and Table 5 for the Combined River. Copies of the analytical laboratory reports are provided in Appendix B.

3.2 DATA VERIFICATION/VALIDATION AND USABILITY

We evaluated the representativeness of the data collected during our sediment sampling activities to determine if the data set was valid and of usable quality. Our discussion of field and laboratory quality control samples and conclusions are summarized below.

3.2.1 FIELD QUALITY CONTROL SAMPLES

Field duplicate samples were collected in pair with 22 composite sediment samples. The comparative results of the duplicate sample pairs are shown in Table 6. The relative percent differences (RPDs) in duplicate samples ranged from 3% to 78%. The RPDs in analysis results for total PCBs in the duplicate samples were within the target of 50% in 20 of the 22 samples. The RPD of two of the duplicate pair samples (Dup-5/MR-Dep-17 and Dup-11/LR/IH-DEP(GRID)-237) were 67% and 78%, respectively. The high RPDs in two of the 22 duplicate samples indicated the slight heterogeneity and variability in the sediment samples and may indicate slightly low precision in the chemical analysis results. The slight heterogeneity and variability in the sediment sample and low precision for analyses did not affect the usability of the data collected as no decisions are being made at this time.

3.2.2 LABORATORY QUALITY CONTROL SAMPLES

The laboratory performs a validation of the analytical procedure using the quality control sample results, as applicable. This validation is discussed in the Narrative and QC section of each of the twenty-five (25) lab reports generated by this sampling and analysis event. The laboratory reported the following:

- There were no problems with the initial or continuing calibrations,
- All laboratory control spikes were within the allowable range,
- Surrogate recoveries above control limits in 18 samples from 9 of the 25 sample batches due to sample dilution,
- Surrogate recoveries were not compared against control limits in 2 samples from 1 of the 25 sample batches due to sample dilution,
- Matrix spike/spike duplicate samples above control limits in 5 sample batches due to sample dilution,
- The PCB arochlor distribution pattern could not be determined in 3 samples from 2 sample batches due to interference from large quantities of other PCB arochlors.
- PCBs were not detected in the method blanks.

The matrix spike/spike duplicate, surrogate recovery, arochlor distribution, and duplicate pair discrepancies noted above do not affect the usability of the data collected as no decisions are being made at this time.

4. DATA ANALYSIS

4.1 2017 SAMPLE RESULTS ANALYSIS

The SWAC calculation methodology previously described, the SWAC for each reach of the river and the combined SWAC for all of the river reaches was determined. The following table shows the SWAC for each river reach, the combined river SWAC and the target SWAC per the USEPA ROD (USEPA, 2000).

River Reach	Summary Statistics				
	Median PCB Concentration (ppm)	Total Surface Area (sq. ft.)	Total Contribution to SWAC (sq. ft. x ppm)	Calculated SWAC (mg/Kg)	Target SWAC (ppm)
Upper River	0.78	192,957	352,081	**1.82**	**0.5**
Middle River	0.28	54,089	11,951	0.22	
Lower River	0.33	563,466	168,907	0.29	
Inner Harbor	0.51	1,093,363	532,749	0.49	
Overall River	0.68	1,898,258	1,064,977	**0.56**	

As shown above, the SWAC for the Middle River, Lower River and Inner Harbor was less than the ROD target SWAC of 0.5 ppm. The SWAC for the Upper River was significantly above the target SWAC and therefore, also the Overall River SWAC was above the target SWAC.

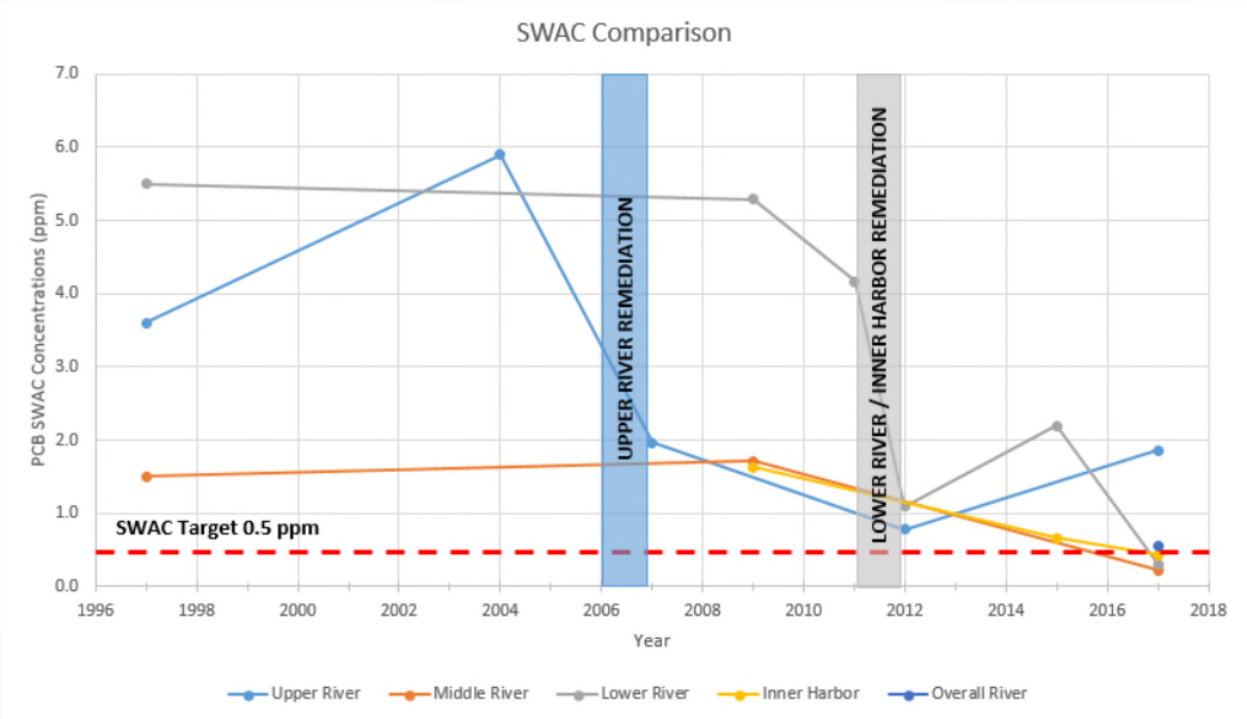
A comparison between 2012 and 2017 Upper River data shows a significant increase in PCB concentrations in Deposit 26. In 2012, PRS determined that Deposit 26 was two distinct units (sampled as Dep26A-1 through Dep26A-12 and Dep26B-13 through Dep26B-15). When the deposit boundaries were verified in the field by SME it was determined that Deposit 26 was one continuous unit. Data from the 2017 sample analysis indicated that that the highest PCB concentrations in this deposit were from the subdivided deposit areas not previously sampled by PRS in 2012. The 2017 Upper River data show that Deposit 26 accounts for approximately 62.6% of the total 2017 SWAC from the Upper River. If the Upper River Deposit 26 were to be removed from the data set, the Upper River SWAC would be 0.84 ppm and would still exceed the target SWAC; therefore, further evaluation of removal of Upper River Deposit 26 is not necessary at this time.

4.2 CURRENT AND HISTORICAL RESULTS COMPARISON

The following table and chart provide summaries of the available SWAC data for each river reach from the ROD in 2000 to the most recent sampling results in 2017.

River Reach	SWAC Historical Summary (ppm)								
	1997[1]	2004[2]	2007[3]	2009[4]	2011[5]	2012[6,7]	2015[8]	2017	ROD Target
Upper River	**3.6**	**5.9**	**1.96**	-	-	**0.78**	**-**	**1.82**	**0.5**
Middle River	**1.5**	-	-	**1.71**	-	-	-	0.22	
Lower River	**5.5**	-	-	**5.29**	**4.17**	**1.09**	**2.2**	0.30	
Inner Harbor	-	-	-	**1.63**	-	-	**0.66**	0.43	
Overall River	-	-	-	-	-	-	**-**	**0.56**	

- = no available data
Highlighted = above ROD Target SWAC of 0.5 ppm
[1] United States Environmental Protection Agency. Record of Decision. May 2000
[2] Pollution Risk Services, LLC. Pre-Design Investigation Results. April 2005
[3] Pollution Risk Services, LLC. 2007 Post Construction Documentation Report. November 2007
[4] Pollution Risk Services, LLC. Pre-Design Investigation Report. March 2010.
[5] C2HM Hill. Final Remediation Investigation Report. Lower River and Inner Harbor of the Sheboygan River. June 2011.
[6] C2HM Hill. Final Cleanup Validation Report. Great Lakes Legacy Act Dredging - Sheboygan River. August 2013.
[7] Pollution Risk Services, LLC. Upper River Sediment Monitoring Report. January 2013
[8] SME. Serial Letter #24. Sheboygan River and Harbor Site. November 2015.



As is shown in the above, sediment sampling across the river was historically completed as needed for specific purposes (i.e. pre-remedial river reach design investigations, post- remedial verification sampling or post- remedial river reach monitoring). In each of the river reaches, the 2017 PCB concentrations have significantly decreased from the ROD and pre-remediation concentrations. A significant decrease in SWAC following remedial efforts in the Upper River also appears to have a significant decrease in the Middle River SWAC. As discussed above, the data analysis demonstrated a significant decrease in the SWAC since the pre-remedial investigations (2004, 2009) for the following reaches:

- the Upper River SWAC has decreased from 5.9 ppm (2004) to 1.82 ppm,
- the Middle River SWAC has decreased from 1.71 ppm (2004) to 0.22 ppm,
- the Lower River SWAC has decreased from 5.29 ppm (2009) to 0.30 ppm, and
- the Inner Harbor SWAC has decreased from 1.63 ppm (2009) to 0.49 ppm.

In addition, since a full evaluation of the sediment across all reaches of the river has never been conducted at one time, the 2017 sampling event is the first evaluation of the SWAC of the combined reaches of the Sheboygan River. The SWAC of the combined reaches of the Sheboygan River is 0.56 ppm and near the ROD target 0.5 ppm.

5. FUTURE PHASE I MONITORING

As part of the five-year review required for the Superfund project's PMP, surface sediment sampling will be conducted on the Upper, Middle and Lower River and the Inner Harbor reaches in 2022 to document the reduction of the SWAC over time.

6. REFERENCES

USEPA, 2000: United States Environmental Protection Agency. *EPA Superfund Record of Decision.* May 2000.

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PRS, 2006: Pollution Risk Services, LLC.. *Upper River Phase II Sediment Removal Design.* May 2006.

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USEPA, 2009: United States Environmental Protection Agency. *Statement of Work for Remedial Design Action for the Lower River Sediment at the Sheboygan River and Harbor Superfund Site.* January 2009.

PRS Pre-Design Investigation, 2010: Pollution Risk Services, LLC. *Middle and Lower River Pre-Design Investigation Report*. March 2010.

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PRS, 2013: Pollution Risk Services, LLC. *Upper River Sediment Monitoring Report*. January 2013.

USEPA, 2013: United States Environmental Protection Agency. *Preliminary Close Out Report*. January 2013.

SME, 2015: SME Inc., 2015, *Serial Letter #24*, November 2015.

TABLES

TABLE 1
SUMMARY OF 2017 SEDIMENT RESULTS - UPPER RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Surface Area (sq. ft.)	PCB Concentration (mg/Kg)	RMU Contribution to SWAC (sq.ft*mg/Kg)	% of RMU Contribution to SWAC
AA1	414	0.599	248	0.07%
AA2	2,100	2.150	4,515	1.28%
AA3	1,125	1.370	1,541	0.44%
AA4	735	3.370	2,477	0.70%
AA5A	1,625	***0.043***	70	0.02%
AA7	1,125	0.958	1,078	0.31%
AA8/10	2,400	0.873	2,095	0.60%
AA11	900	0.952	857	0.24%
Dep01	400	1.900	760	0.22%
Dep02	2,400	0.056	135	0.04%
Dep03	***337***	***0.043***	14	0.00%
Dep04	36	1.020	37	0.01%
Dep05-1	813	1.230	999	0.28%
Dep05-2	813	0.815	662	0.19%
Dep06-1	1,563	0.234	366	0.10%
Dep06-2	1,563	0.211	330	0.09%
Dep07-1	2,550	0.551	1,405	0.40%
Dep08-1	1,375	0.881	1,211	0.34%
Dep09-1A	1,680	2.330	3,914	1.11%
Dep09-1	2,000	0.809	1,618	0.46%
Dep09-2	2,000	0.934	1,868	0.53%
Dep09-3	2,000	1.220	2,440	0.69%
Dep09-4	2,000	2.000	4,000	1.14%
Dep09-5	2,000	1.310	2,620	0.74%
Dep09-6	2,000	0.281	562	0.16%
Dep09-7	2,000	0.720	1,440	0.41%
Dep10	800	0.386	309	0.09%
Dep11	***147***	***0.043***	6.3	0.00%
Dep12	**29**	***0.043***	1.2	0.00%
Dep13-1	1,500	0.998	1,497	0.43%
Dep13-2	1,500	1.210	1,815	0.52%
Dep13-3	1,500	0.373	560	0.16%
Dep13-4	1,500	1.460	2,190	0.62%
Dep14-1	2,600	0.492	1,279	0.36%
Dep14-2	2,600	0.201	523	0.15%
Dep14-3	2,600	0.602	1,565	0.44%
Dep14-4	500	0.632	316	0.09%
Dep14-5	1,875	1.230	2,306	0.66%
Dep14-6	1,875	0.934	1,751	0.50%
Dep14-7	1,875	1.060	1,988	0.56%
Dep15	400	0.440	176	0.05%

TABLE 1
SUMMARY OF 2017 SEDIMENT RESULTS - UPPER RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Surface Area (sq. ft.)	PCB Concentration (mg/Kg)	RMU Contribution to SWAC (sq.ft*mg/Kg)	% of RMU Contribution to SWAC
Dep16-1	1,350	0.263	355	0.10%
Dep16-2	1,350	0.278	375	0.11%
Dep16-3	1,350	0.668	902	0.26%
Dep17-1	1,000	0.538	538	0.15%
Dep17-2	1,500	0.644	966	0.27%
Dep18-1	2,600	0.893	2,322	0.66%
Dep18-2	2,600	1.440	3,744	1.06%
Dep18-3	2,600	0.952	2,475	0.70%
Dep19	450	0.541	243	0.07%
Dep20-1	2,500	0.377	943	0.27%
Dep20-2	2,500	0.548	1,370	0.39%
Dep20-3	2,500	2.010	5,025	1.43%
Dep20-4	2,500	0.736	1,840	0.52%
Dep20-5	2,500	0.286	715	0.20%
Dep20-6	2,500	1.040	2,600	0.74%
Dep20-7	2,500	0.470	1,175	0.33%
Dep20-8	2,500	1.170	2,925	0.83%
Dep20-9	2,500	1.420	3,550	1.01%
Dep20-10	2,500	0.972	2,430	0.69%
Dep20-11	2,500	0.898	2,245	0.64%
Dep20-12	2,500	0.829	2,073	0.59%
Dep20-13	1,300	1.440	1,872	0.53%
Dep21	1,050	0.392	412	0.12%
Dep22	1,500	0.429	644	0.18%
Dep23	1,750	0.724	1,267	0.36%
Dep24	4,097	***0.043***	176	0.05%
Dep25	80	***0.043***	3	0.00%
Dep26-1	2,600	0.649	1,687	0.48%
Dep26-2	2,600	1.530	3,978	1.13%
Dep26-3	2,600	1.270	3,302	0.94%
Dep26-4	2,600	1.430	3,718	1.06%
Dep26-5	2,600	0.277	720	0.20%
Dep26-6	2,600	0.360	936	0.27%
Dep26-7	2,600	0.395	1,027	0.29%
Dep26-8	2,600	0.699	1,817	0.52%
Dep26-9	2,600	0.833	2,166	0.62%
Dep26-10	2,600	53.400	138,840	39.43%
Dep26-11	2,600	10.800	28,080	7.98%
Dep26-12	2,600	13.000	33,800	9.60%
Dep27-1	2,400	0.457	1,097	0.31%
Dep27-2	2,400	0.359	862	0.24%

TABLE 1
SUMMARY OF 2017 SEDIMENT RESULTS - UPPER RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Surface Area (sq. ft.)	PCB Concentration (mg/Kg)	RMU Contribution to SWAC (sq.ft*mg/Kg)	% of RMU Contribution to SWAC
Dep28	780	1.120	874	0.25%
Dep29	2,672	***0.043***	115	0.03%
Dep30	1,790	***0.043***	77	0.02%
Dep31-1	2,678	1.190	3,186	0.90%
Dep31-2	2,678	1.110	2,972	0.84%
Dep32-1	2,505	0.421	1,055	0.30%
Dep32-2	2,505	0.750	1,879	0.53%
Dep32-3	2,505	0.497	1,245	0.35%
Dep32-4	2,505	0.744	1,864	0.53%
Dep32-5	2,505	0.982	2,460	0.70%
Dep32-6	2,505	0.743	1,861	0.53%
Dep33-1	2,500	1.000	2,500	0.71%
Dep33-2	2,500	1.140	2,850	0.81%
Dep33-3	2,500	0.668	1,670	0.47%
Dep33-4	2,500	0.979	2,448	0.70%
Dep33-5	2,500	0.882	2,205	0.63%
Dep33-6	2,500	0.648	1,620	0.46%
Dep33-7	2,500	0.977	2,443	0.69%

Median PCB Concentration (mg/Kg)	**0.78**
Total Surface Area (sq. ft.)	**192,957**
Total RMU Contribution (sq. ft. x mg/Kg)	**352,081**
Target SWAC (mg/Kg)	**0.5**
ESTIMATED SWAC (mg/Kg)	**1.82**

Note:

1. Per the Verification Sampling Plan (Section 3.1.3 of Appendix E of the *Upper River Phase II Sediment Removal Design*) submitted and approved, if hardpan or consolidated material is determined, a value equal to the detection limit (0.043 ppm) will be assigned to this location and used in the SWAC calculation. The value of 0.043 ppm represents the Pace detection limit. For locations where hardpan or consolidated material is determined, the 2007 design surface area was used in the SWAC calculation. For these locations and replacements, the detection limit and design surface area values are shown in italics and bolded.

TABLE 2
SUMMARY OF 2017 SEDIMENT RESULTS
MIDDLE RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Surface Area (sq. ft.)	PCB Concentration (mg/Kg)	RMU Contribution to SWAC (sq. ft.*mg/Kg)	% Contribution to SWAC
DEP-10	***3,170***	***0.043***	136	1.14%
DEP-11	160	0.106	17	0.14%
DEP-12	***737***	***0.043***	32	0.27%
DEP-13	120	3.360	403	3.37%
DEP-14	***1,925***	***0.043***	83	0.69%
DEP-15	140	0.612	86	0.72%
DEP-16	***499***	***0.043***	21	0.18%
DEP-17	125	0.288	36	0.30%
DEP-18	***457***	***0.043***	20	0.16%
DEP-19	520	0.386	201	1.68%
DEP-20	75	0.733	55	0.46%
DEP-21	75	0.489	37	0.31%
DEP-22	***3,874***	***0.043***	167	1.39%
DEP-23	200	0.892	178	1.49%
DEP-24	1,200	0.282	338	2.83%
DEP-25	1,900	0.258	490	4.10%
DEP-26-1	2,850	0.369	1,052	8.80%
DEP-26-2	2,850	0.371	1,057	8.85%
DEP-27	960	0.362	348	2.91%
DEP-28	720	0.114	82	0.69%
DEP-29	***3,621***	***0.043***	156	1.30%
DEP-30	1,050	0.245	257	2.15%
DEP-31	1,400	0.304	426	3.56%
DEP-32	1,300	0.187	243	2.03%
DEP-33	180	0.239	43	0.36%
DEP-34	***3,221***	***0.043***	138	1.16%
DEP-35	200	0.383	77	0.64%
DEP-36	100	0.283	28	0.24%
DEP-37	1,037	0.498	517	4.32%
DEP-38	***1,670***	***0.043***	72	0.60%
DEP-39	200	0.325	65	0.54%
DEP-40	280	0.140	39	0.33%
DEP-41	260	2.110	549	4.59%
DEP-42	825	0.388	320	2.68%
DEP-43	***2,436***	***0.043***	105	0.88%
DEP-44	225	0.227	51	0.43%
DEP-45	180	0.197	35	0.30%
DEP-46	60	0.367	22	0.18%
DEP-47	300	0.812	244	2.04%
DEP-48	48	0.185	9	0.07%

TABLE 2
SUMMARY OF 2017 SEDIMENT RESULTS
MIDDLE RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Surface Area (sq. ft.)	PCB Concentration (mg/Kg)	RMU Contribution to SWAC (sq. ft.*mg/Kg)	% Contribution to SWAC
DEP-49	315	0.102	32	0.27%
DEP-50	***2,225***	***0.043***	96	0.80%
DEP-51	80	0.577	46	0.39%
DEP-52	40	1.100	44	0.37%
DEP-53	680	0.054	36	0.30%
DEP-54	75	0.630	47	0.40%
DEP-55	90	1.740	157	1.31%
DEP-56	200	1.200	240	2.01%
DEP-57	225	0.506	114	0.95%
DEP-58	***1,336***	***0.043***	57	0.48%
DEP-59	***1,065***	***0.043***	46	0.38%
DEP-60	***1,582***	***0.043***	68	0.57%
DEP-61	225	0.237	53	0.45%
DEP-62	500	0.547	274	2.29%
DEP-63	1,000	0.807	807	6.75%
DEP-64	3,300	0.485	1,601	13.39%

Median PCB Concentration (mg/Kg)	**0.28**
Total Surface Area (sq. ft.)	**54,089**
Total RMU Contribution (sq. ft. * mg/Kg)	**11,951**
Target SWAC (mg/Kg)	**0.5**
ESTIMATED SWAC	**0.22**

Note:

1. Per the Verification Sampling Plan (Section 3.1.3 of Appendix E of the Upper River Phase II Sediment Removal Design) submitted and approved, if hardpan or consolidated material is determined, a value equal to the detection limit (0.043 ppm) will be assigned to this location and used in the SWAC calculation. The value of 0.043 ppm represents the Pace detection limit. For locations where hardpan or consolidated material is determined, the 2007 design surface area was used in the SWAC calculation. For these locations and replacements, the detection limit and design surface area values are shown in *italics and bolded.*

TABLE 3
SUMMARY OF 2017 SEDIMENT RESULTS
LOWER RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP1	1,000	0.261	261	0.16%
DEP2	1,575	0.265	417	0.25%
DEP3	6,750	0.342	2,309	1.39%
DEP4	2,625	0.440	1,155	0.70%
DEP5	650	0.306	199	0.12%
DEP6	140	0.176	25	0.01%
DEP7-1	2,550	0.369	941	0.57%
DEP7-2	2,550	0.536	1,367	0.82%
DEP7-3	2,550	0.395	1,007	0.61%
DEP8	***4,617***	***0.022***	102	0.06%
DEP9	450	0.208	94	0.06%
DEP(GRID)-189	1,609	0.585	941	0.14%
DEP(GRID)-191	1,367	0.531	726	0.44%
DEP(GRID)-193	1,837	0.434	797	0.48%
DEP(GRID)-195	2,206	0.516	1,138	0.69%
DEP(GRID)-197	2,415	0.450	1,087	0.66%
DEP(GRID)-198	8,046	0.783	6,300	0.91%
DEP(GRID)-199	2,096	0.630	1,320	0.80%
DEP(GRID)-200	8,100	0.715	5,792	3.49%
DEP(GRID)-201	2,228	0.581	1,294	0.78%
DEP(GRID)-202	472	0.738	348	0.21%
DEP(GRID)-203	2,581	0.812	2,096	1.26%
DEP(GRID)-204	2,361	0.722	1,705	1.03%
DEP(GRID)-205	2,589	0.736	1,906	1.15%
DEP(GRID)-206	2,555	0.699	1,786	1.08%
DEP(GRID)-207	2,351	0.669	1,573	0.95%
DEP(GRID)-208	2,249	0.572	1,286	0.78%
DEP(GRID)-209	2,580	0.672	1,734	1.05%
DEP(GRID)-210	2,165	0.896	1,940	1.17%
DEP(GRID)-211	2,849	0.647	1,843	1.11%
DEP(GRID)-212	2,080	0.854	1,776	1.07%
DEP(GRID)-213	2,428	0.684	1,661	1.00%
DEP(GRID)-214	1,673	0.779	1,303	0.79%
DEP(GRID)-215	2,042	0.581	1,186	0.72%
DEP(GRID)-216	1,436	0.856	1,229	0.74%
DEP(GRID)-217	2,039	0.712	1,452	0.88%
DEP(GRID)-218	1,264	0.881	1,114	0.67%
DEP(GRID)-219	1,986	0.516	1,025	0.62%
DEP(GRID)-220	1,127	0.829	934	0.56%
DEP(GRID)-221	1,615	0.234	378	0.23%
DEP(GRID)-222	253	0.740	187	0.11%
DEP(GRID)-223	1,548	0.595	921	0.56%

TABLE 3
SUMMARY OF 2017 SEDIMENT RESULTS
LOWER RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-224	6,989	0.765	5,347	3.22%
DEP(GRID)-225	1,452	0.368	534	0.32%
DEP(GRID)-226	7,142	0.736	5,257	3.17%
DEP(GRID)-227	1,052	0.557	586	0.35%
DEP(GRID)-228	946	0.709	671	0.40%
DEP(GRID)-229	1,114	0.732	815	0.49%
DEP(GRID)-230	7,464	***0.022***	164	0.10%
DEP(GRID)-231	1,152	0.572	659	0.40%
DEP(GRID)-232	7,465	***0.022***	164	0.10%
DEP(GRID)-233	1,200	0.609	731	0.44%
DEP(GRID)-234	7,424	***0.022***	163	0.10%
DEP(GRID)-235	1,304	0.684	892	0.54%
DEP(GRID)-236	737	***0.022***	16	0.01%
DEP(GRID)-237	1,260	0.651	820	0.49%
DEP(GRID)-238	2,135	***0.022***	47	0.03%
DEP(GRID)-239	7,015	0.401	2,813	1.70%
DEP(GRID)-240	1,798	0.649	1,167	0.70%
DEP(GRID)-241	6,243	0.429	2,678	1.62%
DEP(GRID)-242	2,482	0.738	1,832	1.10%
DEP(GRID)-243	5,097	0.323	1,646	0.99%
DEP(GRID)-244	3,150	0.411	1,295	0.78%
DEP(GRID)-245	5,520	0.326	1,800	1.09%
DEP(GRID)-246	4,029	0.556	2,240	1.35%
DEP(GRID)-247	7,702	0.129	994	0.60%
DEP(GRID)-248	4,930	0.480	2,366	1.43%
DEP(GRID)-249	8,644	0.407	3,518	2.12%
DEP(GRID)-250	622	0.456	284	0.17%
DEP(GRID)-251	7,052	0.155	1,093	0.66%
DEP(GRID)-252	453	0.469	212	0.13%
DEP(GRID)-253	7,168	***0.022***	158	0.10%
DEP(GRID)-254	217	0.461	100	0.06%
DEP(GRID)-255	8,592	0.323	2,775	1.67%
DEP(GRID)-256	655	0.368	241	0.15%
DEP(GRID)-257	7,031	***0.022***	155	0.09%
DEP(GRID)-258	6,035	0.194	1,171	0.71%
DEP(GRID)-259	7,320	***0.022***	161	0.10%
DEP(GRID)-260	3,706	0.180	667	0.40%
DEP(GRID)-261	8,427	***0.022***	185	0.11%
DEP(GRID)-262	4,609	0.195	899	0.54%
DEP(GRID)-263	8,155	***0.022***	179	0.11%
DEP(GRID)-264	7,658	***0.022***	168	0.10%
DEP(GRID)-265	8,178	***0.022***	180	0.11%

TABLE 3
SUMMARY OF 2017 SEDIMENT RESULTS
LOWER RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-266	2,025	0.053	107	0.06%
DEP(GRID)-267	8,478	***0.022***	187	0.11%
DEP(GRID)-268	6,826	0.371	2,532	1.53%
DEP(GRID)-269	5,930	0.264	1,566	0.94%
DEP(GRID)-270	6,574	0.236	1,551	0.94%
DEP(GRID)-271	2,807	***0.022***	62	0.04%
DEP(GRID)-272	7,930	0.113	896	0.54%
DEP(GRID)-273	6,472	0.119	770	0.46%
DEP(GRID)-274	8,099	***0.022***	178	0.11%
DEP(GRID)-275	4,985	***0.022***	110	0.07%
DEP(GRID)-276	3,313	0.119	394	0.24%
DEP(GRID)-277	6,232	***0.022***	137	0.08%
DEP(GRID)-278	1,180	***0.022***	26	0.02%
DEP(GRID)-279	2,920	0.124	362	0.22%
DEP(GRID)-280	2,552	0.431	1,100	0.66%
DEP(GRID)-281	3,286	0.302	992	0.60%
DEP(GRID)-282	4,432	0.267	1,183	0.71%
DEP(GRID)-283	353	0.296	104	0.06%
DEP(GRID)-284	8,141	0.131	1,066	0.64%
DEP(GRID)-285	100	0.158	16	0.01%
DEP(GRID)-286	2,991	0.106	317	0.19%

TABLE 3
SUMMARY OF 2017 SEDIMENT RESULTS
LOWER RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-287	3,269	0.204	667	0.40%
DEP(GRID)-288	3,082	0.141	435	0.26%
DEP(GRID)-289	5,017	0.253	1,269	0.77%
DEP(GRID)-290	6,316	0.108	682	0.41%
DEP(GRID)-291	7,633	0.356	2,717	1.64%
DEP(GRID)-292	8,100	0.174	1,409	0.85%
DEP(GRID)-293	6,796	0.297	2,018	1.22%
DEP(GRID)-294	8,110	0.297	2,409	1.45%
DEP(GRID)-295	3,705	0.153	567	0.34%
DEP(GRID)-296	8,093	0.988	7,996	4.82%
DEP(GRID)-297	3,452	0.423	1,460	0.88%
DEP(GRID)-298	8,098	0.190	1,539	0.93%
DEP(GRID)-299	3,820	0.492	1,879	1.13%
DEP(GRID)-300	7,993	0.206	1,647	0.99%
DEP(GRID)-301	3,700	0.465	1,721	1.04%
DEP(GRID)-302	8,100	0.382	3,094	1.87%
DEP(GRID)-303	3,260	0.551	1,796	1.08%
DEP(GRID)-304	8,098	0.326	2,640	1.59%
DEP(GRID)-305	3,258	0.353	1,150	0.69%
DEP(GRID)-306	7,656	0.203	1,554	0.94%
DEP(GRID)-307	3,258	0.416	1,355	0.82%
DEP(GRID)-308	7,750	0.296	2,294	1.38%
DEP(GRID)-309	3,605	0.220	793	0.48%
DEP(GRID)-310	8,123	***0.022***	179	0.11%
DEP(GRID)-311	1,302	0.209	272	0.16%
DEP(GRID)-312	8,080	***0.022***	178	0.11%
DEP(GRID)-313	7,193	0.314	2,259	1.36%
DEP(GRID)-314	8,098	***0.022***	178	0.11%
DEP(GRID)-315	1,830	0.230	421	0.25%

TABLE 3
SUMMARY OF 2017 SEDIMENT RESULTS
LOWER RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-316	8,100	***0.022***	178	0.11%
DEP(GRID)-317	4,017	0.221	888	0.54%

Median PCB Concentration (mg/Kg)	**0.33**
Total Surface Area (sq. ft.)	**563,466**
Total RMU Contribution (sq. ft. x mg/Kg)	**165,800**
Target SWAC (mg/Kg)	**0.5**
ESTIMATED SWAC	**0.29**

Note:

1. Per the Verification Sampling Plan (Section 2.7 of Appendix E of the Lower River 100% Design) submitted and approved, if no sediment was recoverd (i.e. sand cover areas), a value equal to the half detection limit (0.022 ppm) will be assigned to this location and used in the SWAC calculation. The value of 0.022 ppm represents the half Pace detection limit of 0.043. For these locations and replacements, the half detection limit value is shown in italics and bolded.

TABLE 4
SUMMARY OF 2017 SEDIMENT RESULTS
INNER HARBOR
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-1	8,352	0.397	3,316	0.62%
DEP(GRID)-2	8,596	0.451	3,877	0.73%
DEP(GRID)-3	7,990	0.386	3,084	0.58%
DEP(GRID)-4	8,740	0.545	4,763	0.89%
DEP(GRID)-5	7,594	0.411	3,121	0.59%
DEP(GRID)-6	8,367	0.329	2,753	0.52%
DEP(GRID)-7	7,642	0.355	2,713	0.51%
DEP(GRID)-8	8,367	0.357	2,987	0.56%
DEP(GRID)-9	7,900	0.402	3,176	0.60%
DEP(GRID)-10	8,407	0.365	3,069	0.58%
DEP(GRID)-11	7,867	0.399	3,139	0.59%
DEP(GRID)-12	8,378	0.325	2,723	0.51%
DEP(GRID)-13	7,798	0.242	1,887	0.35%
DEP(GRID)-14	8,361	0.344	2,876	0.54%
DEP(GRID)-15	7,623	0.461	3,514	0.66%
DEP(GRID)-16	8,339	0.472	3,936	0.74%
DEP(GRID)-17	8,079	0.409	3,304	0.62%
DEP(GRID)-18	8,357	0.401	3,351	0.63%
DEP(GRID)-19	7,783	0.374	2,911	0.55%
DEP(GRID)-20	8,231	0.422	3,473	0.65%
DEP(GRID)-21	7,644	0.475	3,631	0.68%
DEP(GRID)-22	8,271	0.472	3,904	0.73%
DEP(GRID)-23	7,554	0.469	3,543	0.67%
DEP(GRID)-24	8,298	0.307	2,547	0.48%
DEP(GRID)-25	7,534	0.457	3,443	0.65%
DEP(GRID)-26	8,338	0.318	2,651	0.50%
DEP(GRID)-27	7,541	1.030	7,767	1.46%
DEP(GRID)-28	8,370	0.270	2,260	0.42%
DEP(GRID)-29	7,529	0.316	2,379	0.45%
DEP(GRID)-30	8,370	0.293	2,452	0.46%
DEP(GRID)-31	7,515	0.607	4,562	0.86%
DEP(GRID)-32	8,363	0.450	3,763	0.71%
DEP(GRID)-33	7,280	0.421	3,065	0.58%
DEP(GRID)-34	8,325	0.269	2,239	0.42%
DEP(GRID)-35	7,029	0.631	4,435	0.83%

TABLE 4
SUMMARY OF 2017 SEDIMENT RESULTS
INNER HARBOR
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-36	8,315	0.318	2,644	0.50%
DEP(GRID)-37	6,942	0.547	3,797	0.71%
DEP(GRID)-38	8,330	0.316	2,632	0.49%
DEP(GRID)-39	7,218	0.435	3,140	0.59%
DEP(GRID)-40	8,337	0.513	4,277	0.80%
DEP(GRID)-41	7,393	0.356	2,632	0.49%
DEP(GRID)-42	8,295	0.319	2,646	0.50%
DEP(GRID)-43	7,601	0.538	4,089	0.77%
DEP(GRID)-44	8,270	0.420	3,473	0.65%
DEP(GRID)-45	7,627	0.555	4,233	0.79%
DEP(GRID)-46	8,064	0.383	3,089	0.58%
DEP(GRID)-47	7,642	0.738	5,640	1.06%
DEP(GRID)-48	8,252	0.394	3,251	0.61%
DEP(GRID)-49	8,024	0.464	3,723	0.70%
DEP(GRID)-50	7,978	0.296	2,361	0.44%
DEP(GRID)-51	7,449	0.682	5,080	0.95%
DEP(GRID)-52	6,598	0.418	2,758	0.52%
DEP(GRID)-53	7,423	0.474	3,519	0.66%
DEP(GRID)-54	7,337	0.394	2,891	0.54%
DEP(GRID)-55	8,043	0.348	2,799	0.53%
DEP(GRID)-56	7,108	0.383	2,722	0.51%
DEP(GRID)-57	7,982	0.304	2,427	0.46%
DEP(GRID)-58	6,872	0.531	3,649	0.69%
DEP(GRID)-59	7,931	0.487	3,862	0.73%
DEP(GRID)-60	6,586	0.512	3,372	0.63%
DEP(GRID)-61	7,972	0.612	4,879	0.92%
DEP(GRID)-62	5,891	0.669	3,941	0.74%
DEP(GRID)-63	7,841	0.351	2,752	0.52%
DEP(GRID)-64	7,927	0.830	6,579	1.24%
DEP(GRID)-65	7,046	0.479	3,375	0.63%
DEP(GRID)-66	8,406	0.638	5,363	1.01%
DEP(GRID)-67	8,034	0.362	2,908	0.55%
DEP(GRID)-68	8,513	0.433	3,686	0.69%
DEP(GRID)-69	8,337	0.369	3,076	0.58%
DEP(GRID)-70	7,745	0.412	3,191	0.60%

TABLE 4
SUMMARY OF 2017 SEDIMENT RESULTS
INNER HARBOR
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-71	6,896	0.324	2,234	0.42%
DEP(GRID)-72	8,152	0.865	7,051	1.32%
DEP(GRID)-73	7,765	0.278	2,159	0.41%
DEP(GRID)-74	8,069	0.768	6,197	1.16%
DEP(GRID)-75	8,998	0.464	4,175	0.78%
DEP(GRID)-76	8,033	0.719	5,776	1.08%
DEP(GRID)-77	7,670	0.460	3,528	0.66%
DEP(GRID)-78	8,105	0.477	3,866	0.73%
DEP(GRID)-79	7,855	0.399	3,134	0.59%
DEP(GRID)-80	8,228	0.546	4,492	0.84%
DEP(GRID)-81	79,014	0.522	41,245	7.74%
DEP(GRID)-82	8,202	0.351	2,879	0.54%
DEP(GRID)-83	8,042	0.832	6,691	1.26%
DEP(GRID)-84	8,008	0.477	3,820	0.72%
DEP(GRID)-85	8,147	0.651	5,304	1.00%
DEP(GRID)-86	7,315	0.555	4,060	0.76%
DEP(GRID)-87	7,949	0.543	4,316	0.81%
DEP(GRID)-88	8,222	1.240	10,195	1.91%
DEP(GRID)-89	8,665	0.686	5,944	1.12%
DEP(GRID)-90	8,161	0.542	4,423	0.83%
DEP(GRID)-91	7,638	0.528	4,033	0.76%
DEP(GRID)-92	8,174	0.421	3,441	0.65%
DEP(GRID)-93	7,836	0.527	4,130	0.78%
DEP(GRID)-94	7,771	0.507	3,940	0.74%
DEP(GRID)-95	7,622	0.417	3,178	0.60%
DEP(GRID)-96	5,840	0.569	3,323	0.62%
DEP(GRID)-97	7,368	0.412	3,036	0.57%
DEP(GRID)-98	5,500	0.392	2,156	0.40%
DEP(GRID)-99	6,799	0.437	2,971	0.56%
DEP(GRID)-100	7,507	0.399	2,995	0.56%
DEP(GRID)-101	5,912	0.508	3,003	0.56%
DEP(GRID)-102	8,111	0.457	3,707	0.70%
DEP(GRID)-103	8,020	0.524	4,202	0.79%
DEP(GRID)-104	8,252	0.306	2,525	0.47%
DEP(GRID)-105	7,325	0.493	3,611	0.68%

TABLE 4
SUMMARY OF 2017 SEDIMENT RESULTS
INNER HARBOR
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-106	8,217	0.469	3,854	0.72%
DEP(GRID)-107	7,234	0.524	3,791	0.71%
DEP(GRID)-108	8,382	0.240	2,012	0.38%
DEP(GRID)-109	7,274	0.612	4,452	0.84%
DEP(GRID)-110	8,789	0.304	2,672	0.50%
DEP(GRID)-111	7,644	0.885	6,765	1.27%
DEP(GRID)-112	8,145	0.016	129	0.02%
DEP(GRID)-113	7,954	1.240	9,863	1.85%
DEP(GRID)-114	6,540	0.019	124	0.02%
DEP(GRID)-115	4,617	0.734	3,389	0.64%
DEP(GRID)-116	547	0.961	526	0.10%
DEP(GRID)-117	1,353	0.280	379	0.07%
DEP(GRID)-118	466	0.452	211	0.04%
DEP(GRID)-119	1,871	0.383	717	0.13%
DEP(GRID)-120	467	***0.022***	10	0.00%
DEP(GRID)-121	1,601	0.351	562	0.11%
DEP(GRID)-122	572	0.657	376	0.07%
DEP(GRID)-123	990	0.586	580	0.11%
DEP(GRID)-124	656	0.590	387	0.07%
DEP(GRID)-125	182	0.718	131	0.02%
DEP(GRID)-126	616	0.660	407	0.08%
DEP(GRID)-127	182	0.528	96	0.02%
DEP(GRID)-128	599	0.514	308	0.06%
DEP(GRID)-129	281	0.612	172	0.03%
DEP(GRID)-130	434	0.639	277	0.05%
DEP(GRID)-131	789	0.743	586	0.11%
DEP(GRID)-132	210	0.702	147	0.03%
DEP(GRID)-133	807	0.644	520	0.10%
DEP(GRID)-134	247	0.743	184	0.03%
DEP(GRID)-135	1,164	0.603	702	0.13%
DEP(GRID)-136	138	0.713	98	0.02%
DEP(GRID)-137	1,094	0.601	657	0.12%
DEP(GRID)-138	8,246	0.686	5,657	1.06%
DEP(GRID)-139	1,583	0.635	1,005	0.19%
DEP(GRID)-140	7,319	0.686	5,021	0.94%

TABLE 4
SUMMARY OF 2017 SEDIMENT RESULTS
INNER HARBOR
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-141	2,371	0.596	1,413	0.27%
DEP(GRID)-142	7,024	0.651	4,573	0.86%
DEP(GRID)-143	1,490	0.569	848	0.16%
DEP(GRID)-144	290	0.527	153	0.03%
DEP(GRID)-145	945	0.689	651	0.12%
DEP(GRID)-146	514	***0.022***	11	0.00%
DEP(GRID)-147	1,651	0.585	966	0.18%
DEP(GRID)-148	1,106	0.586	648	0.12%
DEP(GRID)-149	1,743	0.606	1,056	0.20%
DEP(GRID)-150	1,107	0.761	842	0.16%
DEP(GRID)-151	1,550	0.969	1,502	0.28%
DEP(GRID)-152	1,059	***0.022***	23	0.00%
DEP(GRID)-153	1,325	0.671	889	0.17%
DEP(GRID)-154	1,014	***0.022***	22	0.00%
DEP(GRID)-155	1,219	0.627	764	0.14%
DEP(GRID)-156	1,098	0.428	470	0.09%
DEP(GRID)-157	2,164	0.548	1,186	0.22%
DEP(GRID)-158	1,437	***0.022***	32	0.01%
DEP(GRID)-159	1,265	0.691	874	0.16%
DEP(GRID)-160	1,347	***0.022***	30	0.01%
DEP(GRID)-161	1,190	0.683	813	0.15%
DEP(GRID)-162	1,043	***0.022***	23	0.00%
DEP(GRID)-163	4,855	0.560	2,719	0.51%
DEP(GRID)-164	1,024	0.743	761	0.14%
DEP(GRID)-165	3,542	0.615	2,178	0.41%
DEP(GRID)-166	1,026	0.475	487	0.09%
DEP(GRID)-167	2,052	0.624	1,280	0.24%
DEP(GRID)-168	1,362	0.604	823	0.15%
DEP(GRID)-169	3,266	0.483	1,577	0.30%
DEP(GRID)-170	1,433	0.525	752	0.14%
DEP(GRID)-171	1,295	0.568	736	0.14%
DEP(GRID)-172	898	0.530	476	0.09%
DEP(GRID)-173	1,020	0.533	544	0.10%
DEP(GRID)-174	296	0.581	172	0.03%
DEP(GRID)-175	964	0.533	514	0.10%

TABLE 4
SUMMARY OF 2017 SEDIMENT RESULTS
INNER HARBOR
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Identifier	Calculated Grid Size (sq. ft.)	PCB Concentration (mg/Kg)	Contribution to total SWAC (sq. ft. * mg/Kg)	Contribution to total SWAC (%)
DEP(GRID)-176	8,285	0.581	4,814	0.90%
DEP(GRID)-177	1,416	0.585	828	0.16%
DEP(GRID)-178	64	0.733	47	0.01%
DEP(GRID)-179	1,313	0.637	836	0.16%
DEP(GRID)-180	423	0.662	280	0.05%
DEP(GRID)-181	7,492	0.568	4,255	0.80%
DEP(GRID)-182	554	0.717	397	0.07%
DEP(GRID)-183	68	0.639	43	0.01%
DEP(GRID)-184	930	0.869	808	0.15%
DEP(GRID)-185	299	***0.022***	7	0.00%
DEP(GRID)-186	442	0.796	352	0.07%
DEP(GRID)-187	187	0.592	111	0.02%
DEP(GRID)-188	554	0.746	413	0.08%
DEP(GRID)-190	298	0.663	198	0.04%
DEP(GRID)-192	298	0.380	113	0.02%
DEP(GRID)-194	7,774	0.668	5,193	0.98%
DEP(GRID)-196	7,539	0.466	3,513	0.66%

Median PCB Concentration (mg/Kg)	**0.51**
Total Surface Area (sq. ft.)	**1,093,363**
Total RMU Contribution (sq. ft. x mg/Kg)	**532,598**
Target SWAC (mg/Kg)	**0.5**
ESTIMATED SWAC	**0.49**

Note:

1. Per the Verification Sampling Plan (Section 2.7 of Appendix E of the Lower River 100% Design) submitted and approved, if no sediment was recoverd (i.e. sand cover areas), a value equal to the half detection limit (0.022 ppm) will be assigned to this location and used in the SWAC calculation. The value of 0.022 ppm represents the half Pace detection limit of 0.043. For these locations and replacements, the half detection limit value is shown in italics and bolded.

TABLE 5
SUMMARY OF 2017 SEDIMENT RESULTS
OVERALL RIVER
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

River Reach	Surface Area (sq. ft.)	% of Total Sediment	Median PCB Concentration (mg/Kg)	SWAC (mg/Kg)	Contribution to SWAC (sq. ft. * mg/Kg)	% of Contribution to total SWAC
Upper River	192,957	10%	0.78	1.82	352,081	33.14%
Middle River	54,089	2.8%	0.28	0.22	11,951	1.12%
Lower River	563,466	30%	0.33	0.29	165,800	15.61%
Inner Harbor	1,093,363	57%	0.51	0.49	532,598	50.13%

Median PCB Concentration (mg/Kg)	**0.68**
Total Surface Area (sq. ft.)	**1,903,875**
Total Contribution (sq. ft. x mg/Kg)	**1,062,430**
Target SWAC (mg/Kg)	**0.5**
ESTIMATED OVERALL SWAC	**0.56**

TABLE 6
SUMMARY FIELD DUPLICATE SAMPLE RESULTS
SHEBOYGAN RIVER SUPERFUND SITE
SHEBOYGAN, WISCONSIN
SME PROJECT NO. 069638.00.032.001

Duplicate Identifier	PCB Concentration (mg/Kg)	Sample Identifier	PCB Concentration (mg/Kg)	Relative Percent Difference
Dup-1	0.77	UR-Dep-14-3	0.602	24%
Dup-2	0.473	UR-Dep-19	0.541	13%
Dup-3	1.430	UR-Dep-33-1	1.000	35%
Dup-4	0.229	LR-Dep-5	0.306	29%
Dup-5	0.143	MR-Dep-17	0.288	67%
Dup-6	1.10	MR-Dep-55	1.740	45%
Dup-7	0.512	MR-Dep-64	0.485	5%
Dup-8	0.597	LR-Dep-7-2	0.536	11%
Dup-9	0.172	LR-Dep-9	0.208	19%
Dup-10	0.401	LR/IH-DEP(GRID)-254	0.461	14%
Dup-11	0.285	LR/IH-DEP(GRID)-237	0.651	78%
Dup-12	0.695	LR/IH-DEP(GRID)-222	0.740	6%
Dup-13	0.479	LR/IH-DEP(GRID)-196	0.466	3%
Dup-14	0.49	LR/IH-DEP(GRID)-166	0.475	3%
Dup-15	0.665	LR/IH-DEP(GRID)-139	0.635	5%
Dup-16	0.408	LR/IH-DEP(GRID)-129	0.612	40%
Dup-17	0.764	LR/IH-DEP(GRID)-109	0.612	22%
Dup-18	0.94	LR/IH-DEP(GRID)-89	0.686	31%
Dup-19	0.828	LR/IH-DEP(GRID)-66	0.638	26%
Dup-20	0.582	LR/IH-DEP(GRID)-52	0.418	33%
Dup-21	0.609	LR/IH-DEP(GRID)-45	0.555	9%
Dup-22	0.437	LR/IH-DEP(GRID)-6	0.329	28%

Duplicate relative percent difference (RPD) target of 50% per PRS QAPP (PRS, 2009)
Highlighted values exceed the target RPD

FIGURES

COUNTY LOCATION
(SHEBOYGAN COUNTY)

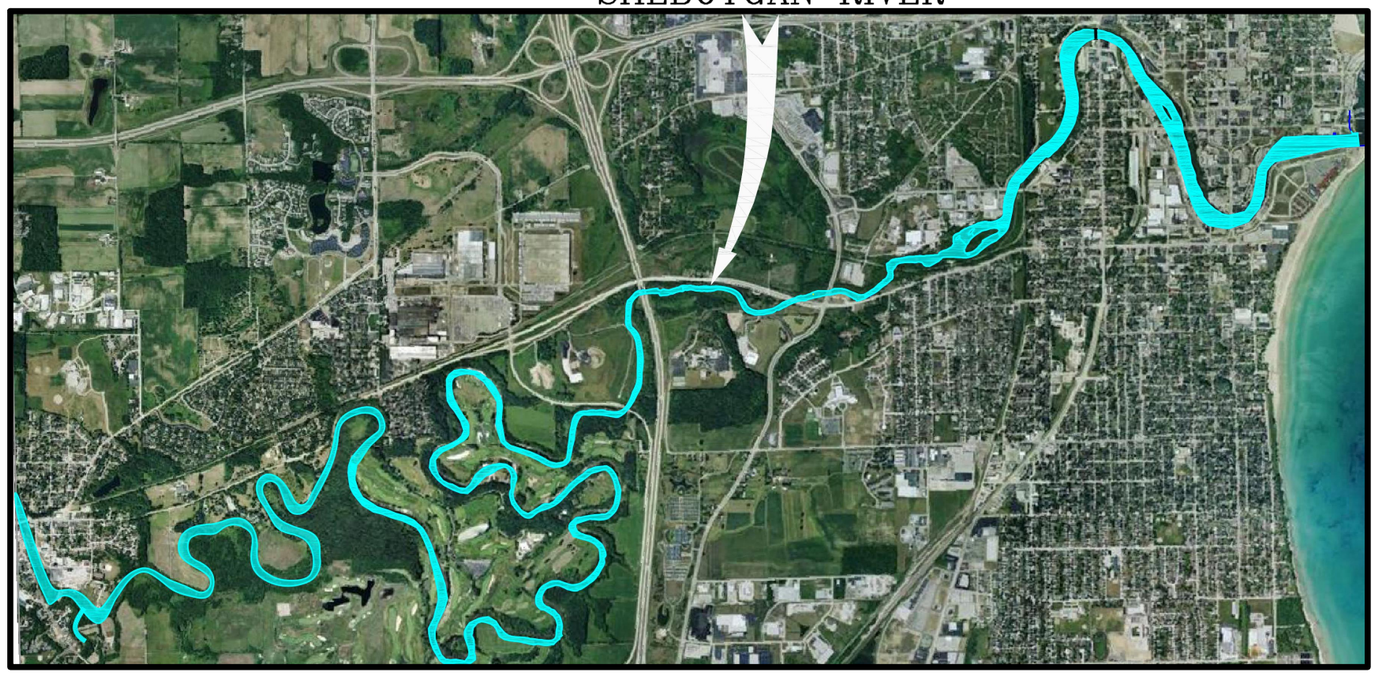
COUNTY LOCATION MAP
NOT TO SCALE

NORTH

0' 4000' 8000'

GRAPHIC SCALE: 1" = 4000'

SHEBOYGAN RIVER



NOTE:
DRAWING INFORMATION PROVIDED BY POLLUTION RISK SERVICES.

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Project
SHEBOYGAN RIVER AND INNER HARBOR SUPERFUND SITE - 2017 SURFACE SEDIMENT MONITORING REPORT

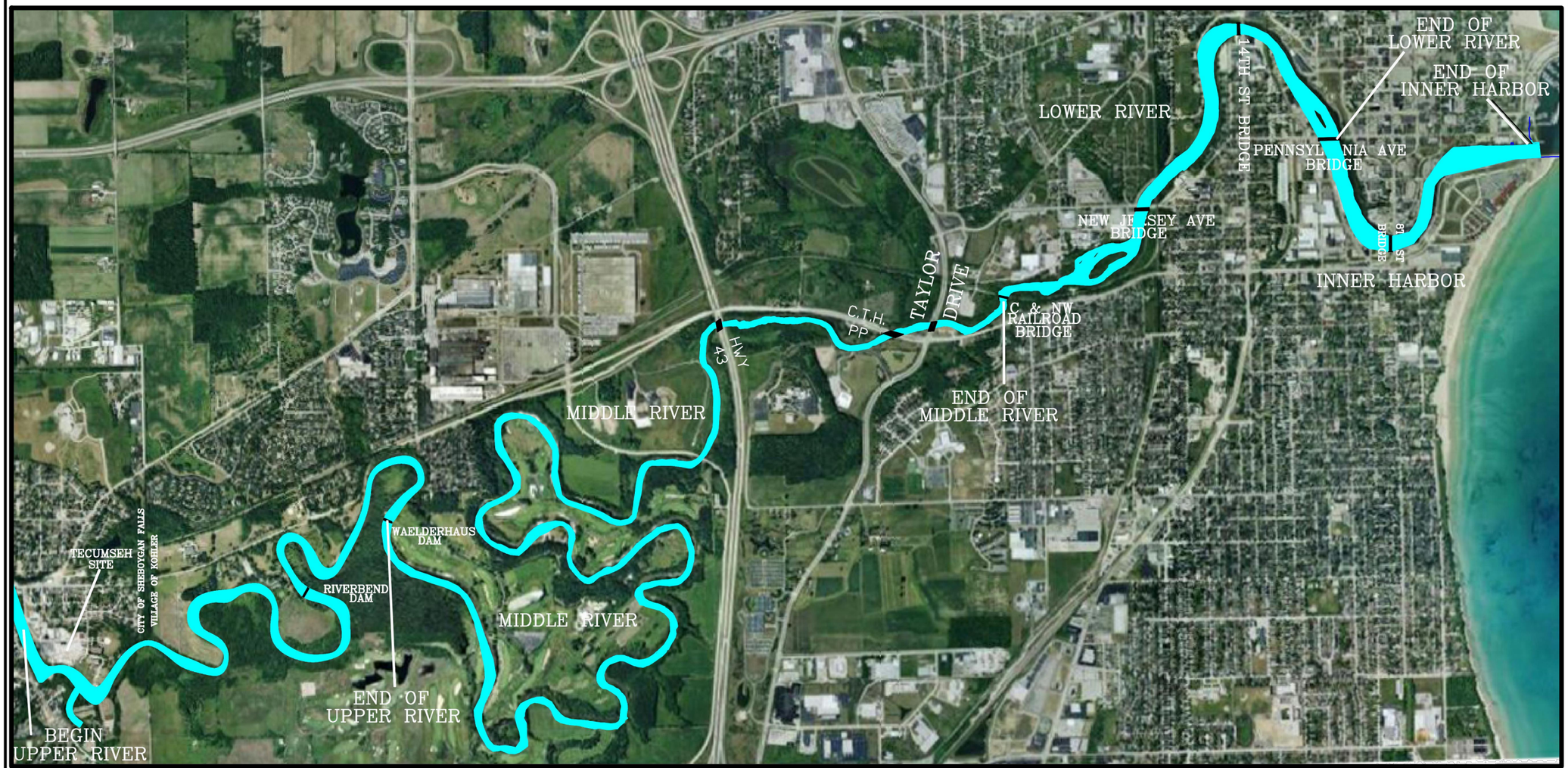
Project Location
SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name
SHEBOYGAN RIVER LOCATION MAP

No.	Revision Date

Date 11-8-17
CADD JAB
Designer MY
Scale 1" = 4000'
Project 069638.00.032.001
Figure No. 1

PLOT DATE: Nov 07, 2017 - 1:36pm - jblake FILE LOCATION: \\sme-inc\prj\WIP\069638.00\CAD\069638.00.032.001\rev0\069638.00.032.001rev0\069638.00.032.001-01.dwg



NOTE:
DRAWING INFORMATION PROVIDED BY POLLUTION RISK SERVICES.

NORTH

0' 2000' 4000'

GRAPHIC SCALE: 1" = 2000'

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Project Location
SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name
SHEBOYGAN RIVER REACH LOCATIONS

No.	Revision Date

Date 11-8-17
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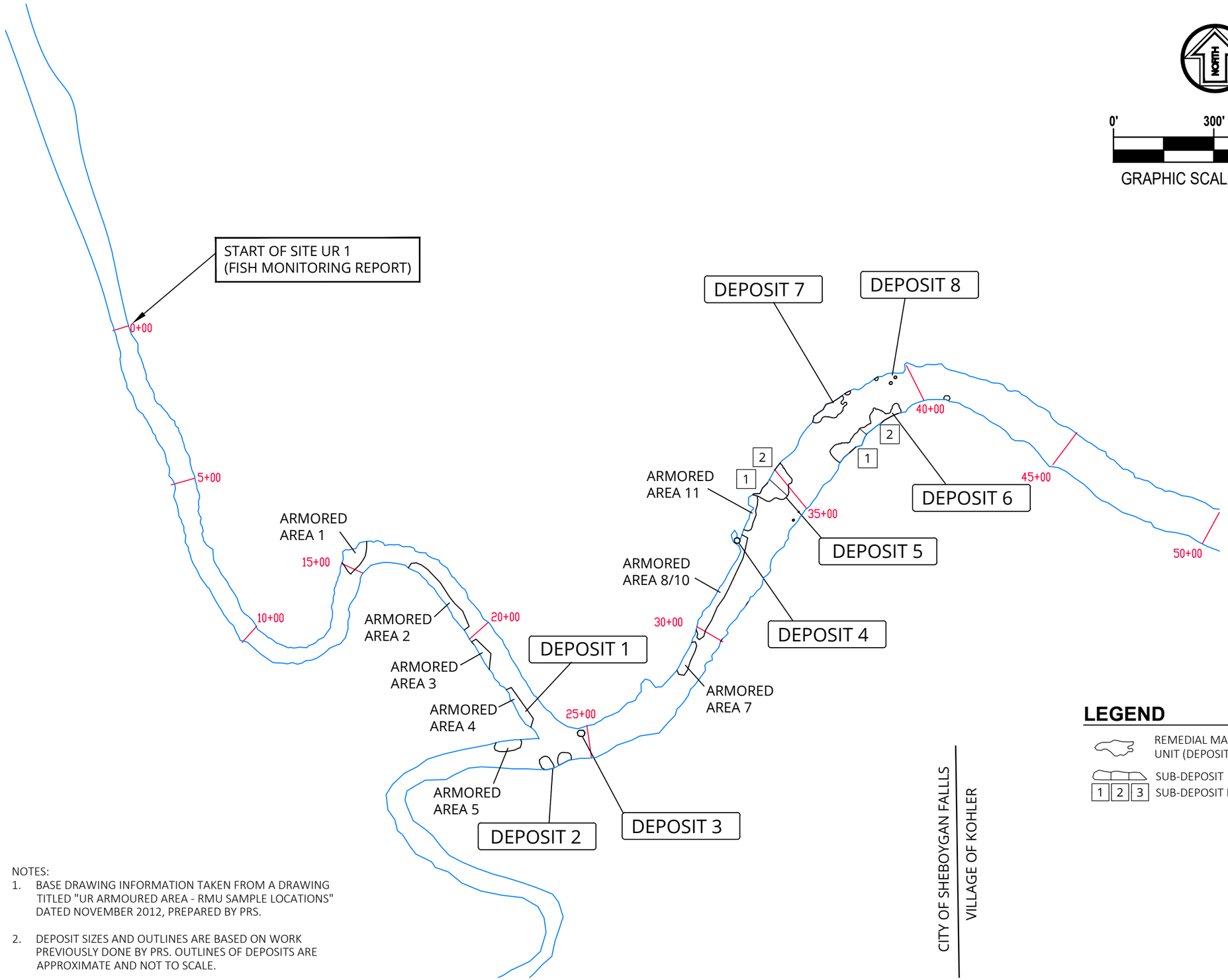
Designer MY
Scale 1" = 2000'
Project 069638.00.032.001
Figure No. 2

PLOT DATE: Nov 07, 2017 - 1:37pm - jblake FILE LOCATION: \\sme-inc\pz1\WIP\069638.00\CAD\069638.00.032.001\rev0\069638.00.032.001-02.dwg



NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM A DRAWING TITLED "UR ARMOURED AREA - RMU SAMPLE LOCATIONS" DATED NOVEMBER 2012, PREPARED BY PRS.
2. DEPOSIT SIZES AND OUTLINES ARE BASED ON WORK PREVIOUSLY DONE BY PRS. OUTLINES OF DEPOSITS ARE APPROXIMATE AND NOT TO SCALE.

CITY OF SHEBOYGAN FALLS

VILLAGE OF KOHLER

LEGEND

REMEDIAL MANAGEMENT UNIT (DEPOSIT)

SUB-DEPOSIT

1 2 3 SUB-DEPOSIT NUMBER

PLOT DATE: Nov 08, 2017 - 1:07pm - jblake

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SHEBOYGAN RIVER AND INNER HARBOR SUPERFUND SITE - 2017 SURFACE SEDIMENT MONITORING REPORT

Project Location

SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name

UPPER RIVER 0+00 TO 50+00

No.	Revision Date

Date 11-8-17

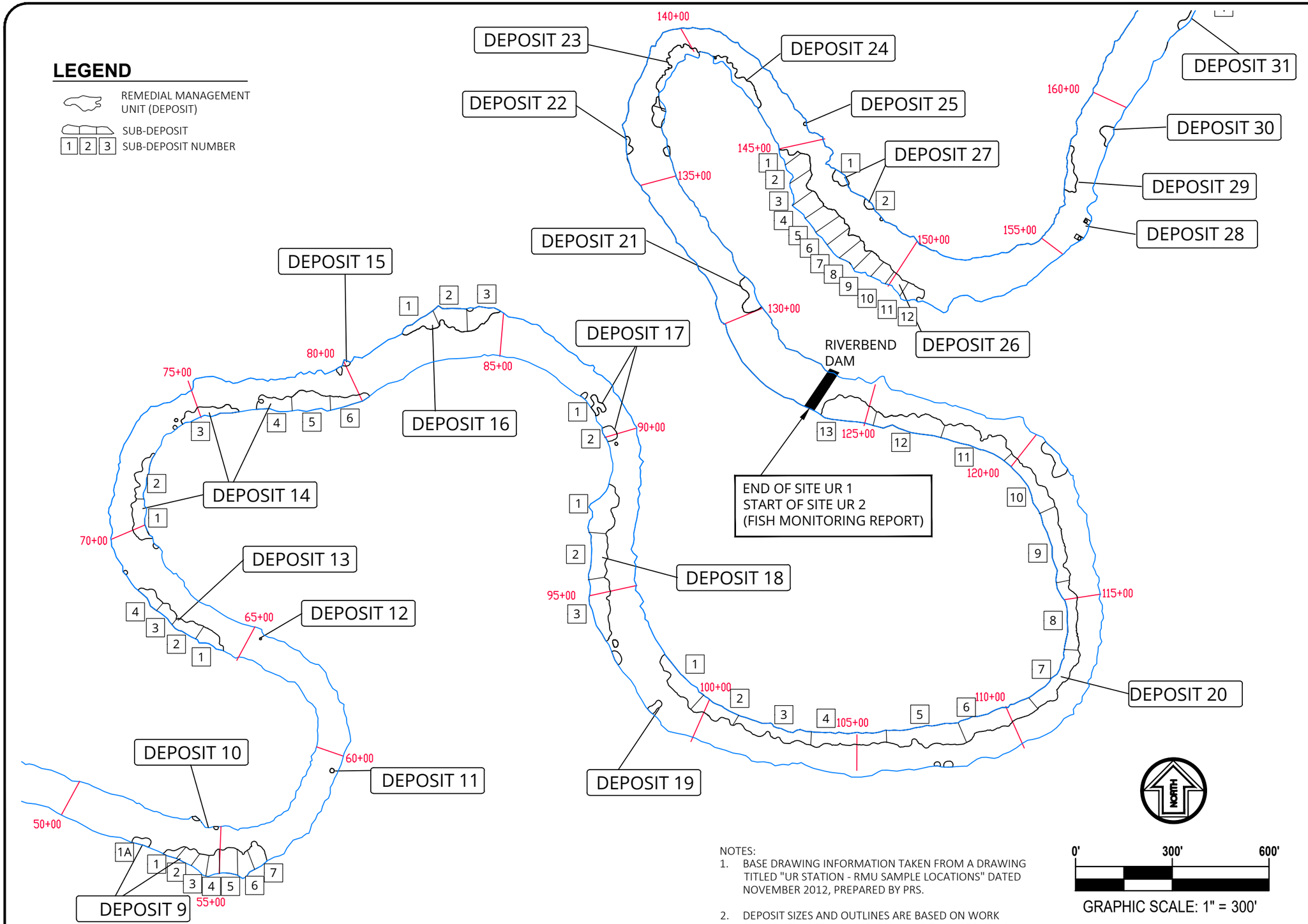
CADD JAB

Designer MY

Scale 1' = 300'

Project 069638.00.032.001

Figure No. 3



NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM A DRAWING TITLED "UR STATION - RMU SAMPLE LOCATIONS" DATED NOVEMBER 2012, PREPARED BY PRS.
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Project Location
SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name
UPPER RIVER 50+00 TO 160+00

No.	Revision Date

Date 11-8-17
CADD JAB
Designer MY
Scale 1' = 300'
Project 069638.00.032.001
Figure No. 4

PLOT DATE: Nov 08, 2017 - 1:07pm - jblake
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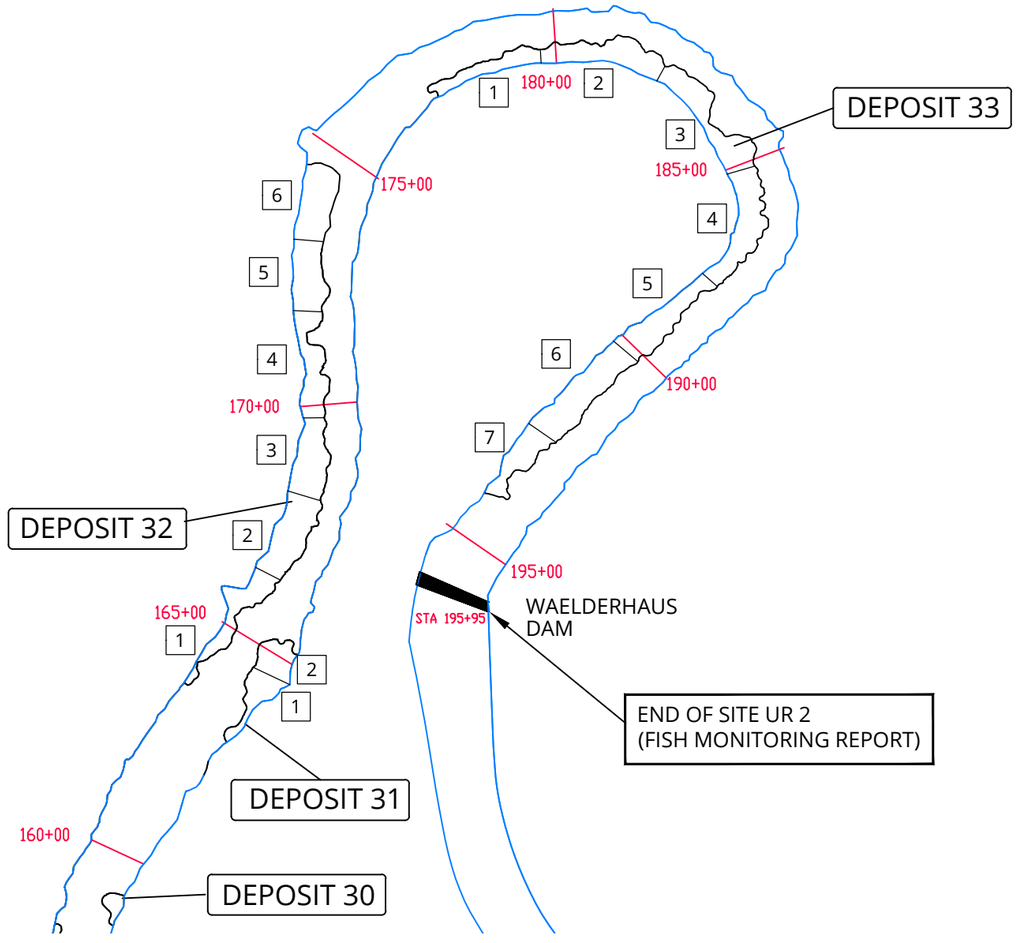

NORTH

0' 300' 600'

GRAPHIC SCALE: 1" = 300'

LEGEND

REMEDIAL MANAGEMENT UNIT (DEPOSIT)

SUB-DEPOSIT

1 2 3 SUB-DEPOSIT NUMBER

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM A DRAWING TITLED "UR STATION - RMU SAMPLE LOCATIONS" DATED NOVEMBER 2012, PREPARED BY PRS.

2. DEPOSIT SIZES AND OUTLINES ARE BASED ON WORK PREVIOUSLY DONE BY PRS. OUTLINES OF DEPOSITS ARE APPROXIMATE AND NOT TO SCALE.

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Project Location

SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name

UPPER RIVER 160+00 TO 195+95

No.	Revision Date

Date 11-8-17

CADD JAB

Designer MY

Scale 1' = 300'

Project 069638.00.032.001

Figure No. 5

PLOT DATE: Nov 08, 2017 - 1:08pm - jblake
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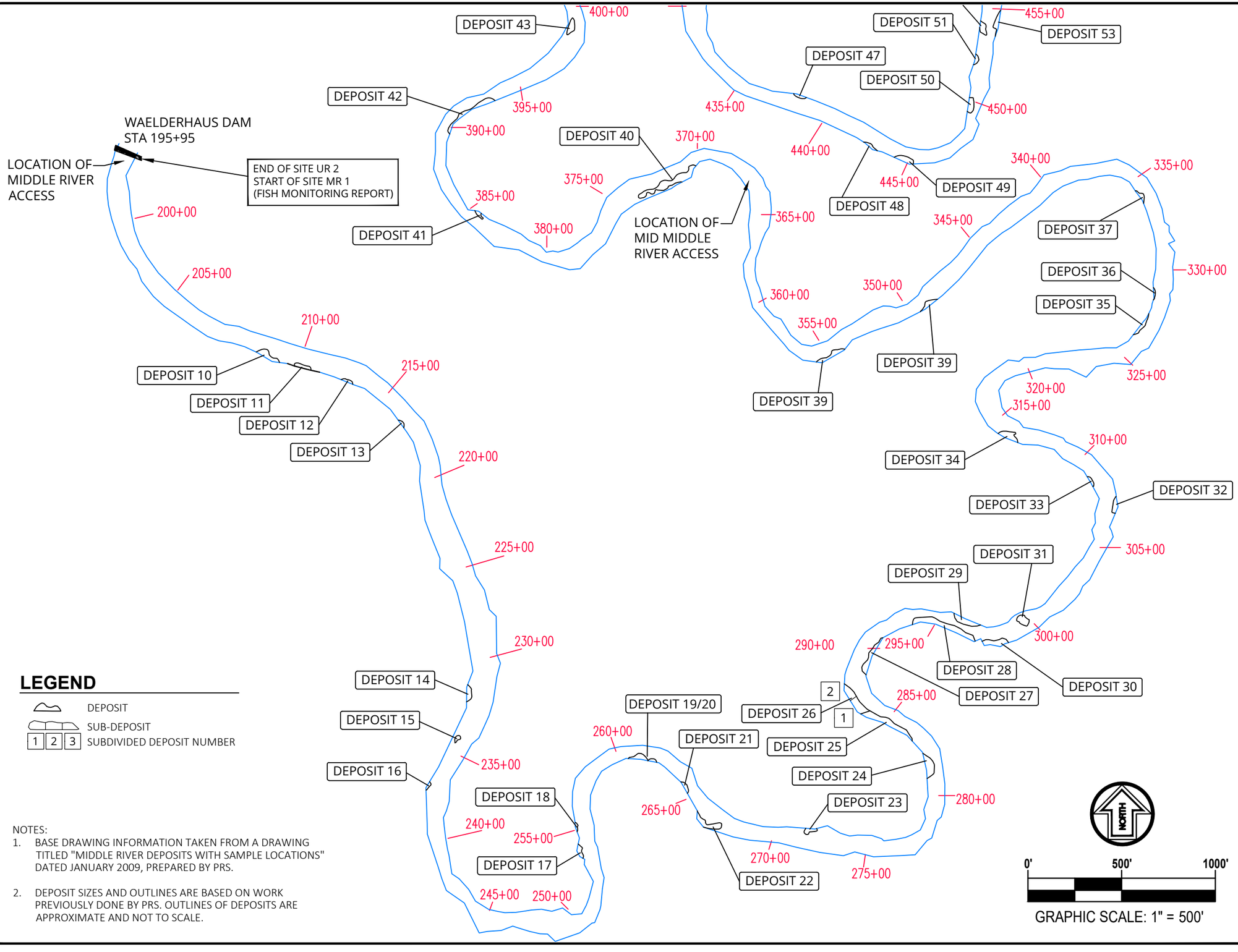

LEGEND

- DEPOSIT
- SUB-DEPOSIT
- 1 2 3 SUBDIVIDED DEPOSIT NUMBER

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM A DRAWING TITLED "MIDDLE RIVER DEPOSITS WITH SAMPLE LOCATIONS" DATED JANUARY 2009, PREPARED BY PRS.
2. DEPOSIT SIZES AND OUTLINES ARE BASED ON WORK PREVIOUSLY DONE BY PRS. OUTLINES OF DEPOSITS ARE APPROXIMATE AND NOT TO SCALE.

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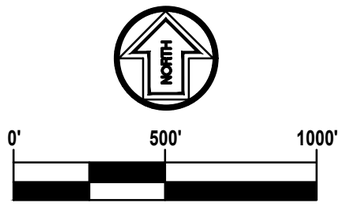
Project Location
SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name
MIDDLE RIVER 195+95 TO 455+00

No.	Revision Date

Date 11-8-17
CADD JAB
Designer MY
Scale 1' = 500'
Project 069638.00.032.001
Figure No. 6



NOTES:
1. BASE DRAWING INFORMATION TAKEN FROM A DRAWING TITLED "MIDDLE RIVER DEPOSITS WITH SAMPLE LOCATIONS" DATED JANUARY 2009, PREPARED BY PRS.

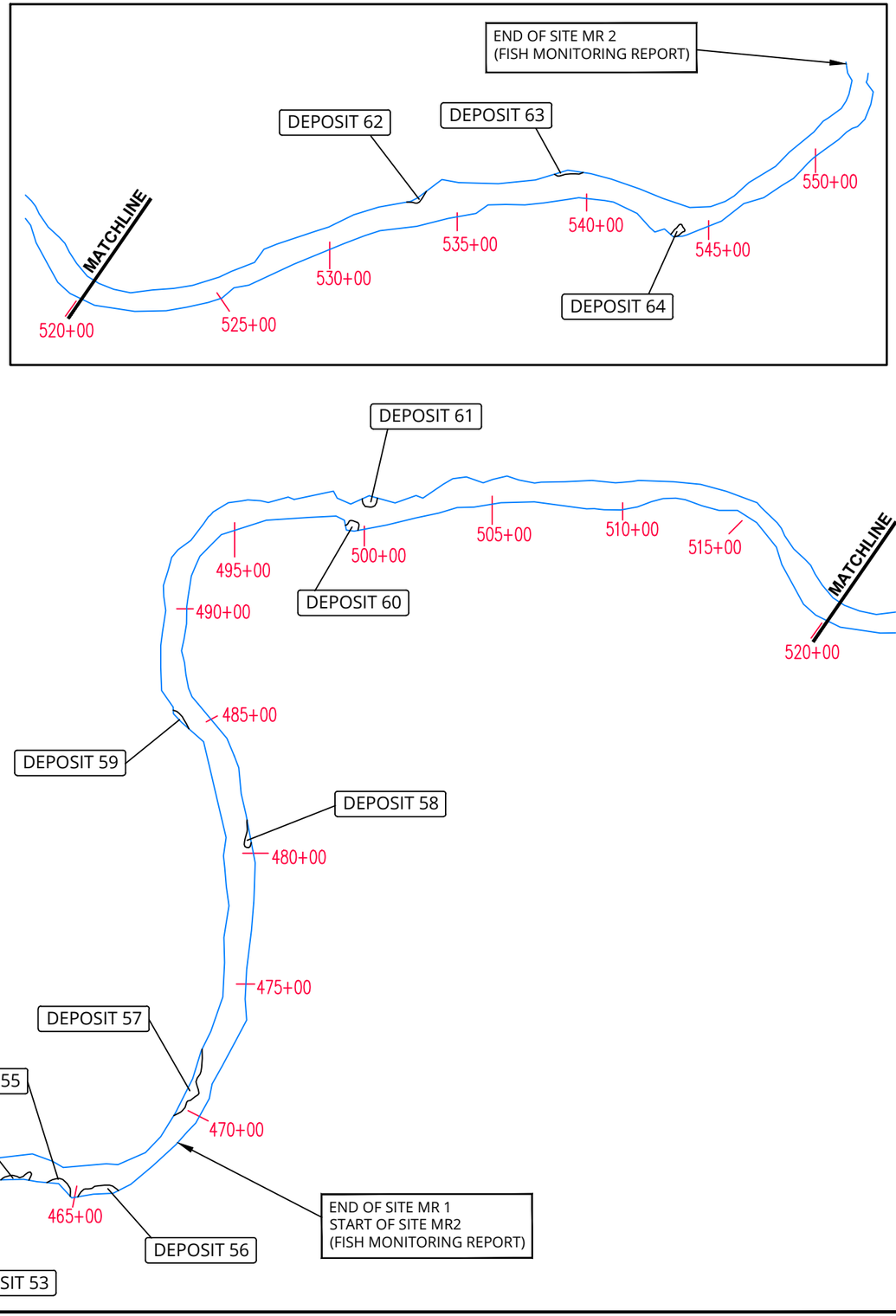
2. DEPOSIT SIZES AND OUTLINES ARE BASED ON WORK PREVIOUSLY DONE BY PRS. OUTLINES OF DEPOSITS ARE APPROXIMATE AND NOT TO SCALE.

LEGEND

DEPOSIT

SUB-DEPOSIT

1 2 3 SUBDIVIDED DEPOSIT NUMBER



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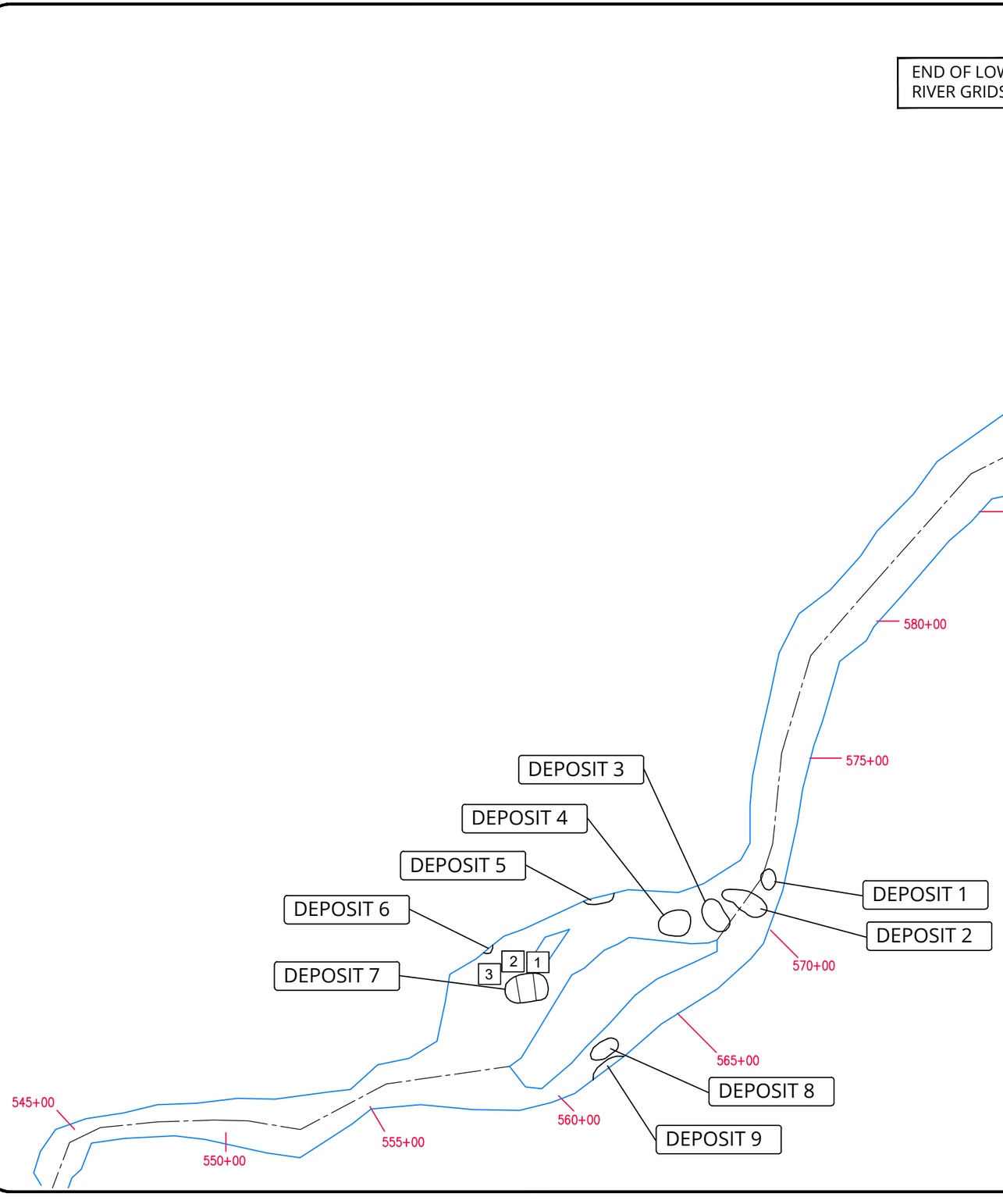
SHEBOYGAN RIVER AND INNER HARBOR SUPERFUND SITE - 2017 SURFACE SEDIMENT MONITORING REPORT

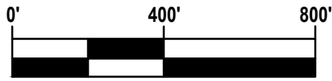
Project Location
SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name
MIDDLE RIVER 400+00 TO 550+00

No.	Revision Date

Date 11-8-17
CADD JAB
Designer MY
Scale 1' = 500'
Project 069638.00.032.001
Figure No. 7





GRAPHIC SCALE: 1" = 400'

LEGEND

- DEPOSIT
- SUB-DEPOSIT
- 1 2 3 SUBDIVIDED DEPOSIT NUMBER

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM A DRAWING TITLED "LOWER RIVER GRID LAYOUT" DATED 2008, PREPARED BY PRS.
2. DEPOSIT SIZES AND OUTLINES ARE BASED ON WORK PREVIOUSLY DONE BY PRS. OUTLINES OF DEPOSITS ARE APPROXIMATE AND NOT TO SCALE.

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SHEBOYGAN RIVER AND INNER HARBOR SUPERFUND SITE - 2017 SURFACE SEDIMENT MONITORING REPORT

Project Location

SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name

LOWER RIVER DISCREET DEPOSITS 545+00 TO 605+00

No.	Revision Date

Date 11-8-17

CADD JAB

Designer MY

Scale 1' = 400'

Project 069638.00.032.001

Figure No. 8

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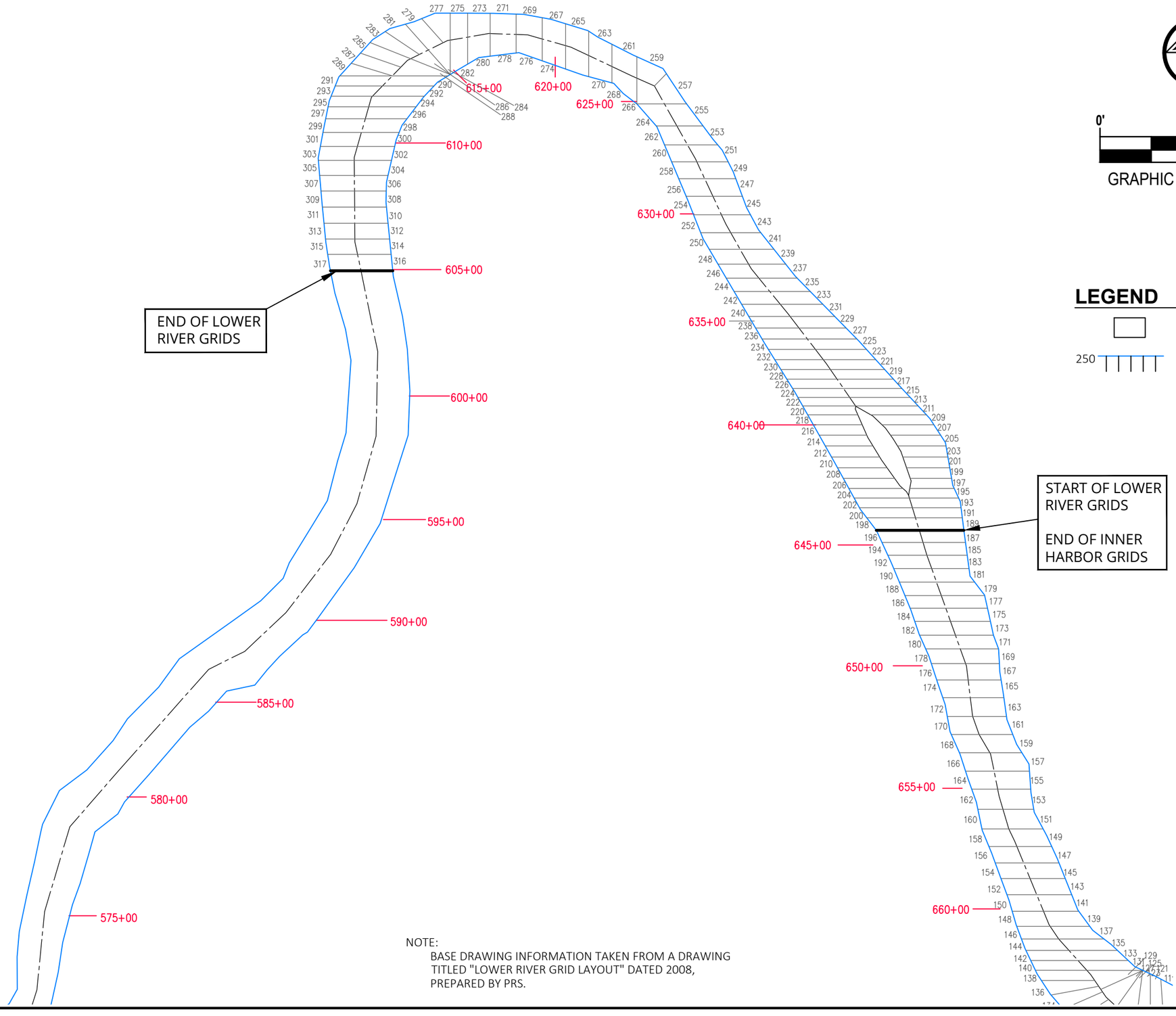

NOTE:
BASE DRAWING INFORMATION TAKEN FROM A DRAWING TITLED "LOWER RIVER GRID LAYOUT" DATED 2008, PREPARED BY PRS.

NORTH

0' 400' 800'

GRAPHIC SCALE: 1" = 400'

LEGEND

LEGACY PROJECT GRID

250 PRE-DESIGN MANAGEMENT UNIT NUMBER

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SHEBOYGAN RIVER AND INNER HARBOR SUPERFUND SITE - 2017 SURFACE SEDIMENT MONITORING REPORT

Project Location
SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name
LOWER RIVER GRIDS 575+00 TO 660+00

No.	Revision Date

Date 11-8-17
CADD JAB
Designer MY
Scale 1' = 400'
Project 069638.00.032.001
Figure No. 9

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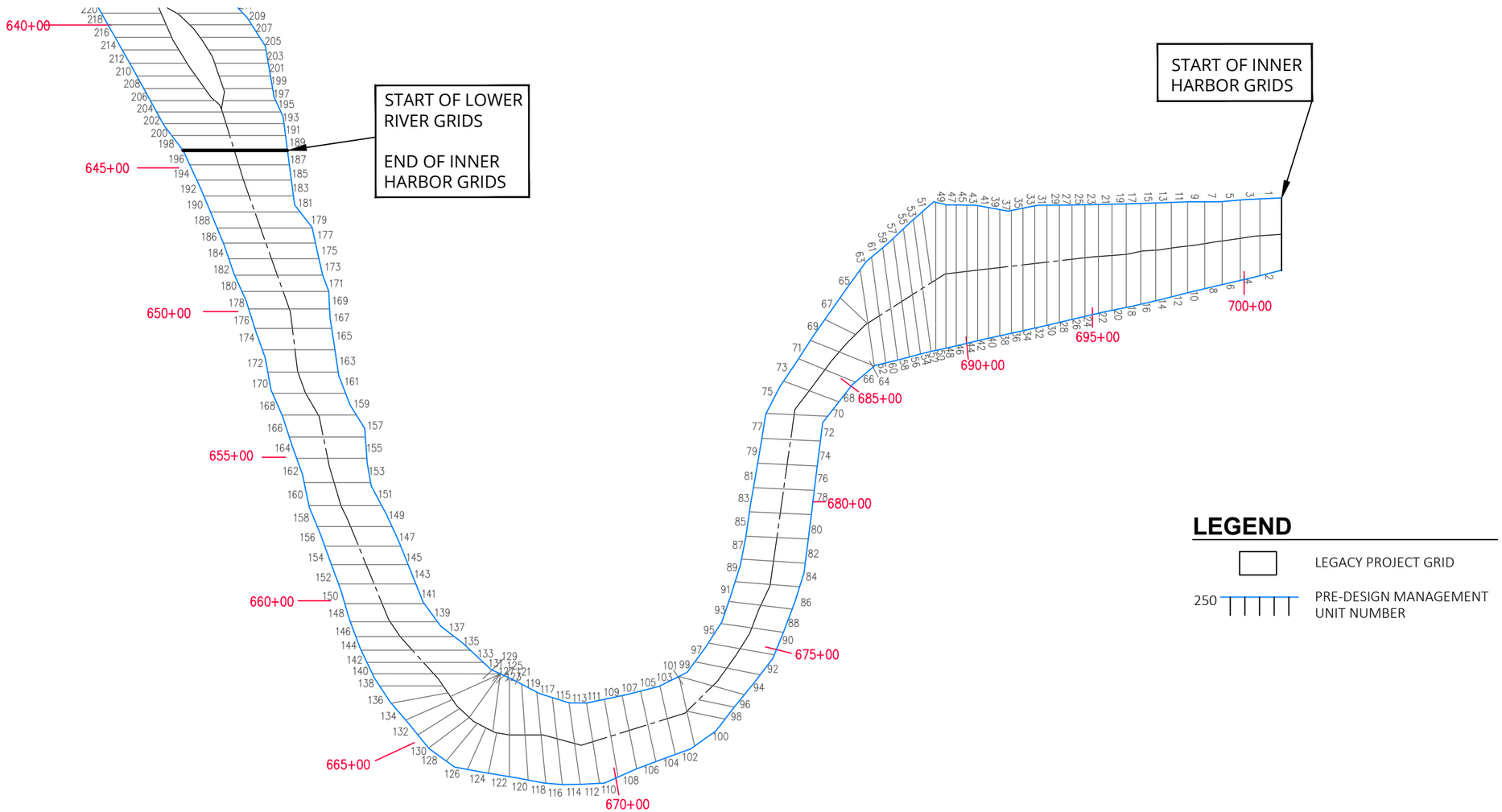

NORTH

0' 400' 800'

GRAPHIC SCALE: 1" = 400'

LEGEND

- LEGACY PROJECT GRID
- 250 PRE-DESIGN MANAGEMENT UNIT NUMBER

NOTE:
BASE DRAWING INFORMATION TAKEN FROM A DRAWING TITLED " INNER HARBOR GRID LAYOUT WITH SAMPLE LOCATIONS" DATED 2009, PREPARED BY PRS.

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Project Location
SHEBOYGAN RIVER, SHEBOYGAN COUNTY, WISCONSIN

Sheet Name
INNER HARBOR GRIDS 640+00 TO 700+00

No.	Revision Date

Date 11-8-17
CADD JAB
Designer MY
Scale 1' = 400'
Project 069638.00.032.001
Figure No. 10

DRAWING NOTE: SCALE DEPICTED IS MEANT FOR 11" X 17" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA

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APPENDIX D

TABLE 4

YEAR BY YEAR STATISTICAL COMPARISON
SHEBOYGAN RIVER AND HARBOR
SUPERFUND SITE, WISCONSIN
SME PROJECT NO. 069638.00.044

UR1 - AC	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mean	25.88	6.04	13.89	17.86	28.46	37.02	8.44	16.78	13.23	22.53	4.28	22.61
Minimum	1.63	0.65	5.27	1.87	4.55	8.27	0.07	5.61	0.71	0.15	0.69	0.69
Maximum	73.13	15.70	34.70	58.90	52.20	100.00	20.00	39.20	42.50	53.00	11.20	52.90
Standard Deviation	21.45	5.38	8.74	17.53	15.78	24.62	5.99	12.29	14.69	16.92	2.79	16.78
Coefficient of Variation	0.83	0.89	0.63	0.98	0.55	0.67	0.71	0.73	1.11	0.75	0.65	0.74
Upper 95% UCL	35.28	8.83	8.83	30.85	36.64	51.44	11.54	27.12	31.72	31.30	5.63	31.31
UR1 - AWS	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	12.42	10.94	16.23	4.71	10.63	10.68	7.39	7.32	13.39	6.89	7.60	16.18
Minimum	5.74	0.25	3.92	1.67	2.67	2.21	1.15	0.68	3.86	0.65	1.69	5.90
Maximum	20.60	25.30	45.90	16.50	25.20	37.20	13.80	14.00	36.30	14.00	16.40	31.50
Standard Deviation	5.00	8.26	10.90	3.92	6.81	9.61	3.99	4.73	10.06	4.72	4.77	9.21
Coefficient of Variation	0.40	0.76	0.67	0.83	0.64	0.90	0.54	0.65	0.75	0.69	0.63	0.57
Upper 95% UCL	15.77	16.48	16.48	6.73	14.16	16.33	9.10	9.90	18.60	9.34	10.08	20.95
UR1 - JWS	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	6.01	3.10	9.87	2.32	1.79	-	-	-	-	-	-	-
Minimum	1.99	1.52	3.94	0.44	1.35	-	-	-	-	-	-	-
Maximum	9.71	5.81	16.60	5.36	2.22	-	-	-	-	-	-	-
Standard Deviation	2.85	1.65	4.27	1.71	0.62	-	-	-	-	-	-	-
Coefficient of Variation	0.47	0.53	0.43	0.74	0.34	-	-	-	-	-	-	-
Upper 95% UCL	7.92	4.48	4.48	3.53	12.08	-	-	-	-	-	-	-
UR1 - SMB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	12.96	5.75	4.74	3.22	5.80	7.06	3.86	2.20	2.13	2.92	3.44	1.94
Minimum	4.09	1.28	0.52	0.69	2.52	0.14	0.85	0.36	0.26	0.84	0.71	0.39
Maximum	22.20	11.50	7.26	4.77	8.69	21.50	6.32	8.73	5.24	7.73	8.65	6.89
Standard Deviation	7.28	3.51	2.03	1.50	2.17	6.70	1.73	2.35	1.69	2.14	2.40	2.25
Coefficient of Variation	0.56	0.61	0.43	0.47	0.37	0.95	0.45	1.07	0.79	0.73	0.70	1.16
Upper 95% UCL	17.83	8.10	8.10	4.00	6.93	10.53	4.76	3.85	2.99	4.56	4.68	4.76
UR1 - RB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	6.94	2.85	2.85	3.66	3.07	4.03	2.28	2.25	3.35	2.10	1.34	3.59
Minimum	1.22	0.90	0.30	0.41	1.18	0.15	0.06	0.46	0.53	0.38	0.18	1.53
Maximum	16.80	4.80	5.94	12.00	5.94	15.70	4.23	5.63	15.20	6.07	4.28	8.44
Standard Deviation	5.01	1.32	1.97	2.94	1.87	4.79	1.36	1.63	3.91	1.58	1.17	2.20
Coefficient of Variation	0.72	0.46	0.69	5.66	0.61	1.19	0.60	0.73	1.17	0.75	0.87	0.61
Upper 95% UCL	10.30	3.76	3.76	5.66	4.33	9.04	2.99	3.20	6.02	2.93	1.94	4.73
UR1 - LD	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	10.1	5.19	-	-	-	-	-	-	-	-	14.23	-
Minimum	5.11	3.87	-	-	-	-	-	-	-	-	4.08	-
Maximum	15.1	7.04	-	-	-	-	-	-	-	-	21.80	-
Standard Deviation	7.06	1.33	-	-	-	-	-	-	-	-	5.83	-
Coefficient of Variation	0.70	0.26	-	-	-	-	-	-	-	-	0.41	-
Upper 95% UCL	13.3	6.46	-	-	-	-	-	-	-	-	18.14	-

Notes:
Results in mg/Kg
UR1 - Upper River from former Tecumseh Site to Riverbend Dam
AC - Adult carp
AWS - Adult white sucker
JWS - Juvenile white sucker
SMB - Smallmouth bass
RB - Rock Bass
LD - Longnose Dance
"-" - no fish of this species were collected during this event

TABLE 4

YEAR BY YEAR STATISTICAL COMPARISON
SHEBOYGAN RIVER AND HARBOR
SUPERFUND SITE, WISCONSIN
SME PROJECT NO. 069638.00.044

UR2 - AC	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mean	14.72	16.83	7.03	8.84	21.29	19.22	11.55	-	-	10.83	4.03	10.81
Minimum	1.02	5.04	0.29	2.44	4.65	1.05	1.37	-	-	0.70	0.61	1.50
Maximum	47.70	37.50	32.90	19.70	36.90	39.00	44.20	-	-	30.10	6.06	35.20
Standard Deviation	15.04	9.49	11.15	5.68	10.83	12.00	16.34	-	-	13.56	1.69	9.52
Coefficient of Variation	1.02	0.56	1.59	0.64	0.51	0.62	1.41	-	-	1.25	0.42	0.88
Upper 95% UCL	24.89	20.99	20.99	12.64	28.55	25.78	39.96	-	-	26.79	4.90	15.75
UR2 - AWS	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	8.92	11.58	5.11	4.31	3.71	6.87	6.95	3.69	4.73	3.14	3.16	3.75
Minimum	3.95	2.27	2.82	2.36	1.32	3.66	1.02	1.67	1.81	0.56	1.32	0.80
Maximum	16.60	25.00	11.00	7.69	8.31	12.40	14.00	5.3	7.94	7.67	10.50	8.23
Standard Deviation	4.19	7.69	2.57	1.64	2.50	2.28	3.95	1.07	2.00	1.86	2.66	2.10
Coefficient of Variation	0.47	0.66	0.50	0.38	0.67	0.33	0.57	0.29	0.42	0.59	0.84	0.56
Upper 95% UCL	11.72	16.73	16.73	5.16	5.35	8.05	9.00	4.248	5.77	4.10	4.80	4.84
UR2 - JWS	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	6.82	2.75	1.97	1.50	-	-	-	-	-	-	-	-
Minimum	3.73	0.71	0.46	0.87	-	-	-	-	-	-	-	-
Maximum	11.50	5.09	3.51	2.41	-	-	-	-	-	-	-	-
Standard Deviation	2.96	1.24	0.94	0.53	-	-	-	-	-	-	-	-
Coefficient of Variation	0.43	0.45	0.48	0.35	-	-	-	-	-	-	-	-
Upper 95% UCL	8.80	3.58	3.58	1.80	-	-	-	-	-	-	-	-
UR2 - SMB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	14.52	3.52	4.32	2.28	2.69	2.93	3.61	1.55	0.96	0.91	0.93	1.64
Minimum	3.12	0.54	1.68	0.70	1.25	0.96	0.54	0.34	0.44	0.34	0.38	0.47
Maximum	33.50	9.20	7.72	4.11	9.72	5.80	7.88	4.98	2.35	1.91	2.17	4.28
Standard Deviation	11.11	3.22	1.92	1.17	2.30	1.60	2.20	1.27	0.53	0.52	0.46	1.12
Coefficient of Variation	0.77	0.91	0.44	0.51	0.85	0.54	0.61	0.82	0.55	0.57	0.49	0.68
Upper 95% UCL	21.96	5.68	5.68	2.89	3.80	3.76	4.75	2.32	1.24	1.18	1.24	2.48
UR2 - RB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	4.27	6.70	1.63	2.20	1.18	2.28	1.42	0.56	0.89	0.56	0.56	1.22
Minimum	0.74	0.96	0.53	0.46	0.35	0.78	0.50	0.14	0.17	0.11	0.22	0.51
Maximum	8.72	14.00	3.10	4.80	2.25	9.96	3.53	1.27	3.81	1.14	1.16	2.57
Standard Deviation	2.94	4.91	0.94	1.21	0.68	2.49	0.87	0.41	0.96	0.32	0.26	0.60
Coefficient of Variation	0.69	0.73	0.57	0.55	0.57	1.09	0.61	0.72	1.08	0.57	0.46	0.49
Upper 95% UCL	6.23	9.99	9.99	2.82	1.54	3.55	1.87	0.77	1.68	0.72	0.70	1.53
UR2 - LD	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	-	-	-	-	-	-	-	-	-	-	11.70	-
Minimum	-	-	-	-	-	-	-	-	-	-	5.50	-
Maximum	-	-	-	-	-	-	-	-	-	-	17.90	-
Standard Deviation	-	-	-	-	-	-	-	-	-	-	8.77	-
Coefficient of Variation	-	-	-	-	-	-	-	-	-	-	0.75	-
Upper 95% UCL	-	-	-	-	-	-	-	-	-	-	NA	-

Notes:
Results in mg/Kg
UR2 - Upper River from Riverbend Dam to Waelderhaus Dam
AC - Adult carp
AWS - Adult white sucker
JWS - Juvenile white sucker
SMB - Smallmouth bass
RB - Rock Bass
LD - Longnose Dance
"-" - no fish of this species were collected during this event

TABLE 4

YEAR BY YEAR STATISTICAL COMPARISON
SHEBOYGAN RIVER AND HARBOR
SUPERFUND SITE, WISCONSIN
SME PROJECT NO. 069638.00.044

MR1 - AC	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mean	4.44	-	25.81	17.01	14.19	15.54	20.89	17.63	16.36	10.70	9.79	5.51
Minimum	1.28	-	3.35	7.80	0.61	8.49	4.35	4.19	9.02	0.28	0.62	2.11
Maximum	22.80	-	123.00	25.00	24.90	22.90	29.30	32.50	22.90	28.90	15.80	9.55
Standard Deviation	7.43	-	39.96	5.76	7.27	5.24	9.20	9.91	6.21	9.76	6.76	2.91
Coefficient of Variation	1.67	-	1.55	0.34	0.51	0.34	0.44	0.56	0.38	0.91	0.69	0.53
Upper 95% UCL	15.89	-	8.83	20.87	19.06	19.04	27.06	24.27	20.52	17.24	12.53	7.45
MR1 - AWS	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	8.77	-	4.16	3.31	2.14	1.78	3.04	1.84	2.96	1.73	1.40	5.19
Minimum	3.24	-	0.47	0.42	0.68	0.63	1.03	1.16	2.05	0.26	0.44	1.46
Maximum	19.90	-	8.11	5.94	4.41	4.87	4.52	3.63	4.93	3.02	3.05	22.70
Standard Deviation	5.86	-	2.44	1.73	1.22	1.39	1.14	0.92	1.06	0.99	0.99	7.22
Coefficient of Variation	0.67	-	0.59	0.52	0.57	0.78	0.38	0.5	0.36	0.57	0.70	1.39
Upper 95% UCL	13.07	-	16.48	4.47	2.95	3.01	3.80	2.793	3.67	2.39	2.06	14.78
MR1 - JWS	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	-	-	-	1.12	2.13	-	-	-	-	-	-	-
Minimum	-	-	-	0.63	1.27	-	-	-	-	-	-	-
Maximum	-	-	-	1.84	3.92	-	-	-	-	-	-	-
Standard Deviation	-	-	-	0.39	0.96	-	-	-	-	-	-	-
Coefficient of Variation	-	-	-	0.34	0.45	-	-	-	-	-	-	-
Upper 95% UCL	-	-	-	1.39	2.92	-	-	-	-	-	-	-
MR1 - CC	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	27.88	-	-	-	-	12.75	-	-	-	3.45	-	-
Minimum	15.90	-	-	-	-	5.41	-	-	-	3.45	-	-
Maximum	49.20	-	-	-	-	18.70	-	-	-	3.45	-	-
Standard Deviation	15.59	-	-	-	-	4.39	-	-	-	NA	-	-
Coefficient of Variation	0.56	-	-	-	-	0.34	-	-	-	NA	-	-
Upper 95% UCL	15.08	-	-	-	-	15.69	-	-	-	NA	-	-
MR1 - SMB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	8.75	-	3.78	3.29	4.02	2.35	2.21	1.26	1.28	1.59	1.62	0.71
Minimum	4.20	-	0.69	0.19	1.05	0.35	0.69	0.46	0.67	0.29	1.13	0.21
Maximum	18.20	-	9.71	8.25	7.44	4.51	5.65	2.63	2.20	2.91	2.88	2.52
Standard Deviation	4.94	-	2.78	2.52	2.21	1.57	1.63	0.73	0.50	0.81	0.55	0.78
Coefficient of Variation	0.56	-	0.73	0.77	0.55	0.67	0.74	0.58	0.39	0.51	0.34	1.10
Upper 95% UCL	12.07	-	8.10	4.98	5.50	3.41	3.30	1.745	1.62	2.13	2.14	1.23

Notes:
Results in mg/Kg
MR1 - Middle River from Waelderhaus Dam to Kohler Landfill
AC - Adult carp
AWS - Adult white sucker
JWS - Juvenile white sucker
CC - Channel Catfish
SMB - Smallmouth bass
"-" - no fish of this species were collected during this event

TABLE 4

YEAR BY YEAR STATISTICAL COMPARISON
SHEBOYGAN RIVER AND HARBOR
SUPERFUND SITE, WISCONSIN
SME PROJECT NO. 069638.00.044

MR1- RB	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mean	2.79	-	1.26	1.73	1.73	1.36	1.30	0.83	0.83	0.71	0.64	1.14
Minimum	2.79	-	0.92	0.41	1.15	0.97	0.41	0.52	0.18	0.15	0.23	0.47
Maximum	2.79	-	1.69	2.83	2.76	2.07	2.64	1.25	1.27	1.11	1.26	2.03
Standard Deviation	NA	-	0.24	0.83	0.55	0.35	0.79	0.32	0.39	0.36	0.37	0.52
Coefficient of Variation	NA	-	0.19	0.48	0.32	0.26	0.61	0.38	0.47	0.51	0.58	0.46
Upper 95% UCL	NA	-	3.76	2.29	2.10	1.60	1.83	1.07	1.09	0.96	0.90	1.49
MR1- W	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	2.79	-	6.36	3.89	-	10.53	6.70	6.19	-	2.78	2.08	2.20
Minimum	2.79	-	2.93	0.17	-	4.38	2.07	1.37	-	2.02	1.98	1.32
Maximum	2.79	-	10.50	6.93	-	21.10	22.40	10.9	-	3.25	2.17	3.70
Standard Deviation	NA	-	2.82	2.26	-	9.20	6.58	4.77	-	0.57	0.13	1.31
Coefficient of Variation	NA	-	0.44	0.58	-	0.87	0.98	0.77	-	0.20	0.06	0.60
Upper 95% UCL	NA	-	13.08	14.08	-	16.90	12.17	NA	-	3.44	NA	NA
MR2 - AC	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	1.27	-	5.88	9.83	19.21	15.58	18.59	13.08	16.36	10.41	8.37	3.94
Minimum	1.27	-	2.42	1.83	6.13	2.09	7.41	1.23	9.02	2.76	3.63	1.13
Maximum	1.27	-	11.70	20.50	37.00	45.30	31.30	29.3	22.90	17.90	19.80	14.50
Standard Deviation	NA	-	3.31	6.67	11.72	15.46	8.74	8.99	6.21	4.52	5.14	4.38
Coefficient of Variation	NA	-	0.56	0.68	0.61	0.99	0.47	0.69	0.38	0.43	0.61	1.11
Upper 95% UCL	NA	-	20.99	14.29	27.05	25.94	24.44	19.1	20.52	13.44	14.16	9.11
MR2 - AWS	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	3.96	-	2.77	2.21	3.21	0.73	3.50	1.8	1.63	1.49	1.31	1.39
Minimum	0.93	-	1.56	0.70	1.58	0.18	2.13	0.95	1.12	0.74	0.96	0.38
Maximum	6.98	-	4.08	5.91	4.61	1.31	7.11	2.82	2.97	2.72	1.73	2.12
Standard Deviation	2.01	-	1.08	1.76	1.22	0.39	1.59	0.59	0.63	0.73	0.30	0.68
Coefficient of Variation	0.51	-	0.39	0.80	0.38	0.54	0.45	0.33	0.39	0.49	0.23	0.49
Upper 95% UCL	5.31	-	16.73	3.39	4.02	0.99	4.69	2.195	20.55	1.99	1.51	1.85
MR2 - JWS	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	1.37	-	2.31	0.95	2.95	1.49	-	-	-	-	-	-
Minimum	0.98	-	1.19	0.03	1.41	1.15	-	-	-	-	-	-
Maximum	2.03	-	3.50	1.28	4.01	1.90	-	-	-	-	-	-
Standard Deviation	0.39	-	0.88	0.42	0.87	0.37	-	-	-	-	-	-
Coefficient of Variation	0.28	-	0.38	0.44	0.30	0.25	-	-	-	-	-	-
Upper 95% UCL	1.66	-	2.91	1.12	3.53	1.87	-	-	-	-	-	-

Notes:
Results in mg/Kg
MR1 - Middle River from Waelderhaus Dam to Kohler Landfill
MR2 - Middle River from Kohler Landfill to C&NW Railroad Bridge
AC - Adult carp
AWS - Adult white sucker
JWS - Juvenile white sucker
RB - Rock Bass
W - Walleye
NA - Not applicable
"-" - no fish of this species were collected during this event

TABLE 4

YEAR BY YEAR STATISTICAL COMPARISON
SHEBOYGAN RIVER AND HARBOR
SUPERFUND SITE, WISCONSIN
SME PROJECT NO. 069638.00.044

MR2 - CC	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mean	8.18	18.03	5.97	-	-	-	-	-	-	6.51	-	-
Minimum	0.53	0.53	1.89	-	-	-	-	-	-	6.51	-	-
Maximum	16.60	49.2	10.50	-	-	-	-	-	-	6.51	-	-
Standard Deviation	6.62	15.29	3.31	-	-	-	-	-	-	NA	-	-
Coefficient of Variation	1.24	1.179	0.56	-	-	-	-	-	-	NA	-	-
Upper 95% UCL	NA	NA	8.62	-	-	-	-	-	-	NA	-	-
MR2 - SMB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	4.30	-	2.38	1.34	2.74	1.61	2.89	2.26	1.28	1.70	1.20	1.46
Minimum	2.64	-	0.89	0.85	1.92	1.03	1.10	1.19	0.63	0.52	0.58	0.47
Maximum	7.65	-	5.64	2.60	3.89	2.48	5.34	4.17	2.23	2.65	1.76	3.55
Standard Deviation	1.61	-	1.50	0.58	0.63	0.49	1.28	0.97	0.52	0.83	0.45	0.93
Coefficient of Variation	0.37	-	0.63	0.44	0.23	0.31	0.44	0.43	0.40	0.49	0.38	0.64
Upper 95% UCL	5.38	-	5.68	1.75	3.17	1.94	3.75	2.914	1.63	2.26	1.50	2.09
MR2 - RB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	2.49	-	1.11	1.71	1.59	0.92	1.87	1.05	0.87	0.80	0.51	1.06
Minimum	1.42	-	0.43	0.41	1.15	0.45	0.31	0.38	0.50	0.49	0.24	0.44
Maximum	3.70	-	2.34	3.16	2.07	1.25	2.87	1.69	1.44	1.07	0.82	1.61
Standard Deviation	0.79	-	0.60	0.84	0.38	0.23	0.77	0.51	0.31	0.21	0.18	0.39
Coefficient of Variation	0.32	-	0.54	0.49	0.24	0.26	0.41	0.49	0.35	0.26	0.35	0.37
Upper 95% UCL	3.02	-	9.99	2.27	1.85	1.07	2.39	1.387	1.08	0.95	0.64	1.33
MR2 - W	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	-	-	-	-	-	-	-	-	-	1.38	-	-
Minimum	-	-	-	-	-	-	-	-	-	1.38	-	-
Maximum	-	-	-	-	-	-	-	-	-	1.38	-	-
Standard Deviation	-	-	-	-	-	-	-	-	-	NA	-	-
Coefficient of Variation	-	-	-	-	-	-	-	-	-	NA	-	-
Upper 95% UCL	-	-	-	-	-	-	-	-	-	NA	-	-
LR - AC	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	11.30	-	-	-	-	17.22	15.06	8.63	5.75	3.04	6.65	4.82
Minimum	0.46	-	-	-	-	2.17	0.97	2.55	1.42	1.06	1.76	1.04
Maximum	44.90	-	-	-	-	48.90	34.00	17.1	10.90	7.72	14.00	15.20
Standard Deviation	15.20	-	-	-	-	14.92	12.18	5.45	4.22	2.23	4.75	4.53
Coefficient of Variation	1.35	-	-	-	-	0.87	0.81	0.63	0.73	0.73	0.72	0.94
Upper 95% UCL	32.60	-	-	-	-	27.21	23.22	12.28	8.57	5.69	9.83	10.72

Notes:
Results in mg/Kg
MR2 - Middle River from Kohler Landfill to C&NW Railroad Bridge
LR - Lower River from C&NW Railroad Bridge to Pennsylvania Avenue Bridge
AC - Adult carp
AWS - Adult white sucker
RB - Rock Bass
SMB - Smallmouth bass
CC - Channel Catfish
W - Walleye
NA - Not applicable
"-" - no fish of this species were collected during this event

TABLE 4

YEAR BY YEAR STATISTICAL COMPARISON
SHEBOYGAN RIVER AND HARBOR
SUPERFUND SITE, WISCONSIN
SME PROJECT NO. 069638.00.044

LR - AWS	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mean	4.31	-	-	-	-	1.08	1.48	1.13	1.19	0.58	0.86	0.79
Minimum	3.65	-	-	-	-	0.61	1.02	0.61	0.75	0.20	0.26	0.26
Maximum	4.96	-	-	-	-	1.76	1.77	1.58	1.68	0.79	2.34	1.36
Standard Deviation	0.93	-	-	-	-	0.39	0.27	0.3	0.32	0.20	0.67	0.31
Coefficient of Variation	0.22	-	-	-	-	0.36	0.18	0.26	0.27	0.35	0.77	0.39
Upper 95% UCL	few samp	-	-	-	-	1.35	1.65	1.333	1.41	0.71	1.69	1.00
LR - SMB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	5.77	-	-	-	-	1.34	2.08	1.02	1.44	1.05	0.88	1.01
Minimum	1.78	-	-	-	-	0.43	0.73	0.62	0.63	0.48	0.51	0.47
Maximum	10.90	-	-	-	-	2.52	3.78	1.44	2.41	1.61	1.45	1.60
Standard Deviation	3.05	-	-	-	-	0.75	0.97	0.26	0.65	0.39	0.36	0.34
Coefficient of Variation	0.53	-	-	-	-	0.56	0.46	0.26	0.45	0.38	0.40	0.33
Upper 95% UCL	7.81	-	-	-	-	1.84	1.84	1.194	1.88	1.31	1.12	1.24
LR - RB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	2.60	-	-	-	-	1.30	1.17	1.01	0.75	0.80	0.49	0.80
Minimum	1.40	-	-	-	-	0.53	0.43	0.79	0.59	0.36	0.13	0.45
Maximum	4.27	-	-	-	-	1.84	2.69	1.24	1.16	1.70	1.08	1.52
Standard Deviation	1.11	-	-	-	-	0.42	0.80	0.32	0.20	0.45	0.29	0.33
Coefficient of Variation	0.43	-	-	-	-	0.32	0.68	0.31	0.27	0.56	0.59	0.41
Upper 95% UCL	3.29	-	-	-	-	1.56	1.71	NA	0.87	1.10	0.70	1.01
LR - W	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	-	-	-	-	-	-	4.24	1.47	-	-	-	-
Minimum	-	-	-	-	-	-	4.24	0.45	-	-	-	-
Maximum	-	-	-	-	-	-	4.24	2.32	-	-	-	-
Standard Deviation	-	-	-	-	-	-	NA	0.8	-	-	-	-
Coefficient of Variation	-	-	-	-	-	-	NA	0.44	-	-	-	-
Upper 95% UCL	-	-	-	-	-	-	NA	2.229	-	-	-	-
IH - AC	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	3.16	-	-	-	-	15.77	14.05	9.38	6.58	5.92	4.14	5.48
Minimum	0.24	-	-	-	-	9.96	1.07	0.8	0.43	0.65	1.00	1.37
Maximum	9.14	-	-	-	-	24.70	35.20	21.4	15.80	13.80	13.80	16.30
Standard Deviation	2.81	-	-	-	-	4.92	11.96	7.04	5.20	4.61	4.39	6.38
Coefficient of Variation	0.89	-	-	-	-	0.31	0.85	0.75	0.79	0.78	1.06	1.16
Upper 95% UCL	5.05	-	-	-	-	19.38	22.06	14.1	10.07	9.01	7.08	15.45

Notes:
Results in mg/Kg
LR - Lower River from C&NW Railroad Bridge to Pennsylvania Avenue Bridge
IH - Inner Harbor from Pennsylvania Avenue Bridge to Sheboygan River outlet
AC - Adult carp
AWS - Adult white sucker
SMB - Smallmouth bass
RB - Rock bass
W - Walleye
NA - Not applicable
"-" - no fish of this species were collected during this event

TABLE 4
YEAR BY YEAR STATISTICAL COMPARISON
SHEBOYGAN RIVER AND HARBOR
SUPERFUND SITE, WISCONSIN
SME PROJECT NO. 069638.00.044

IH - AWS	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mean	-	-	-	-	-	0.91	3.32	0.95	0.92	0.43	0.72	0.78
Minimum	-	-	-	-	-	0.34	2.57	0.35	0.07	0.05	0.13	0.16
Maximum	-	-	-	-	-	2.03	4.91	1.71	1.69	0.77	1.12	1.56
Standard Deviation	-	-	-	-	-	0.66	0.96	0.41	0.50	0.28	0.38	0.44
Coefficient of Variation	-	-	-	-	-	0.73	0.29	0.44	0.55	0.65	0.53	0.56
Upper 95% UCL	-	-	-	-	-	1.52	3.98	1.228	1.26	0.62	0.98	1.08
IH - SMB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	3.36	-	-	-	-	1.60	3.13	1.15	1.08	1.59	1.40	0.68
Minimum	1.44	-	-	-	-	0.20	1.48	0.27	0.33	0.05	0.30	0.10
Maximum	4.43	-	-	-	-	2.91	4.42	1.82	1.80	3.99	2.87	1.45
Standard Deviation	1.04	-	-	-	-	0.99	0.95	0.48	0.52	1.10	0.77	0.40
Coefficient of Variation	0.31	-	-	-	-	0.62	0.30	0.41	0.48	0.69	0.55	0.59
Upper 95% UCL	4.06	-	-	-	-	2.22	3.77	1.47	1.42	6.05	1.91	0.95
IH - RB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	-	-	-	-	-	2.24	-	1.11	0.75	0.60	0.63	0.73
Minimum	-	-	-	-	-	1.30	-	1.11	0.32	0.29	0.33	0.33
Maximum	-	-	-	-	-	3.94	-	1.11	1.26	0.89	1.14	1.34
Standard Deviation	-	-	-	-	-	1.16	-	NA	0.35	0.20	0.33	0.31
Coefficient of Variation	-	-	-	-	-	0.52	-	NA	0.47	0.34	0.53	0.42
Upper 95% UCL	-	-	-	-	-	2.72	-	NA	0.97	0.74	0.79	0.92
IH - W	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	-	-	-	-	-	-	4.53	-	-	-	-	-
Minimum	-	-	-	-	-	-	4.50	-	-	-	-	-
Maximum	-	-	-	-	-	-	4.55	-	-	-	-	-
Standard Deviation	-	-	-	-	-	-	0.04	-	-	-	-	-
Coefficient of Variation	-	-	-	-	-	-	0.01	-	-	-	-	-
Upper 95% UCL	-	-	-	-	-	-	NA	-	-	-	-	-

Notes:
Results in mg/Kg
IH - Inner Harbor from Pennsylvania Avenue Bridge to Sheboygan River outlet
AWS - Adult white sucker
SMB - Smallmouth bass
RB - Rock Bass
W - Walleye
NA - Not applicable
"-" - no fish of this species were collected during this event

TABLE 4

YEAR BY YEAR STATISTICAL COMPARISON
SHEBOYGAN RIVER AND HARBOR
SUPERFUND SITE, WISCONSIN
SME PROJECT NO. 069638.00.044

ALL - AC	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Mean	14.07	12.20	13.24	13.88	21.64	21.28	14.39	13.19	11.80	11.55	5.92	9.98
Minimum	0.24	0.65	0.29	1.83	0.61	1.05	0.07	0.8	0.43	0.15	0.61	0.69
Maximum	73.10	37.50	123.00	58.90	52.20	100.00	44.20	39.2	42.50	53.00	19.80	52.90
Standard Deviation	17.17	9.56	20.69	11.65	13.03	16.74	10.93	9.45	9.76	12.20	4.65	11.65
Coefficient of Variation	1.22	0.78	1.56	0.84	0.60	0.79	0.76	0.716	0.83	1.06	0.79	1.17
Upper 95% UCL	23.98	15.28	18.74	17.65	25.31	25.64	16.98	15.68	14.96	15.38	7.10	14.44
ALL - AWS	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	8.25	11.26	7.79	3.81	5.37	4.42	4.62	3.149	4.84	2.75	2.92	5.44
Minimum	0.93	0.25	0.47	0.42	0.68	0.18	1.02	0.35	0.07	0.05	0.13	0.16
Maximum	20.60	25.30	45.90	16.50	25.20	37.20	14.00	14.00	36.30	14.00	16.40	31.5
Standard Deviation	5.17	7.72	8.29	2.66	5.28	5.89	3.40	3.21	6.59	3.31	3.61	7.684
Coefficient of Variation	0.63	0.69	1.06	0.70	0.98	1.33	0.74	1.02	1.36	1.20	1.24	1.414
Upper 95% UCL	9.78	14.64	10.74	4.58	6.82	7.26	5.42	4.01	6.97	3.54	4.11	8.95
ALL - SMB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	8.28	4.64	3.95	2.58	3.62	3.14	3.07	1.61	1.39	1.67	1.66	1.32
Minimum	1.44	0.54	0.52	0.19	0.85	0.14	0.54	0.27	0.26	0.05	0.30	0.104
Maximum	33.50	11.50	9.71	8.25	9.72	21.50	7.88	8.73	5.24	7.73	8.65	6.89
Standard Deviation	7.08	3.45	2.18	1.67	2.57	3.82	1.67	1.35	0.98	1.36	1.51	1.31
Coefficient of Variation	0.86	0.74	0.55	0.65	0.71	1.22	0.54	0.84	0.70	0.81	0.91	0.994
Upper 95% UCL	10.19	6.15	4.53	3.02	4.43	4.31	3.45	1.88	1.60	1.97	1.95	1.67
ALL - RB	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	3.99	4.78	1.82	2.45	1.94	2.06	1.65	1.16	1.35	0.99	0.73	1.54
Minimum	0.74	0.90	0.30	0.41	0.35	0.15	0.06	0.14	0.17	0.11	0.13	0.326
Maximum	16.80	14.00	5.94	12.00	5.94	15.70	4.23	5.63	15.20	6.07	4.28	8.44
Standard Deviation	3.29	4.00	1.39	1.95	1.34	2.53	1.04	1.09	2.06	0.96	0.65	1.493
Coefficient of Variation	0.83	0.84	0.76	0.80	0.69	1.23	0.63	0.94	1.53	0.98	0.90	0.97
Upper 95% UCL	5.00	7.32	2.23	2.98	2.38	3.61	1.90	1.47	2.53	1.21	0.84	2.39
ALL - W	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	11.13	-	6.36	3.89	-	10.53	6.43	3.24	-	2.50	2.98	2.20
Minimum	5.58	-	2.93	0.17	-	4.38	2.07	0.45	-	1.38	1.98	1.32
Maximum	16.80	-	10.50	6.93	-	21.10	22.40	10.9	-	3.25	2.17	3.7
Standard Deviation	4.63	-	2.82	2.26	-	9.20	6.21	3.58	-	0.80	0.13	1.308
Coefficient of Variation	0.42	-	0.44	0.58	-	0.87	0.97	1.11	-	0.32	0.06	0.595
Upper 95% UCL	14.23	-	8.24	5.40	-	26.03	12.11	8.74	-	3.26	NA	NA
ALL - ALL	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mean	9.28	7.82	6.30	4.92	7.34	7.67	5.88	4.43	4.42	3.94	3.25	4.51
Minimum	0.24	0.25	0.29	0.03	0.35	0.00	0.06	0.14	0.07	0.05	0.13	0.10
Maximum	73.10	37.50	123.00	58.90	52.20	100.00	44.20	39.20	42.50	53.00	21.80	52.90
Standard Deviation	11.10	7.58	10.53	6.83	9.89	11.68	7.42	6.58	6.94	7.17	4.32	7.77
Coefficient of Variation	1.20	0.97	1.67	1.39	1.35	1.52	1.26	1.49	1.57	1.82	1.33	1.72
Upper 95% UCL	10.81	9.24	7.29	5.76	10.61	10.98	7.11	6.47	6.49	6.04	4.47	6.75

Notes:
Results in mg/Kg
AC - Adult carp
AWS - Adult white sucker
SMB - Smallmouth bass
RB - Rock bass
W - Walleye
NA - Not applicable
"-" - no fish of this species were collected during this event

TABLE 5
COMPARISON OF STATISTICALLY SIGNIFICANT TRENDS
SHEBOYGAN RIVER AND HARBOR SUPERFUND SITE, WISCONSIN
SME PROJECT NO. 069638.00.044

Fish Species	Upper River Site 1			Upper River Site 2			Middle River Site 1		
	Box Plot	T-test[1]	Mann-Kendall[2]	Box Plot	T-test[1]	Mann-Kendall[2]	Box Plot	T-test[1]	Mann-Kendall[2]
	General Trend	Significant Difference	Significant Trend	General Trend	Significant Difference	Significant Trend	General Trend	Significant Difference	Significant Trend
Adult Carp	↕	-	-	↕	-	-	↓	↓	-
Adult White Suckers	↕	-	-	↓	↓	↓	↓	-	↓
Juvenile White Suckers	ID	ID	-	↓	ID	↓	ID	ID	ID
Smallmouth Bass	↓	↓	↓	↓	↓	↓	↓	↓	↓
Rock Bass	↓	↓	↓	↓	↓	↓	↕	↓	↓
Walleye	NA	NA	ID	NA	NA	ID	↓	↓	-
Channel Catfish	NA	NA	NA	NA	NA	NA	↓	ID	ID
Longnose Dance	ID	ID	ID	ID	ID	ID	ID	ID	ID

Fish Species	Middle River Site 2			Lower River			Inner Harbor		
	Box Plot	T-test[1]	Mann-Kendall[2]	Box Plot	T-test[1]	Mann-Kendall[2]	Box Plot	T-test[1]	Mann-Kendall[2]
	General Trend	Significant Difference	Significant Trend	General Trend	Significant Difference	Significant Trend	General Trend	Significant Difference	Significant Trend
Adult Carp	↑↓[3]	-	-	↑↓[3]	-	↓	↑↓[3]	-	↓
Adult White Suckers	↓	↓	↓	↓	↓	↓	↔	-	-
Juvenile White Suckers	ID	ID	-	ID	ID	ID	ID	ID	ID
Smallmouth Bass	↓	↓	↓	↓	↓	↓	↓	↓	↓
Rock Bass	↓	↓	↓	↓	↓	↓	↓	↓	↓
Walleye	ID	ID	ID	ID	ID	ID	ID	ID	ID
Channel Catfish	↔	ID	ID	ID	ID	ID	ID	ID	ID
Longnose Dance	ID	ID	ID	ID	ID	ID	ID	ID	ID

Fish Species	All River Reaches						
	Box Plot	T-test[1]	Mann-Kendall[2]	95% UCL PCB Concentration Decrease (%)			
	General Trend	Significant Difference	Significant Trend	1 year 2018 - 2019	3 years 2016 - 2019	6 years 2013 - 2019	11 years 2008 - 2019
Adult Carp	↑↓[3]	-	↓	-103%	3%	44%	40%
Adult White Suckers	↓	↓	↓	-118%	-28%	-23%	8%
Juvenile White Suckers	ID	ID	-	ID	ID	ID	ID
Smallmouth Bass	↓	↓	↓	14%	-4%	61%	84%
Rock Bass	↓	↓	↓	-186%	5%	34%	52%
Walleye	↓	↓	↓	ID	ID	ID	ID
Channel Catfish	↓	ID	ID	ID	ID	ID	ID
Longnose Dance	ID	ID	ID	ID	ID	ID	ID
All Fish Species	↓	↓	↓	-51%	-4%	39%	38%

ID = Insufficient Data

NA = Not applicable

↔ = Generally stable trend (box plots)

↕ = No general trend (box plots) but yearly fluctuations

↑ = General increasing trend (box plots), significant increase (t-test) or signifcant increasing trend (Mann-Kendall)

↓ = General decreasing trend (box plots), significant decrease (t-test) or signifcant decreasing trend (Mann-Kendall)

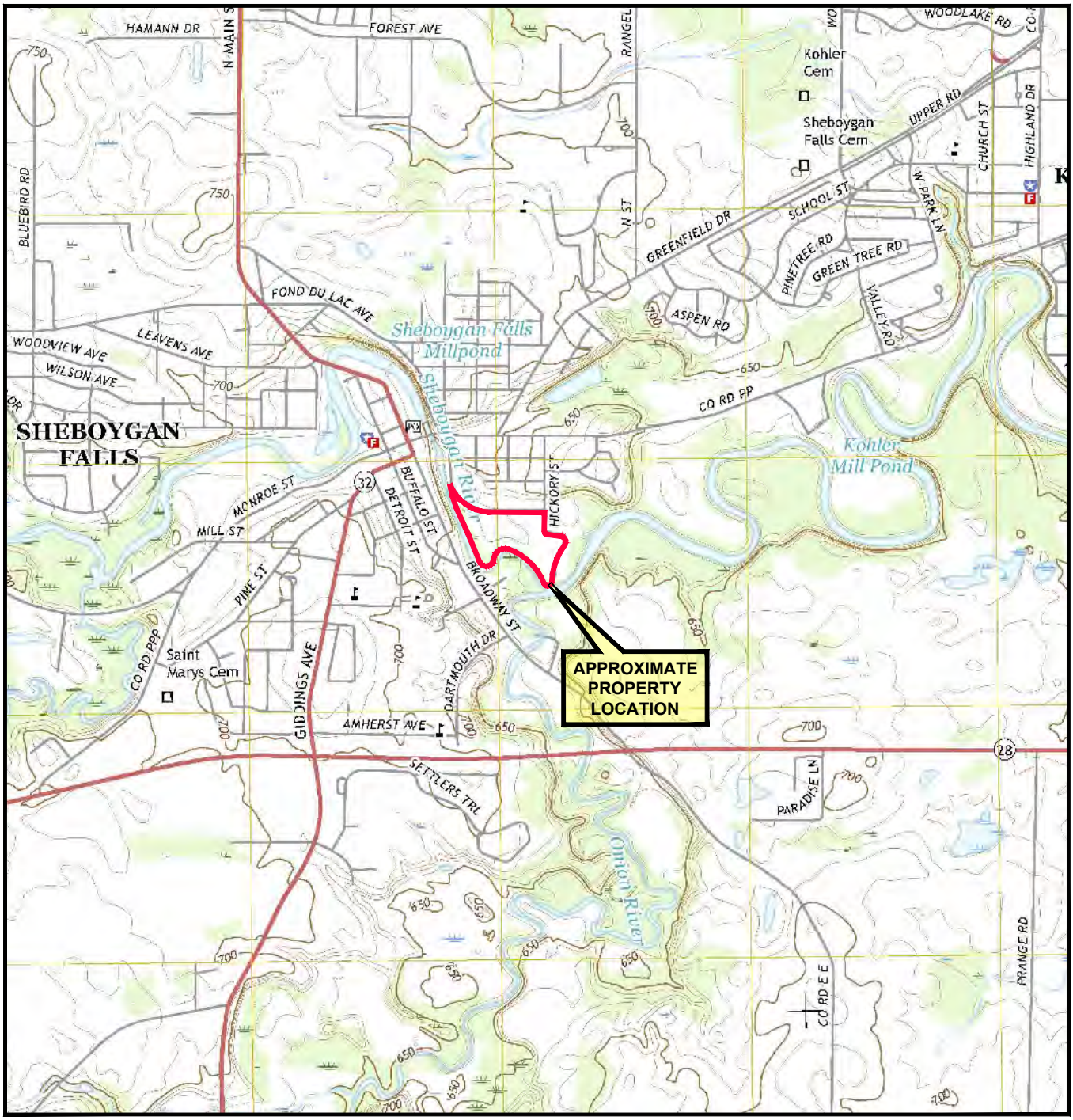
- = No significant difference (t-test) or significant decreasing trent (Mann-Kendall)

[1] T-test analysis of significant difference compared to baseline sampling event (2008) or the earliest sampling event where selected fish types were obtained (2013) on a two-tailed student's T-test with a 90% confidence interval

[2] Mann-Kendall analysis of significant trends completed based on available data since 2008 baseline sampling event or the earliest sampling event where selected fish types were obtained (2013) with a 90% confidence interval

[3] Mann-Kendall analysis of significant trends completed based on data from 2013 to 2017 with a 90% confidence interval. As discussed in Section 1.4.2, it appears that the remediation of the River caused a temporary increase in the PCB concentrations from 2008 to 2012/2013 and a decrease from 2013/2014 to 2019 in adult carp in the Middle River Site 2, Lower River, Inner Harbor and All reaches combined.

APPENDIX E



Base map obtained from USGS Store website

0' 2000'

SCALE: 1" = 2000'

USGS QUADRANGLE(s) REFERENCED

SHEBOYGAN FALLS (WI) 2016

NORTH

No.	Revision Date	Date	8-31-18
		Drawn By	JAB
		Designed By	AJL
		Scale	1" = 2000'
		Project	069638.00.034.001

SITE LOCATION MAP
SHEBOYGAN RIVER SUPERFUND SITE
TECUMSEH SITE
SHEBOYGAN FALLS, WISCONSIN

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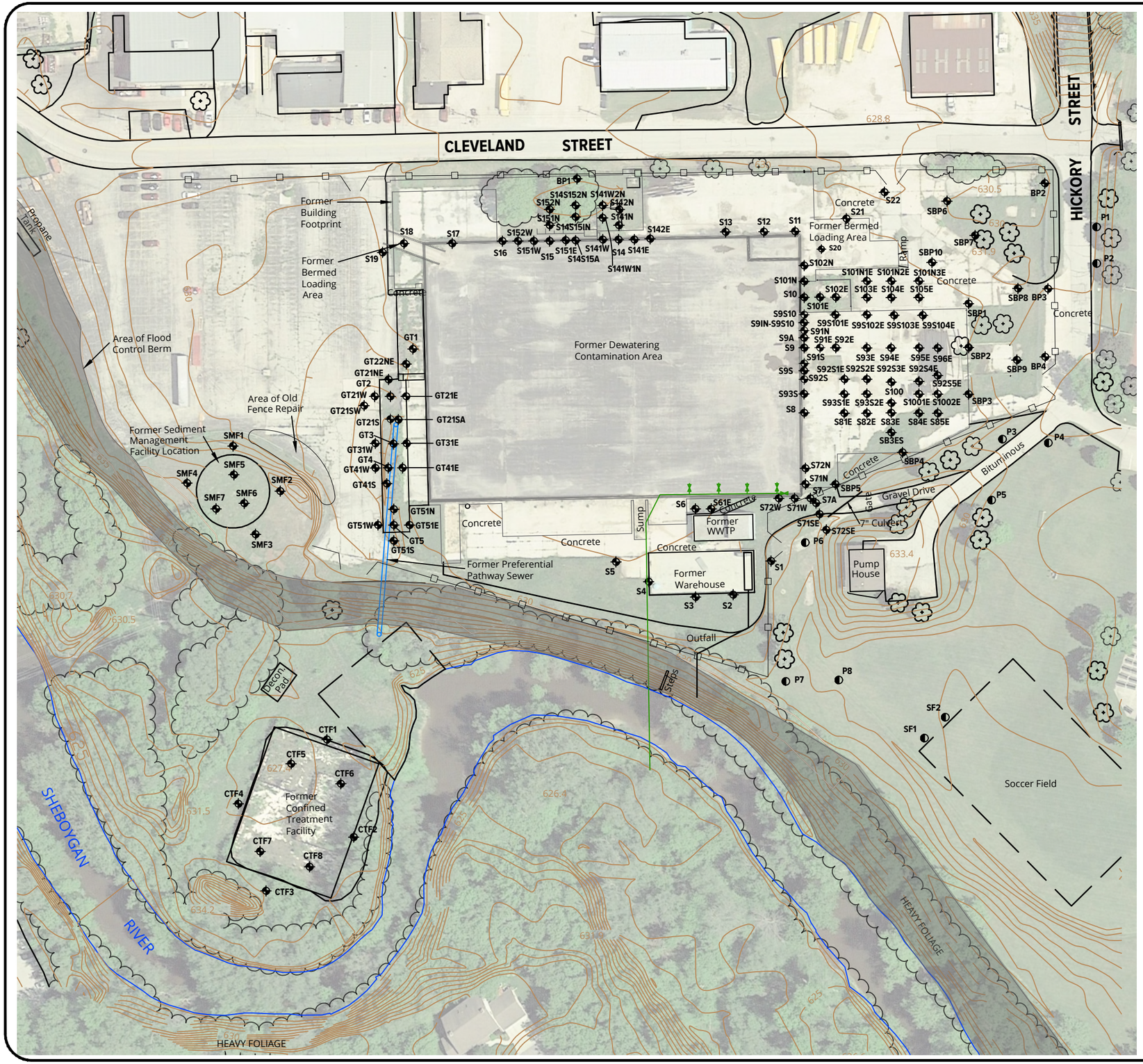
Figure No. 1

Aug 31, 2018 - 10:14am - jblake \\sme-inc\pz\WIP\069638.00\CAD\069638.00.034.001\rev1\069638.00-TopoMap.dwg



LEGEND

- EXISTING EDGE OF WATER
- EXISTING FENCE
- EXISTING TREE AND/OR BRUSH
- SITE CONTOURS
- FLOOD CONTROL BERM
- DEWATERING PAD
- FORMER DREDGE SLURRY PIPE
- RUN-OFF SAMPLE LOCATIONS
- SOIL SAMPLE LOCATION

NOTES:

1. DRAWING INFORMATION TAKEN FROM A GOOGLE EARTH PRO AERIAL, DATED 6-1-2015 AND STORMWATER POLLUTION PREVENTION PLAN, PETRO ENVIRONMENTAL, LLC., SEPTEMBER 2004.
2. INCLUDED IN THE REMEDIAL ACTION WORK PLAN, UPPER RIVER - PHASE 1, SEPTEMBER 2004.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

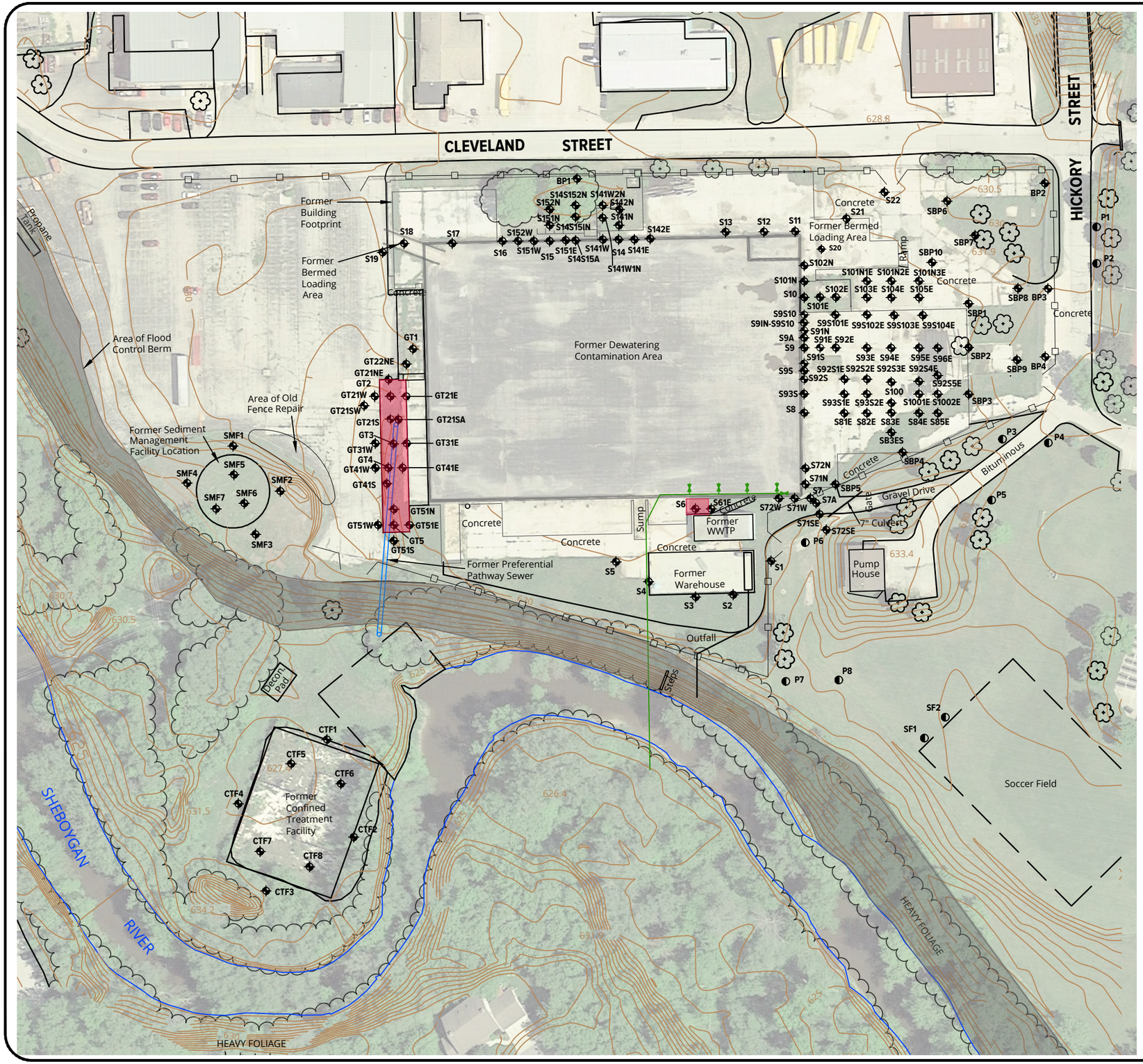
Project Location
TECUMSEH SITE
SHEBOYGAN FALLS, WISCONSIN

Sheet Name
SAMPLE LOCATION DIAGRAM

No.	Revision Date

Date	8-31-18
CADD	JAB
Designer	KE/AJL
Scale	1" = 100'
Project	069638.00.034.001
Figure No.	2

PLOT DATE: Sep 17, 2018 - 11:43am - jblake FILE LOCATION: \\sme-inc\pz\WIP\069638.00.034.001\rev1\069638.00-SB_02.dwg



LEGEND

- EXISTING EDGE OF WATER
- EXISTING FENCE
- EXISTING TREE AND/OR BRUSH
- SITE CONTOURS
- FLOOD CONTROL BERM
- DEWATERING PAD
- FORMER DREDGE SLURRY PIPE
- RUN-OFF SAMPLE LOCATIONS
- SOIL SAMPLE LOCATION
- APPROXIMATE AREA OF PAH IMPACTED SOIL

NOTES:
1. DRAWING INFORMATION TAKEN FROM A GOOGLE EARTH PRO AERIAL, DATED 6-1-2015 AND STORMWATER POLLUTION PREVENTION PLAN, PETRO ENVIRONMENTAL, LLC., SEPTEMBER 2004.
2. INCLUDED IN THE REMEDIAL ACTION WORK PLAN, UPPER RIVER - PHASE 1, SEPTEMBER 2004.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

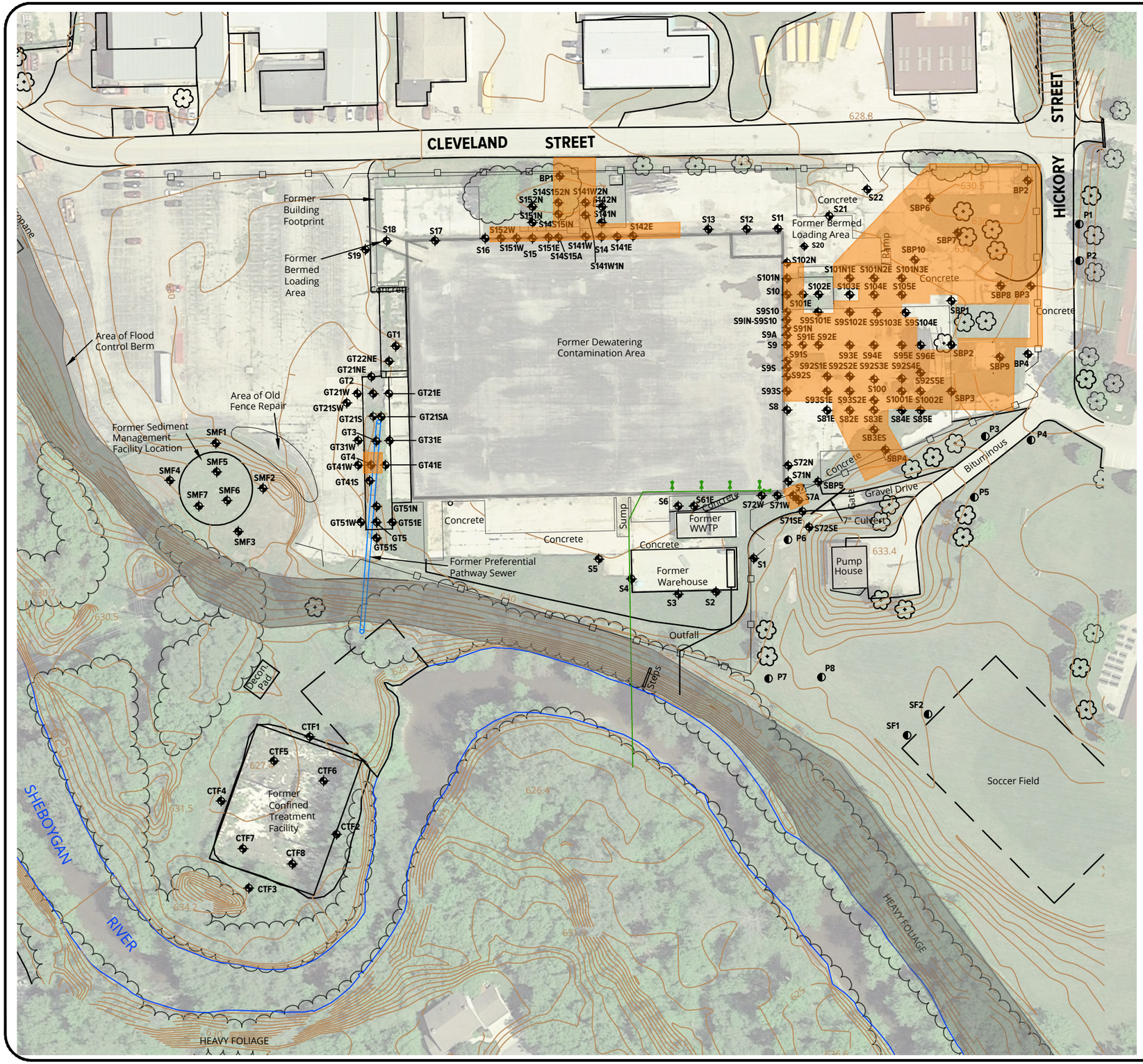
Project Location
TECUMSEH SITE
SHEBOYGAN FALLS, WISCONSIN

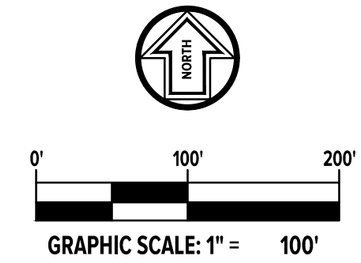
Sheet Name
SAMPLE LOCATIONS WITH PAH- IMPACTED SOIL

No.	Revision Date

Date	8-31-18
CADD	JAB
Designer	KE/AJL
Scale	1" = 100'
Project	069638.00.034.001
Figure No.	3

PLOT DATE: Sep 17, 2018 - 11:44am - jblake FILE LOCATION: \\sme-inc\pz\WIP\069638.00.034.001\rev1\069638.00-SB_02.dwg





LEGEND

- EXISTING EDGE OF WATER
- EXISTING FENCE
- EXISTING TREE AND/OR BRUSH
- SITE CONTOURS
- FLOOD CONTROL BERM
- DEWATERING PAD
- FORMER DREDGE SLURRY PIPE
- RUN-OFF SAMPLE LOCATIONS
- SOIL SAMPLE LOCATION
- APPROXIMATE AREA OF PCB-IMPACTED SOIL

NOTES:

1. DRAWING INFORMATION TAKEN FROM A GOOGLE EARTH PRO AERIAL, DATED 6-1-2015 AND STORMWATER POLLUTION PREVENTION PLAN, PETRO ENVIRONMENTAL, LLC., SEPTEMBER 2004.
2. INCLUDED IN THE REMEDIAL ACTION WORK PLAN, UPPER RIVER - PHASE 1, SEPTEMBER 2004.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

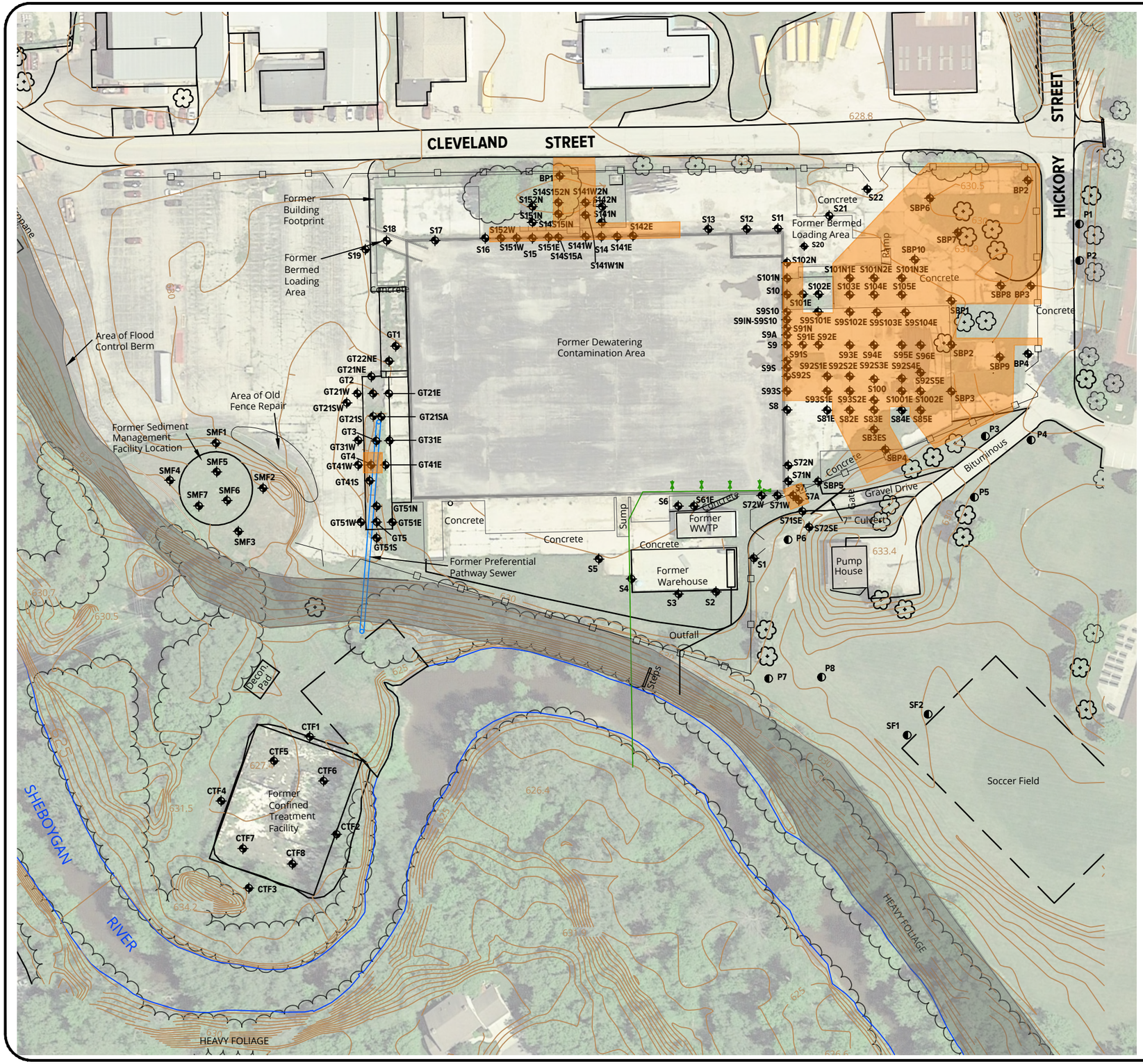
Project Location
TECUMSEH SITE
SHEBOYGAN FALLS, WISCONSIN

Sheet Name
SAMPLE LOCATIONS WITH PCB- IMPACTED SOIL - 0 TO 4 FEET

No.	Revision Date

Date	8-31-18
CADD	JAB
Designer	KE/AJL
Scale	1" = 100'
Project	069638.00.034.001
Figure No.	4

PLOT DATE: Sep 17, 2018 - 1:26pm - jblake FILE LOCATION: \\sme-inc\pz\WIP\069638.00.034.001\rev1\069638.00-SB_02.dwg



NORTH

0' 100' 200'

GRAPHIC SCALE: 1" = 100'

LEGEND

- EXISTING EDGE OF WATER
- EXISTING FENCE
- EXISTING TREE AND/OR BRUSH
- SITE CONTOURS
- FLOOD CONTROL BERM
- DEWATERING PAD
- FORMER DREDGE SLURRY PIPE
- RUN-OFF SAMPLE LOCATIONS
- SOIL SAMPLE LOCATION
- APPROXIMATE AREA OF PCB-IMPACTED SOIL

NOTES:
1. DRAWING INFORMATION TAKEN FROM A GOOGLE EARTH PRO AERIAL, DATED 6-1-2015 AND STORMWATER POLLUTION PREVENTION PLAN, PETRO ENVIRONMENTAL, LLC., SEPTEMBER 2004.
2. INCLUDED IN THE REMEDIAL ACTION WORK PLAN, UPPER RIVER - PHASE 1, SEPTEMBER 2004.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
TECUMSEH SITE
SHEBOYGAN FALLS, WISCONSIN

Sheet Name
SAMPLE LOCATIONS WITH PCB- IMPACTED SOIL - ALL DEPTHS

No.	Revision Date

Date	8-31-18
CADD	JAB
Designer	KE/AJL
Scale	1" = 100'
Project	069638.00.034.001
Figure No.	5

PLOT DATE: Sep 17, 2018 - 1:26pm - jblake FILE LOCATION: \\sme-inc\paz\WIP\069638.00.034.001\rev1\069638.00-SB_02.dwg

TABLE 1
SUMMARY OF ANALYSIS RESULTS - SOIL
PAH ANALYSIS (2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)			
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	GT21SA	GT21SA	GT21SA	Duplicate Soil - 1
			SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 8	8 - 10	GT21SA (8 - 10)
			SAMPLE DATE	5/7/2018	5/7/2018	5/7/2018	5/7/2018
PAHs							
1-Methylnaphthalene	90-12-0	730		<0.0053	<0.0053	**0.0057**	<0.0048
2-Methylnaphthalene	91-57-6	30,000		<0.0066	<0.0066	<0.0061	<0.0059
Acenaphthene	83-32-9	45,000		<0.0051	<0.0051	<0.0047	<0.0046
Acenaphthylene	208-96-8	NE		<0.0043	<0.0043	<0.0040	<0.0039
Anthracene	120-12-7	230,000		<0.0075	<0.0075	<0.0070	<0.0068
Benzo(a)anthracene	56-55-3	29		**0.0492**	<0.0042	<0.0039	<0.0038
Benzo(a)pyrene	50-32-8	2.9		**0.0708**	<0.0033	<0.0031	<0.0030
Benzo(b)fluoranthene	205-99-2	29		**0.119**	<0.0037	<0.0034	<0.0034
Benzo(g,h,i)perylene	191-24-2	NE		**0.0653**	<0.0027	**0.0032**	**0.0027**
Benzo(k)fluoranthene	207-08-9	290		**0.0427**	<0.0033	<0.0031	<0.0030
Chrysene	218-01-9	2,900		**0.0798**	<0.0044	<0.0041	<0.0040
Dibenz(a,h)anthracene	53-70-3	1.8		**0.0139**	<0.0029	<0.0027	<0.0027
Fluoranthene	206-44-0	30,000		**0.135**	<0.0068	<0.0064	<0.0062
Fluorene	86-73-7	30,000		<0.0054	<0.0054	<0.0050	<0.0049
Indeno(1,2,3-cd)pyrene	193-39-5	29		**0.052**	<0.0029	<0.0027	<0.0026
Naphthalene	91-20-3	170		<0.0110	<0.1110	<0.0103	<0.0100
Phenanthrene	85-01-8	NE		**0.0412**	<0.0153	<0.0142	<0.0139
Pyrene	129-00-0	23,000		**0.0943**	<0.0059	<0.0055	<0.0054

Only analytes measured at concentrations above their respective Laboratory Reporting Limit in at least one sample are listed.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
PAHs - Polynuclear Aromatic Hydrocarbons
Refer to the analytical report for the full list of PAH analytes.

TABLE 2
SUMMARY OF ANALYSIS RESULTS - SOIL
PAH LEACHING ANALYSIS (2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	SAMPLE INFORMATION	REMEDIAL SCREENING LEVELS	CHEMICAL ANALYSES RESULTS (mg/kg)	REMEDIAL SCREENING LEVELS	CHEMICAL ANALYSES RESULTS (ug/L)
			DIRECT CONTACT COMMERCIAL / INDUSTRIAL (mg/kg)		GROUNDWATER QUALITY STANDARD WDNR NR140 (ug/L)	
		SAMPLE LOCATION	GT21S		GT21S	
		SAMPLE DEPTH (FEET BGS)	4 - 6		4 - 6	
		SAMPLE DATE	5/7/2018		5/7/2018	
PAHs						
1-Methylnaphthalene	90-12-0		730	<0.0053	NA	<0.030
2-Methylnaphthalene	91-57-6		30,000	<0.0066	NA	**0.028**
Acenaphthene	83-32-9		45,000	<0.0051	NA	<0.030
Acenaphthylene	208-96-8		NE	<0.0043	NA	<0.025
Anthracene	120-12-7		230,000	<0.0075	3,000	<0.052
Benzo(a)anthracene	56-55-3		29	**0.0492**	NA	<0.038
Benzo(a)pyrene	50-32-8		2.9	**0.0708**	0.2	<0.053
Benzo(b)fluoranthene	205-99-2		29	**0.119**	0.2	<0.029
Benzo(g,h,i)perylene	191-24-2		NE	**0.0653**	NA	<0.034
Benzo(k)fluoranthene	207-08-9		290	**0.0427**	NA	<0.038
Chrysene	218-01-9		2,900	**0.0798**	0.2	<0.065
Dibenz(a,h)anthracene	53-70-3		1.8	**0.0139**	NA	<0.050
Fluoranthene	206-44-0		30,000	**0.135**	400	**0.081**
Fluorene	86-73-7		30,000	<0.0054	400	<0.040
Indeno(1,2,3-cd)pyrene	193-39-5		29	**0.052**	NA	<0.088
Naphthalene	91-20-3		170	<0.0110	100	<0.092
Phenanthrene	85-01-8		NE	**0.0412**	NA	**0.088**
Pyrene	129-00-0		23,000	**0.0943**	250	**0.064**

PAHs - Polynuclear Aromatic Hydrocarbons

TABLE 3
SUMMARY OF ANALYSIS RESULTS - SOIL
PCB ANALYSIS (2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S7A	S7A	S9A	S9A	S9-2EA	S9-2EA	Duplicate Soil - 3	S9-1N-S9S10	S9-1N-S9S10	Duplicate Soil - 4	S9-1N-S9S10	S9-1S-S9-2S	S9-1S-S9-2S	S9-1S-S9-2S
			SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 7	4 - 6	6 - 8	4 - 6	6 - 8	S9-2EA (6-8)	4 - 6	6 - 8	S9-1N-S9S10 (6-8)	8 - 10	4 - 6	6 - 8	8 - 10
			SAMPLE DATE	5/9/2018	5/9/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/9/2018	5/9/2018	5/9/2018
PCBs																	
PCB, Total	1336-36-3	8.66		0.067	<0.030	2.26	2.39	266	18.9	3.64	8,690	7,580	11,600	6,430	12.6	12.3	0.783

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	Duplicate Soil- 2	S9-1S-S9-2S	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-2E	S9-2S-2E	S9-2S-2E	S9-2S-2E	S9-2S-2E
			SAMPLE DEPTH (FEET BGS)	S9-1S-S9-2S (8 - 10)	10.0 - 10.5	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8	8 - 10	10.0 - 11.5	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8
			SAMPLE DATE	5/9/2018	5/9/2018	5/9/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018
PCBs																	
PCB, Total	1336-36-3	8.66		0.484	<0.043	14.2	1,050	7.88	64.7	9.08	0.298	0.082	16.3	3.81	1.21	2,400	184

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S9-2S-2E	S9-2S-2E	S9-2S-3E	S9-2S-3E	S9-2S-3E	S9-2S-3E	S9-2S-4E	S9-2S-4E	S9-2S-4E	S9-2S-4E	Duplicate Soil - 6	S9-3S	S9-3S	S9-3S
			SAMPLE DEPTH (FEET BGS)	8 - 10	10.0 - 10.5	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	S9-2S-4E (6 - 8)	0 - 0.5	0.5 - 2.0	2 - 4
			SAMPLE DATE	5/8/2018	5/8/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018
PCBs																	
PCB, Total	1336-36-3	8.66		0.557	<0.0404	6.97	0.216	199	5.86	35.1	0.207	14.3	204	155	5.23	9.89	155

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S9-3S	S9-3S	S9-3E	S9-3E	S9-3E	S9-3E	S9-3E	S9-4E	S9-4E	S9-4E	S9-4E	S9-4E	S9-5E	S9-5E
			SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 7	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8	0 - 0.5	0.5 - 2.0
			SAMPLE DATE	5/9/2018	5/9/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018
PCBs																	
PCB, Total	1336-36-3	8.66		396	28.6	6.82	3.22	49.7	0.043	96.4	0.53	1.66	6,450	1.29	0.123	3.03	3.69

See notes on Page 5

TABLE 3
SUMMARY OF ANALYSIS RESULTS - SOIL
PCB ANALYSIS (2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S9-5E	S9-5E	S9-5E	S9-6E	S9-6E	S9-6E	S9-S10-1E	S9-S10-1E	S9-S10-1E	S9-S10-1E	S9-S10-1E	S9-S10-1E	S9-S10-2E	S9-S10-2E
			SAMPLE DEPTH (FEET BGS)	2 - 3.75	4 - 6	6 - 8	0 - 2	4 - 6	6 - 8	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8	8 - 9	0 - 0.5	0.5 - 2.0
			SAMPLE DATE	5/8/2018	5/8/2018	5/8/2018	5/9/2018	5/9/2018	5/9/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018
PCBs																	
PCB, Total	1336-36-3	8.66		256	8,740	18.1	0.136	1.39	0.335	44.2	348	1.52	0.127	0.04	172	7.31	205

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)												
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S9-S10-2E	S9-S10-2E	S9-S10-2E	S9-S10-3E	S9-S10-3E	S9-S10-3E	S9-S10-3E	S9-S10-4E	S9-S10-4E	S9-S10-4E	S14-S15A	S14-S15A	S14-S15A	S14-S15A-1N
			SAMPLE DEPTH (FEET BGS)	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	4 - 6	6 - 8	4 - 6	6 - 8	8 - 10	0 - 2
			SAMPLE DATE	5/8/2018	5/8/2018	5/8/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/7/2018	5/7/2018	5/7/2018	5/9/2018
PCBs																	
PCB, Total	1336-36-3	8.66		8.98	0.11	0.127	4.24	117	9.08	0.175	1.96	1.83	0.102	0.935	61.8	185	392

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)												
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S14-S15A-1N	S14-S15A-1N	S100	S100	Duplicate Soil - 7	S100	SF1	SF2	P1	P2	P3	P4	P5	P6
			SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 8	0 - 2	4 - 6	S100 (4 - 6)	6 - 8	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.25
			SAMPLE DATE	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018
PCBs																	
PCB, Total	1336-36-3	8.66		7.26	7.55	534	67.8	105	0.309	0.385	6.11	2.87	6.89	0.246	0.372	0.407	0.834

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)												
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	P7	Duplicate Soil - 5	P8	BP1	BP1	DUP-SOIL #7	BP1	BP1	BP2	BP2	BP2	BP3	BP3	BP3
			SAMPLE DEPTH (FEET BGS)	0 - 0.5	P7 (0 - 0.5)	0 - 0.5	0 - 0.5	0.5 - 2	BP1 (0.5-2)	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 3.75	0 - 0.5	0.5 - 2	2 - 4
			SAMPLE DATE	5/9/2018	5/9/2018	5/9/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018
PCBs																	
PCB, Total	1336-36-3	8.66		0.856	1.68	1.84	1.12	18.5	21.3	1.55	30.4	12.3	13.0	0.0526	0.080	0.451	175

See notes on Page 5

TABLE 3
SUMMARY OF ANALYSIS RESULTS - SOIL
PCB ANALYSIS (2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	BP3	BP4	BP4	DUP-SOIL #8	BP4	S1001E	S1001E	S1001E	S1001E	S1002E	S1002E	S1002E	S1002E	S1002E
			SAMPLE DEPTH (FEET BGS)	4 - 5	0 - 0.5	0.5 - 2	BP4 (0.5-2)	2 - 4	0.66 - 1.75	2.5 - 4	4 - 6	6 - 7.5	0 - 0.5	0.5 - 2	2 - 4	4 - 5	6 - 8
			SAMPLE DATE	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018
PCBs																	
PCB, Total	1336-36-3	8.66		83.0	2.15	1.57	1.47	1.06	501	0.305	146	15.1	1.19	887	64.9	6.62	63.3

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	DUP-SOIL #2	S101N1E	S101N1E	S101N1E	S101N1E	S101N2E	S101N2E	S101N2E	S101N2E	S101N3E	S101N3E	S101N3E	DUP-SOIL #3	S101N3E
			SAMPLE DEPTH (FEET BGS)	S1002E (6-8)	0.75 - 2	2 - 4	4 - 6	6 - 8	0.75 - 2	2 - 4	4 - 6	6 - 7.5	0.75 - 2	2 - 4	4 - 6	S101N3E (4-6)	6 - 7
			SAMPLE DATE	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018
PCBs																	
PCB, Total	1336-36-3	8.66		17.5	489	42.7	0.819	1.53	31.2	78.2	0.046	<0.0289	203	3.21	5.33	121	0.386

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S103E	S103E	S103E	S103E	S104E	S104E	S104E	S104E	S105E	S105E	S105E	S105E	S141W1N	S141W1N
			SAMPLE DEPTH (FEET BGS)	0.75 - 2	2 - 4	4 - 6	6 - 7	0.75 - 2	2 - 4	4 - 6	6 - 7	0.75 - 2	2 - 4	4 - 6	6 - 7	0 - 0.5	0.5 - 2
			SAMPLE DATE	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	8/2/2018	8/2/2018
PCBs																	
PCB, Total	1336-36-3	8.66		0.664	7.34	14.2	0.356	11,600	2,280	2.65	1.99	213	0.788	0.344	1.87	6.65	0.0725

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S141W1N	S141W1N	S141W2N	S141W2N	S141W2N	S141W2N	S14S152N	S14S152N	S14S152N	S14S152N	S81E	S81E	S81E	S82E
			SAMPLE DEPTH (FEET BGS)	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0.66 - 2	2 - 4	4 - 6	0.66 - 2
			SAMPLE DATE	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018
PCBs																	
PCB, Total	1336-36-3	8.66		<0.0282	0.123	9.68	5.20	0.277	0.081	6.18	11,600	112	5.57	1.70	1.40	<0.0283	486

See notes on Page 5

TABLE 3
SUMMARY OF ANALYSIS RESULTS - SOIL
PCB ANALYSIS (2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S82E	S82E	S82E	S83E	S83E	S83E	S83ES	S83ES	DUP SOIL #1	S83ES	S83ES	S83ES	S84E	S84E
			SAMPLE DEPTH (FEET BGS)	2 - 4	4 - 6	6 - 7	0.66 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	S83ES (0.5-2)	2 - 4	4 - 6	6 - 7.5	0 - 0.5	0.5 - 2
			SAMPLE DATE	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	08/01/2018	08/01/2018
PCBs																	
PCB, Total	1336-36-3	8.66		13.2	4.40	0.484	32.2	0.0367	3.99	0.869	0.0342	0.0661	8.83	3.75	4.79	2.48	8.66

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S84E	S84E	S84E	S85E	S85E	S85E	S85E	S92S5E	S92S5E	S92S5E	S92S5E	S93S1E	S93S1E	S93S1E
			SAMPLE DEPTH (FEET BGS)	2 - 4	4 - 6	6 - 7.5	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0.66 - 2	2 - 4	4 - 6	6 - 7	0.66 - 2	2 - 4	4 - 6
			SAMPLE DATE	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	07/31/2018	07/31/2018	07/31/2018
PCBs																	
PCB, Total	1336-36-3	8.66		7.04	0.856	0.509	1.30	0.553	0.620	28.2	72.3	0.454	27.2	14.5	437	113	1.99

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S93S2E	S93S2E	S93S2E	SBP1	SBP1	SBP1	SBP2	SBP2	SBP2	SBP3	SBP3	SBP3	SBP3	SBP3
			SAMPLE DEPTH (FEET BGS)	0.5 - 2	2 - 4	4 - 6	1 - 2	2 - 4	4 - 6	1 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	4 - 6	6 - 7.5
			SAMPLE DATE	07/31/2018	07/31/2018	07/31/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018
PCBs																	
PCB, Total	1336-36-3	8.66		697	90.8	511	0.828	1.86	33.5	3.88	0.183	1.50	0.613	0.034	16.9	18.1	4.56

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	SBP4	SBP4	SBP4	SBP4	SBP5	SBP5	SBP5	SBP5	SBP6	SBP6	SBP6	DUP-SOIL #4	SBP6	SBP6
			SAMPLE DEPTH (FEET BGS)	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	SBP6 (2-4)	4 - 6	6 - 7
			SAMPLE DATE	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018
PCBs																	
PCB, Total	1336-36-3	8.66		0.336	10.2	0.332	2.26	0.131	0.418	0.733	0.855	28	161	14.8	10.2	0.281	0.394

See notes on Page 5

TABLE 3
SUMMARY OF ANALYSIS RESULTS - SOIL
PCB ANALYSIS (2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	SBP7	SBP7	SBP7	SBP7	SBP8	SBP8	DUP-SOIL #5	SBP8	SBP8	SBP9	SBP9	SBP9	SBP10	SBP10
			SAMPLE DEPTH (FEET BGS)	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	SBP8 (0.5-2)	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	0.75 - 2	2 - 4
			SAMPLE DATE	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018
PCBs																	
PCB, Total	1336-36-3	8.66		1.77	**11.8**	0.244	0.379	2.16	**70.6**	**60.1**	4.97	**14.6**	**26.8**	**11.8**	1.55	0.139	**14.8**

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)	
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	SBP10	SBP10
			SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 7
			SAMPLE DATE	08/01/2018	6/7/2018
PCBs					
PCB, Total	1336-36-3	8.66		**49.2**	0.390

PCBs - Polychlorinated Biphenyls.

Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.

TABLE 4
SUMMARY OF ANALYSIS RESULTS - SOIL
PCB LEACHING ANALYSIS (2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS			SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS								
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL (mg/kg)	MAXIMUM CONTAMINANT LEVEL (µg/L)	GROUNDWATER QUALITY STANDARD WDNR NR140 (µg/L)	SAMPLE LOCATION	S9A	S9A	S9A	S94E	S95E	S95E	S91N-S9S10	S91N-S9S10	S14-S15A
					SAMPLE DEPTH (FEET BGS)	0 - 0.5	0.5 - 1.5	1.5 - 3.5	2 - 4	4 - 6	6 - 8	6 - 8	8 - 10	0 - 0.5
					SAMPLE DATE	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/9/2018
SOIL PCBs						CHEMICAL ANALYSES RESULTS (mg/kg)								
PCB, Total	1336-36-3	8.66	-	-		9,060	5,430	513	6,450	8,740	18.1	7,580	6,430	878
SPLP PCBs						CHEMICAL ANALYSES RESULTS (µg/L)								
PCB, Total	1336-36-3	-	0.5	0.03		21	12	8.8	10	6.6	9.5	1,700	107	367

PCBs - Polychlorinated Biphenyls.

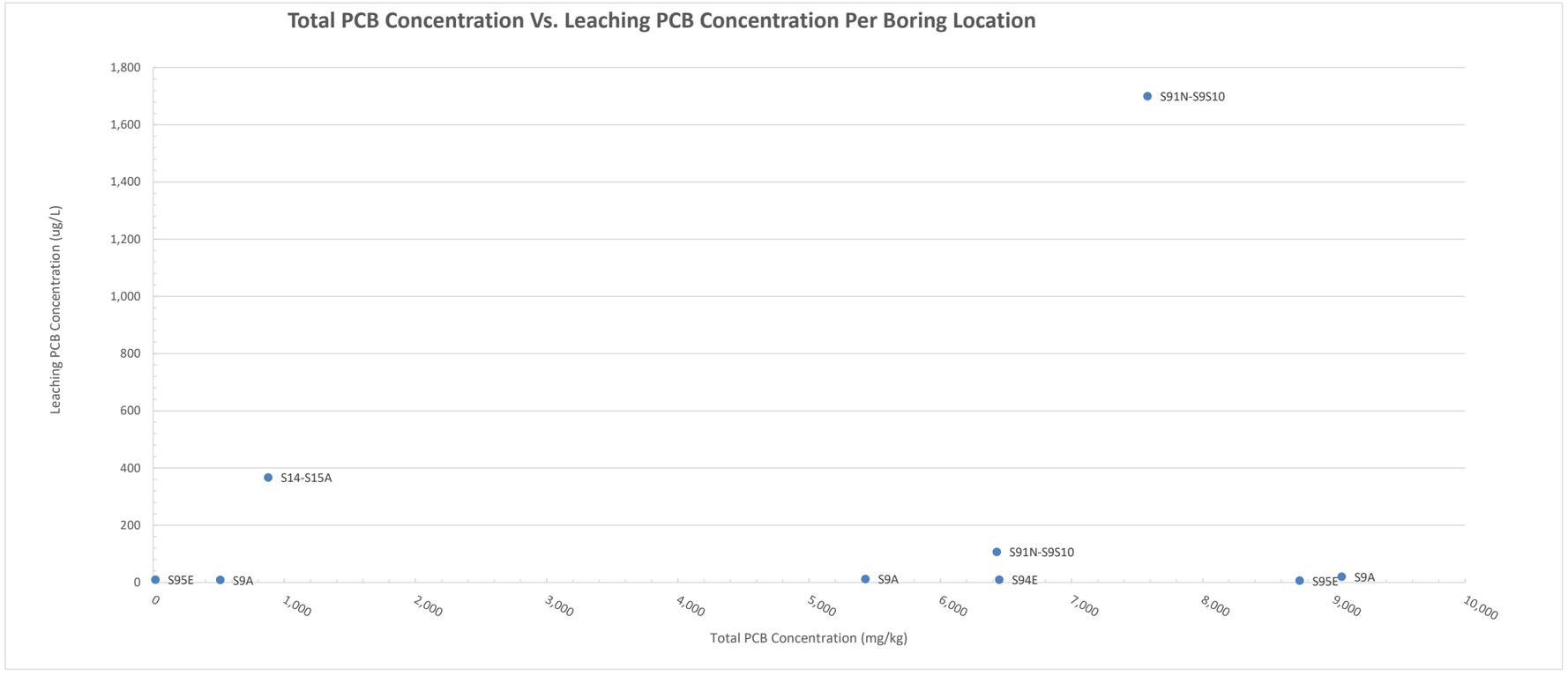

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S1	S2	S3	S4	S5	S6	S6	S6	S6-1E	S7	S7	S7	S7-1N	S7-2N
			SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'
			SAMPLE TYPE	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Step-Out	Standard	Standard	Standard	Step-Out	Step-Out
			SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016
			SITE AREA	DEWATERING PAD AND WATER WATER TREATMENT PLANT PERIMETER													
VOCs																	
All VOCs	CS	CS		NA	NA	<RL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		<0.0049	**0.0085**	<0.0048	<0.0043	<0.0044	<0.393	<0.0047	<0.0046	NA	<0.0880	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	30,000		<0.0061	**0.0126**	<0.0060	<0.0054	<0.0055	<0.489	<0.0058	<0.0057	NA	<0.109	NA	NA	NA	NA
Acenaphthene	83-32-9	45,000		<0.0048	<0.0045	<0.0046	<0.0042	**0.0061**	**0.561**	<0.0045	<0.0044	<0.0910	**0.113**	NA	NA	<0.0041	NA
Acenaphthylene	208-96-8	NE		<0.0040	<0.0038	<0.0039	<0.0036	**0.0062**	<0.322	<0.0038	<0.0037	<0.0773	<0.0721	NA	NA	<0.0035	NA
Anthracene	120-12-7	230,000		<0.0070	**0.0079**	**0.0166**	<0.0062	**0.0306**	**2.64**	**0.0154**	<0.0065	**0.188**	**0.375**	NA	NA	<0.0060	NA
Benzo(a)anthracene	56-55-3	29		**0.0265**	**0.0617**	**0.147**	<0.0034	**0.241**	**8.81**	**0.0854**	**0.0086**	**1.43**	**1.73**	NA	NA	<0.0033	NA
Benzo(a)pyrene	50-32-8	2.9		**0.0454**	**0.0924**	**0.237**	<0.0027	**0.452**	**10.4**	**0.123**	**0.009**	**1.81**	**2.22**	NA	NA	<0.0026	NA
Benzo(b)fluoranthene	205-99-2	29		**0.0627**	**0.135**	**0.361**	<0.0031	**0.795**	**17.9**	**0.177**	**0.0133**	**2.84**	**3.18**	NA	NA	<0.0030	NA
Benzo(g,h,i)perylene	191-24-2	NE		**0.0372**	**0.0752**	**0.149**	<0.0022	**0.414**	**3.09**	**0.103**	**0.0141**	**1.85**	**1.71**	NA	NA	<0.0021	NA
Benzo(k)fluoranthene	207-08-9	290		**0.0294**	**0.0607**	**0.146**	<0.0027	**0.273**	**8.13**	**0.0708**	**0.0063**	**1.15**	**1.48**	NA	NA	<0.0026	NA
Chrysene	218-01-9	2,900		**0.0485**	**0.107**	**0.193**	<0.0036	**0.483**	**12.5**	**0.135**	**0.0146**	**1.97**	**2.93**	NA	NA	<0.0035	NA
Dibenz(a,h)anthracene	53-70-3	1.8		**0.0063**	**0.0145**	**0.035**	<0.0024	**0.081**	**0.748**	**0.0225**	<0.0025	**0.28**	**0.375**	NA	NA	<0.0023	NA
Fluoranthene	206-44-0	30,000		**0.0817**	**0.176**	**0.331**	<0.0056	**0.793**	**26.9**	**0.228**	**0.0148**	**3.97**	**6.32**	NA	NA	<0.0055	NA
Fluorene	86-73-7	30,000		<0.0051	<0.0047	<0.0050	<0.0045	**0.0083**	**0.74**	<0.0048	<0.0047	<0.0970	**0.149**	NA	NA	<0.0043	NA
Indeno(1,2,3-cd)pyrene	193-39-5	29		**0.0308**	**0.0601**	**0.139**	<0.0024	**0.359**	**3.11**	**0.083**	**0.0061**	**1.51**	**1.4**	NA	NA	<0.0023	NA
Naphthalene	91-20-3	170		<0.0103	**0.0108**	<0.0101	<0.0091	<0.0093	<0.824	<0.0098	<0.0096	<0.197	<0.184	NA	NA	<0.0088	NA
Phenanthrene	85-01-8	NE		**0.0277**	**0.0715**	**0.102**	<0.0126	**0.247**	**14.3**	**0.0798**	<0.0132	**1.46**	**3.21**	NA	NA	<0.0122	NA
Pyrene	129-00-0	23,000		**0.0622**	**0.137**	**0.273**	<0.0049	**0.6**	**25**	**0.175**	**0.0131**	**2.74**	**4.77**	NA	NA	<0.0047	NA
PCBs																	
PCB, Total	1336-36-3	8.66		**4.75**	**0.75**	**0.826**	**0.489**	**0.176**	**6.73**	NA	NA	NA	**18.2**	**426**	**55.2**	NA	**4.5**
METALS																	
Cadmium	7440-43-9	980		**0.13**	**0.11**	**0.12**	<0.064	**0.099**	**0.68**	NA	NA	NA	**0.29**	NA	NA	NA	NA
Chromium	7440-47-3	630		**13.6**	**9.3**	**15**	**5.0**	**10.3**	**21.9**	NA	NA	NA	**10.5**	NA	NA	NA	NA
Copper	7440-50-8	47,000		**19.7**	**12.4**	**14.1**	**9.0**	**16.6**	**98.5**	NA	NA	NA	**38.9**	NA	NA	NA	NA
Lead	7439-92-1	800		**9.0**	**7.7**	**11.3**	**1.8**	**6.7**	**25.7**	NA	NA	NA	**9.5**	NA	NA	NA	NA
Mercury	7439-97-6	46		<0.045	<0.040	<0.040	<0.037	<0.038	**0.061**	NA	NA	NA	<0.040	NA	NA	NA	NA
Nickel	7440-02-0	22,000		**13.4**	**6.8**	**10.2**	**4.4**	**8.0**	**15.6**	NA	NA	NA	**7.6**	NA	NA	NA	NA
Silver	7440-22-4	5,800		<0.33	<0.31	<0.33	<0.27	<0.28	<0.33	NA	NA	NA	<0.28	NA	NA	NA	NA
Zinc	7440-66-6	100,000		**47.4**	**18.3**	**30.2**	**7.5**	**15.7**	**193**	NA	NA	NA	**1,170**	NA	NA	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S7-1W	S7-1W	S7-1W	S7-2W	S7-1SE	S7-1SE	S7-2SE	S8	S9	S9	S9	S9-1N	S9-1N	S9-1N
			SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'
			SAMPLE TYPE	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Standard	Standard	Standard	Standard	Step-Out	Step-Out	Step-Out
			SAMPLE DATE	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016
			SITE AREA	DEWATERING PAD AND WATER TREATMENT PLANT PERIMETER													
VOCs																	
All VOCs	CS	CS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		NA	NA	NA	NA	NA	NA	NA	<0.0043	<0.0444	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	30,000		NA	NA	NA	NA	NA	NA	NA	<0.0053	<0.0553	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	45,000		**0.225**	<0.0043	<0.0044	NA	**0.165**	<0.0043	NA	<0.0041	<0.0429	NA	NA	NA	NA	NA
Acenaphthylene	208-96-8	NE		<0.0726	<0.0037	<0.0037	NA	<0.0737	<0.0037	NA	<0.0035	<0.0364	NA	NA	NA	NA	NA
Anthracene	120-12-7	230,000		**0.734**	<0.0063	<0.0064	NA	**0.743**	**0.0068**	NA	<0.0061	<0.0631	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	29		**4.41**	**0.0136**	<0.0036	NA	**3.02**	**0.0314**	NA	<0.0034	<0.0350	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	2.9		**5.59**	**0.0195**	<0.0028	NA	**3.51**	**0.039**	NA	<0.0027	<0.0277	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	29		**10.1**	**0.0612**	**0.0033**	NA	**5.78**	**0.0843**	NA	<0.0030	<0.0312	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	NE		**2.58**	**0.0348**	<0.0023	NA	**1.73**	**0.0442**	NA	<0.0022	<0.0224	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	290		**2.92**	**0.0241**	<0.0028	NA	**1.91**	**0.0374**	NA	<0.0027	<0.0277	NA	NA	NA	NA	NA
Chrysene	218-01-9	2,900		**5.31**	**0.0402**	<0.0038	NA	**3.18**	**0.0713**	NA	<0.0036	<0.0372	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	53-70-3	1.8		**0.75**	**0.0069**	<0.0025	NA	**0.456**	**0.0101**	NA	<0.0024	<0.0247	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	30,000		**13.3**	**0.0703**	<0.0059	NA	**7.87**	**0.118**	NA	<0.0055	<0.0575	NA	NA	NA	NA	NA
Fluorene	86-73-7	30,000		**0.277**	<0.0046	<0.0047	NA	**0.196**	<0.0046	NA	<0.0044	<0.0457	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	29		**2.43**	**0.0263**	<0.0025	NA	**1.51**	**0.0385**	NA	<0.0023	<0.0243	NA	NA	NA	NA	NA
Naphthalene	91-20-3	170		<0.186	<0.0093	<0.0095	NA	<0.188	<0.0094	NA	<0.0089	<0.0930	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	NE		**5.94**	**0.0155**	<0.0131	NA	**3.65**	**0.0496**	NA	<0.0124	<0.129	NA	NA	NA	NA	NA
Pyrene	129-00-0	23,000		**9.11**	**0.0332**	<0.0051	NA	**5.8**	**0.0835**	NA	<0.0048	<0.0498	NA	NA	NA	NA	NA
PCBs																	
PCB, Total	1336-36-3	8.66		NA	NA	NA	**5.61**	NA	NA	**0.686**	**2.72**	**9,060**	**5,430**	**513**	**525**	**2,090**	**661**
METALS																	
Cadmium	7440-43-9	980		NA	NA	NA	NA	NA	NA	NA	**0.088**	**0.099**	NA	NA	NA	NA	NA
Chromium	7440-47-3	630		NA	NA	NA	NA	NA	NA	NA	**6.3**	**13**	NA	NA	NA	NA	NA
Copper	7440-50-8	47,000		NA	NA	NA	NA	NA	NA	NA	**20.1**	**29.4**	NA	NA	NA	NA	NA
Lead	7439-92-1	800		NA	NA	NA	NA	NA	NA	NA	**4.5**	**10.6**	NA	NA	NA	NA	NA
Mercury	7439-97-6	46		NA	NA	NA	NA	NA	NA	NA	<0.038	**0.061**	NA	NA	NA	NA	NA
Nickel	7440-02-0	22,000		NA	NA	NA	NA	NA	NA	NA	**4.6**	**10.3**	NA	NA	NA	NA	NA
Silver	7440-22-4	5,800		NA	NA	NA	NA	NA	NA	NA	<0.29	<0.30	NA	NA	NA	NA	NA
Zinc	7440-66-6	100,000		NA	NA	NA	NA	NA	NA	NA	**16.8**	**18.3**	NA	NA	NA	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S9-1E	S9-1E	S9-1E	S9-2E	S9-2E	S9-2E	S9-1S	S9-1S	S9-1S	S9-2S	S9-2S	S9-2S	S9-S10	S9-S10
			SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5'-1.5
			SAMPLE TYPE	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Standard	Standard
			SAMPLE DATE	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016
			SITE AREA	DEWATERING PAD AND WATER TREATMENT PLANT PERIMETER													
VOCs																	
All VOCs	CS	CS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	30,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	45,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	208-96-8	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	120-12-7	230,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	29		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	2.9		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	29		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	290		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	2,900		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	53-70-3	1.8		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	30,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	86-73-7	30,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	29		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	170		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	23,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
PCB, Total	1336-36-3	8.66		**15,200**	**5,360**	**1,570**	**7,180**	**3,720**	**9.59**	**223**	**2,030**	**470**	**102**	**1,200**	**90.4**	**6,270**	**6,640**
METALS																	
Cadmium	7440-43-9	980		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	7440-47-3	630		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	47,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	800		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	46		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	22,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	5,800		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	100,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)														
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S9-S10	S10	S10	S10	S10-1N	S10-2N	S10-1E	S10-2E	S11	S12	S13	S14	S14	S14
			SAMPLE DEPTH (FEET BGS)	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'
			SAMPLE TYPE	Standard	Standard	Standard	Standard	Step-Out	Step-Out	Step-Out	Step-Out	Standard	Standard	Standard	Standard	Standard	Standard
			SAMPLE DATE	11/10/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016
			SITE AREA	DEWATERING PAD AND WATER TREATMENT PLANT PERIMETER													
VOCs																	
All VOCs	CS	CS		NA	NA	NA	NA	NA	NA	NA	NA	<RL	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		NA	<0.0360	NA	NA	NA	NA	NA	NA	<0.0044	<0.0043	<0.0046	<0.0102	NA	NA
2-Methylnaphthalene	91-57-6	30,000		NA	<0.0447	NA	NA	NA	NA	NA	NA	<0.0055	<0.0054	<0.0057	<0.0126	NA	NA
Acenaphthene	83-32-9	45,000		NA	**0.042**	NA	NA	NA	NA	NA	NA	<0.0043	<0.0042	<0.0044	**0.0113**	NA	NA
Acenaphthylene	208-96-8	NE		NA	<0.0295	NA	NA	NA	NA	NA	NA	<0.0036	<0.0035	<0.0038	<0.0083	NA	NA
Anthracene	120-12-7	230,000		NA	**0.179**	NA	NA	NA	NA	NA	NA	<0.0063	<0.0061	<0.0065	**0.052**	NA	NA
Benzo(a)anthracene	56-55-3	29		NA	**0.783**	NA	NA	NA	NA	NA	NA	<0.0035	<0.0034	<0.0036	**0.271**	NA	NA
Benzo(a)pyrene	50-32-8	2.9		NA	**0.965**	NA	NA	NA	NA	NA	NA	<0.0028	<0.0027	<0.0029	**0.377**	NA	NA
Benzo(b)fluoranthene	205-99-2	29		NA	**1.39**	NA	NA	NA	NA	NA	NA	<0.0031	<0.0030	<0.0032	**0.702**	NA	NA
Benzo(g,h,i)perylene	191-24-2	NE		NA	**0.725**	NA	NA	NA	NA	NA	NA	<0.0022	<0.0022	<0.0023	**0.115**	NA	NA
Benzo(k)fluoranthene	207-08-9	290		NA	**0.563**	NA	NA	NA	NA	NA	NA	<0.0027	<0.0027	<0.0029	**0.285**	NA	NA
Chrysene	218-01-9	2,900		NA	**1.15**	NA	NA	NA	NA	NA	NA	<0.0037	<0.0036	<0.0039	**0.407**	NA	NA
Dibenz(a,h)anthracene	53-70-3	1.8		NA	**0.147**	NA	NA	NA	NA	NA	NA	<0.0025	<0.0024	<0.0026	**0.0286**	NA	NA
Fluoranthene	206-44-0	30,000		NA	**2.27**	NA	NA	NA	NA	NA	NA	<0.0057	<0.0056	<0.0060	**0.746**	NA	NA
Fluorene	86-73-7	30,000		NA	**0.047**	NA	NA	NA	NA	NA	NA	<0.0045	<0.0044	<0.0047	**0.0131**	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	29		NA	**0.614**	NA	NA	NA	NA	NA	NA	<0.0024	<0.0024	<0.0025	**0.115**	NA	NA
Naphthalene	91-20-3	170		NA	<0.0753	NA	NA	NA	NA	NA	NA	<0.0092	<0.0090	<0.0097	<0.0213	NA	NA
Phenanthrene	85-01-8	NE		NA	**0.953**	NA	NA	NA	NA	NA	NA	<0.0128	<0.0125	<0.0134	**0.308**	NA	NA
Pyrene	129-00-0	23,000		NA	**1.75**	NA	NA	NA	NA	NA	NA	<0.0049	<0.0048	<0.0052	**0.699**	NA	NA
PCBs																	
PCB, Total	1336-36-3	8.66		**6,840**	**24.8**	**11.2**	**7.28**	**8.48**	**3.1**	**0.985**	**0.325**	**0.581**	**5.79**	**5.98**	**99.6**	**0.185**	**0.063**
METALS																	
Cadmium	7440-43-9	980		NA	**0.4**	NA	NA	NA	NA	NA	NA	<0.068	**0.12**	<0.073	**1.4**	NA	NA
Chromium	7440-47-3	630		NA	**11.4**	NA	NA	NA	NA	NA	NA	**6.3**	**5.3**	**7.9**	**22.2**	NA	NA
Copper	7440-50-8	47,000		NA	**62.1**	NA	NA	NA	NA	NA	NA	**6.8**	**13.9**	**5.9**	**169**	NA	NA
Lead	7439-92-1	800		NA	**12.4**	NA	NA	NA	NA	NA	NA	**2.0**	**2.2**	**2.7**	**39.8**	NA	NA
Mercury	7439-97-6	46		NA	<0.038	NA	NA	NA	NA	NA	NA	<0.039	<0.037	<0.039	<0.044	NA	NA
Nickel	7440-02-0	22,000		NA	**8.0**	NA	NA	NA	NA	NA	NA	**4.9**	**4.1**	**5.4**	**17.8**	NA	NA
Silver	7440-22-4	5,800		NA	<0.29	NA	NA	NA	NA	NA	NA	<0.29	<0.28	<0.31	<0.34	NA	NA
Zinc	7440-66-6	100,000		NA	**96.2**	NA	NA	NA	NA	NA	NA	**7.7**	**13.1**	**7.7**	**199**	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S14-1N	S14-2N	S14-1E	S14-1E	S14-1E	S14-2E	S14-2E	S14-2E	S14-1W	S14-1W	S14-1W	S14-S15	S14-S15	S14-S15
			SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'
			SAMPLE TYPE	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out
			SAMPLE DATE	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016
			SITE AREA	DEWATERING PAD PERIMETER													
VOCs																	
All VOCs	CS	CS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	30,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	45,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	208-96-8	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	120-12-7	230,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	29		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	2.9		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	29		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	290		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	2,900		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	53-70-3	1.8		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	30,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	86-73-7	30,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	29		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	170		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	23,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
PCB, Total	1336-36-3	8.66		**1.57**	**2.33**	**24.2**	**15.6**	**0.555**	**19**	**12.2**	**0.0349**	**151**	**22**	**0.716**	**878**	**616**	**791**
METALS																	
Cadmium	7440-43-9	980		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	7440-47-3	630		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	47,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	800		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	46		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	22,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	5,800		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	100,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)														
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S15	S15	S15	S15-1N	S15-2N	S15-1E	S15-1E	S15-1E	S15-1W	S15-1W	S15-1W	S15-2W	S15-2W	S15-2W
			SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'
			SAMPLE TYPE	Standard	Standard	Standard	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out
			SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016
			SITE AREA	DEWATERING PAD PERIMETER													
VOCs																	
All VOCs	CS	CS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		<0.0363	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	30,000		<0.0451	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	45,000		<0.0350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	208-96-8	NE		<0.0297	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	120-12-7	230,000		**0.101**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	29		**0.553**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	2.9		**0.743**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	29		**1.31**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	NE		**0.207**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	290		**0.642**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	2,900		**0.676**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	53-70-3	1.8		**0.0478**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	30,000		**1.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	86-73-7	30,000		<0.0373	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	29		**0.205**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	170		<0.0760	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	NE		**0.643**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	23,000		**1.45**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs																	
PCB, Total	1336-36-3	8.66		**423**	**56.1**	**0.0907**	**8.56**	**3.89**	**1,570**	**468**	**2.41**	**1,030**	**22.1**	**0.938**	**136**	**19.5**	**1.05**
METALS																	
Cadmium	7440-43-9	980		**1.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	7440-47-3	630		**19**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	47,000		**179**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	800		**20.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	46		<0.040	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	22,000		**11**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	5,800		<0.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	100,000		**723**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	S16	S17	S18	S19	S20	S21	S22	GT1	GT2	GT2	GT2	GT2-1N	GT2-1NE	GT2-1E
			SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'
			SAMPLE TYPE	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Step-Out	Step-Out	Step-Out
			SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016
			SITE AREA	DEWATERING PAD PERIMETER				RELEASE FROM PAD			GEOTUBE BREAK						
VOCs																	
All VOCs	CS	CS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		<0.0044	<0.0043	<0.0042	<0.0041	<0.0042	<0.0043	<0.0042	<0.0086	<0.478	<0.0192	<0.0048	NA	NA	NA
2-Methylnaphthalene	91-57-6	30,000		<0.0055	<0.0054	<0.0053	**0.0055**	<0.0052	<0.0053	<0.0052	<0.0107	<0.594	<0.0238	<0.0059	NA	NA	NA
Acenaphthene	83-32-9	45,000		<0.0043	<0.0042	<0.0041	<0.0040	<0.0041	<0.0041	<0.0040	**0.0361**	**0.896**	<0.0185	<0.0046	**0.0795**	**0.0161**	**0.991**
Acenaphthylene	208-96-8	NE		<0.0036	<0.0036	<0.0035	<0.0034	<0.0035	<0.0035	<0.0034	<0.0070	<0.391	<0.0157	<0.0039	<0.0138	<0.0035	<0.382
Anthracene	120-12-7	230,000		<0.0063	<0.0062	<0.0060	<0.0059	<0.0060	<0.0061	<0.0060	**0.0696**	**3.25**	**0.0551**	<0.0068	**0.149**	**0.0302**	**2.86**
Benzo(a)anthracene	56-55-3	29		**0.0038**	<0.0034	<0.0033	**0.0057**	<0.0033	<0.0034	<0.0033	**0.236**	**21.8**	**0.511**	<0.0038	**0.0688**	**0.0155**	**13.5**
Benzo(a)pyrene	50-32-8	2.9		<0.0028	<0.0027	**0.0033**	**0.0038**	<0.0026	<0.0027	<0.0026	**0.264**	**30.2**	**0.761**	<0.0030	**0.0443**	**0.0217**	**15.4**
Benzo(b)fluoranthene	205-99-2	29		<0.0031	<0.0030	**0.0031**	**0.0068**	<0.0030	<0.0030	**0.0029**	**0.42**	**47.4**	**1.06**	<0.0033	**0.0865**	**0.0411**	**27.9**
Benzo(g,h,i)perylene	191-24-2	NE		**0.003**	<0.0022	**0.0024**	**0.0041**	<0.0021	<0.0022	**0.0029**	**0.16**	**16.4**	**0.432**	**0.0027**	**0.033**	**0.02**	**8.96**
Benzo(k)fluoranthene	207-08-9	290		<0.0028	<0.0027	**0.0029**	<0.0026	<0.0026	<0.0027	<0.0026	**0.175**	**18.5**	**0.454**	<0.0030	**0.0224**	**0.0086**	**9.17**
Chrysene	218-01-9	2,900		<0.0037	<0.0036	**0.0038**	**0.01**	<0.0035	<0.0036	<0.0035	**0.35**	**31.7**	**0.75**	<0.0040	**0.205**	**0.0735**	**17**
Dibenz(a,h)anthracene	53-70-3	1.8		<0.0025	<0.0024	<0.0023	<0.0023	<0.0023	<0.0024	<0.0023	**0.0464**	**4.92**	**0.122**	<0.0026	**0.0097**	**0.0066**	**2.53**
Fluoranthene	206-44-0	30,000		<0.0057	<0.0056	**0.0072**	**0.0222**	<0.0055	<0.0056	<0.0054	**0.701**	**61.2**	**1.02**	<0.0062	**0.284**	**0.0482**	**44.8**
Fluorene	86-73-7	30,000		<0.0045	<0.0045	<0.0043	<0.0043	<0.0043	<0.0044	<0.0043	**0.0235**	**1.22**	<0.0197	<0.0049	**0.0943**	**0.0221**	**1.38**
Indeno(1,2,3-cd)pyrene	193-39-5	29		<0.0024	<0.0024	<0.0023	<0.0023	<0.0023	<0.0023	<0.0023	**0.149**	**16.3**	**0.417**	<0.0026	<0.0092	**0.0035**	**8.02**
Naphthalene	91-20-3	170		<0.0092	<0.0091	<0.0088	<0.0087	<0.0088	<0.0090	<0.0088	<0.0179	<1.00	<0.0401	<0.0100	**0.0786**	**0.0197**	<0.977
Phenanthrene	85-01-8	NE		<0.0128	<0.0126	<0.0122	**0.0259**	<0.0122	<0.0124	<0.0121	**0.406**	**25.2**	**0.21**	<0.0138	**0.784**	**0.15**	**24.8**
Pyrene	129-00-0	23,000		<0.0049	<0.0049	**0.0059**	**0.0135**	<0.0047	<0.0048	<0.0047	**0.585**	**46.6**	**0.813**	<0.0053	**0.156**	**0.0334**	**31.4**
PCBs																	
PCB, Total	1336-36-3	8.66		**0.0801**	**0.83**	**0.0829**	**2.82**	**0.0263**	**3.73**	**4.79**	**0.6**	**1.28**	NA	NA	NA	NA	NA
METALS																	
Cadmium	7440-43-9	980		<0.072	<0.065	<0.066	**0.22**	**0.082**	**0.47**	**0.44**	**0.13**	**0.2**	NA	NA	NA	NA	NA
Chromium	7440-47-3	630		**6.7**	**7.9**	**6.2**	**6.8**	**7.1**	**15.6**	**13**	**7.4**	**21.7**	NA	NA	NA	NA	NA
Copper	7440-50-8	47,000		**7.4**	**6.1**	**6.4**	**12.5**	**13.4**	**432**	**297**	**19.6**	**70.8**	NA	NA	NA	NA	NA
Lead	7439-92-1	800		**6.1**	**4.7**	**4.7**	**10.9**	**2.3**	**14.5**	**19.5**	**7.3**	**21.5**	NA	NA	NA	NA	NA
Mercury	7439-97-6	46		**0.058**	<0.036	<0.037	<0.036	<0.038	<0.039	<0.037	<0.036	<0.043	NA	NA	NA	NA	NA
Nickel	7440-02-0	22,000		**5.5**	**5.8**	**4.7**	**3.6**	**6.2**	**16.4**	**10.9**	**6.5**	**14**	NA	NA	NA	NA	NA
Silver	7440-22-4	5,800		<0.30	<0.28	<0.28	<0.25	<0.27	<0.29	<0.25	<0.27	<0.29	NA	NA	NA	NA	NA
Zinc	7440-66-6	100,000		**10.6**	**10.3**	**8.9**	**10.7**	**9.7**	**243**	**183**	**16.1**	**65.2**	NA	NA	NA	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	GT2-1E	GT2-1E	GT2-1S	GT2-1S	GT2-1S	GT2-1SW	GT2-1W	GT3	GT3	GT3	GT3-1E	GT3-1E	GT3-1E	GT3-1W
			SAMPLE DEPTH (FEET BGS)	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'
			SAMPLE TYPE	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Standard	Standard	Standard	Step-Out	Step-Out	Step-Out	Step-Out
			SAMPLE DATE	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016
			SITE AREA	GEOTUBE BREAK													
VOCs																	
All VOCs	CS	CS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		NA	NA	NA	NA	NA	NA	NA	<0.431	<0.0058	<0.0050	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	30,000		NA	NA	NA	NA	NA	NA	NA	<0.536	<0.0073	<0.0062	NA	NA	NA	NA
Acenaphthene	83-32-9	45,000		**0.0084**	<0.0046	**2.27**	**0.6**	**0.56**	<0.0042	<0.0041	<0.416	<0.0056	<0.0048	**<0.0046**	<0.0045	<0.0046	**0.025**
Acenaphthylene	208-96-8	NE		<0.0039	<0.0039	<0.868	<0.379	<0.417	<0.0036	<0.0035	<0.353	<0.0048	**0.0119**	<0.0039	<0.0038	<0.0039	<0.0137
Anthracene	120-12-7	230,000		**0.0301**	<0.0068	**8.01**	**2.86**	<0.723	<0.0062	<0.0060	**1.57**	<0.0083	**0.0091**	<0.0068	<0.0066	<0.0068	**0.0432**
Benzo(a)anthracene	56-55-3	29		**0.164**	**0.0094**	**65.1**	**20.7**	**14**	**0.011**	**0.025**	**11.7**	**0.0215**	**0.0242**	**0.0152**	**0.0269**	**0.0152**	**0.0945**
Benzo(a)pyrene	50-32-8	2.9		**0.192**	**0.0083**	**82.6**	**29.7**	**17.6**	**0.0177**	**0.0365**	**14.6**	**0.0271**	**0.0326**	**0.0138**	**0.0297**	**0.0138**	**0.1**
Benzo(b)fluoranthene	205-99-2	29		**0.328**	**0.0203**	**160**	**51.7**	**29.2**	**0.032**	**0.0632**	**18.9**	**0.0385**	**0.0494**	**0.0364**	**0.0801**	**0.0364**	**0.18**
Benzo(g,h,i)perylene	191-24-2	NE		**0.176**	**0.0112**	**47.6**	**27.6**	**14.6**	**0.0359**	**0.028**	**11**	**0.0188**	**0.0231**	**0.0207**	**0.0419**	**0.0207**	**0.0494**
Benzo(k)fluoranthene	207-08-9	290		**0.124**	**0.0102**	**49.5**	**17.6**	**11.7**	**0.0142**	**0.0246**	**14.3**	**0.0197**	**0.0257**	**0.0146**	**0.0267**	**0.0146**	**0.0583**
Chrysene	218-01-9	2,900		**0.245**	**0.0171**	**80.9**	**34.5**	**22**	**0.019**	**0.0366**	**17.4**	**0.0328**	**0.0411**	**0.0316**	**0.0566**	**0.0316**	**0.128**
Dibenz(a,h)anthracene	53-70-3	1.8		**0.0433**	**0.0027**	**14.8**	**5.64**	**3.82**	**0.0039**	**0.0049**	**3.84**	**0.0046**	**0.0057**	**0.0039**	**0.0089**	**0.0039**	**0.0138**
Fluoranthene	206-44-0	30,000		**0.462**	**0.0228**	**186**	**66**	**44.4**	**0.0188**	**0.0414**	**32.8**	**0.0473**	**0.0659**	**0.0382**	**0.0814**	**0.0382**	**0.276**
Fluorene	86-73-7	30,000		**0.0116**	<0.0049	**2.91**	**0.81**	**0.76**	<0.0045	<0.0044	**0.507**	<0.0060	<0.0051	**<0.0049**	<0.0048	<0.0049	<0.0172
Indeno(1,2,3-cd)pyrene	193-39-5	29		**0.153**	**0.0094**	**47.7**	**22.2**	**12.7**	**0.0247**	**0.0209**	**10.4**	**0.015**	**0.0196**	**0.0152**	**0.0337**	**0.0152**	**0.0412**
Naphthalene	91-20-3	170		<0.0100	<0.0100	<2.22	<0.969	<1.07	<0.0092	<0.0089	<0.902	<0.0122	<0.0104	**<0.0100**	<0.0098	<0.0100	<0.0350
Phenanthrene	85-01-8	NE		**0.222**	<0.0138	**72.8**	**22.9**	**18.6**	<0.0127	**0.0159**	**13.5**	<0.0169	**0.0279**	**0.0192**	**0.0311**	**0.0192**	**0.228**
Pyrene	129-00-0	23,000		**0.317**	**0.0166**	**123**	**43.5**	**31.1**	**0.0131**	**0.0404**	**22.6**	**0.0379**	**0.0456**	**0.0289**	**0.0585**	**0.0289**	**0.203**
PCBs																	
PCB, Total	1336-36-3	8.66		NA	NA	NA	NA	NA	NA	NA	**3.2**	NA	NA	NA	NA	NA	NA
METALS																	
Cadmium	7440-43-9	980		NA	NA	NA	NA	NA	NA	NA	**1.4**	NA	NA	NA	NA	NA	NA
Chromium	7440-47-3	630		NA	NA	NA	NA	NA	NA	NA	**46.7**	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	47,000		NA	NA	NA	NA	NA	NA	NA	**148**	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	800		NA	NA	NA	NA	NA	NA	NA	**82.3**	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	46		NA	NA	NA	NA	NA	NA	NA	<0.096	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	22,000		NA	NA	NA	NA	NA	NA	NA	**22.3**	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	5,800		NA	NA	NA	NA	NA	NA	NA	<0.74	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	100,000		NA	NA	NA	NA	NA	NA	NA	**468**	NA	NA	NA	NA	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)														
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	GT4	GT4	GT4	GT4-1E	GT4-1S	GT4-1S	GT4-1S	GT4-1W	GT5	GT5	GT5	GT5-1N	GT5-1E	GT5-1S
			SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'
			SAMPLE TYPE	Standard	Standard	Standard	Step-Out	Step-Out	Step-Out	Step-Out	Step-Out	Standard	Standard	Standard	Standard	Step-Out	Step-Out
			SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016
			SITE AREA	GEOTUBE BREAK													
VOCs																	
All VOCs	CS	CS		<RL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		<0.387	<0.0047	<0.0390	NA	NA	NA	NA	NA	<0.0918	<0.0093	<0.0049	NA	NA	NA
2-Methylnaphthalene	91-57-6	30,000		<0.482	<0.0059	<0.0485	NA	NA	NA	NA	NA	<0.114	<0.0116	<0.0061	NA	NA	NA
Acenaphthene	83-32-9	45,000		<0.374	<0.0046	<0.0376	<0.0231	**0.724**	<0.0046	<0.0046	**0.0115**	**0.142**	<0.0090	<0.0047	<0.0897	<0.0177	**0.0126**
Acenaphthylene	208-96-8	NE		<0.317	**0.0042**	<0.0320	<0.0196	<0.307	<0.0039	<0.0039	<0.0035	**0.0895**	<0.0076	<0.0040	<0.0762	<0.0150	<0.0035
Anthracene	120-12-7	230,000		**1.2**	**0.0078**	**0.0918**	**0.101**	**2.57**	**0.0087**	<0.0068	**0.016**	**0.652**	**0.0466**	**0.009**	**0.22**	**0.0563**	**0.0207**
Benzo(a)anthracene	56-55-3	29		**8.98**	**0.044**	**0.63**	**0.746**	**18.4**	**0.0466**	**0.012**	**0.0531**	**5.41**	**0.35**	**0.0272**	**1.27**	**0.388**	**0.0264**
Benzo(a)pyrene	50-32-8	2.9		**11.2**	**0.0664**	**0.948**	**1.06**	**23.3**	**0.0623**	**0.0167**	**0.0826**	**8.5**	**0.584**	**0.0322**	**1.96**	**0.594**	**0.0252**
Benzo(b)fluoranthene	205-99-2	29		**13.9**	**0.101**	**1.43**	**1.87**	**45.3**	**0.102**	**0.0314**	**0.14**	**9.48**	**0.849**	**0.0427**	**4.28**	**1.11**	**0.043**
Benzo(g,h,i)perylene	191-24-2	NE		**8.22**	**0.0448**	**0.654**	**0.512**	**11.4**	**0.0361**	**0.0141**	**0.036**	**7.52**	**0.519**	**0.0226**	**1.32**	**0.326**	**0.0132**
Benzo(k)fluoranthene	207-08-9	290		**10.8**	**0.0437**	**0.585**	**0.621**	**14.7**	**0.0481**	**0.0135**	**0.0446**	**8.26**	**0.377**	**0.0177**	**1.54**	**0.38**	**0.0146**
Chrysene	218-01-9	2,900		**13.4**	**0.0819**	**1.02**	**0.964**	**22.6**	**0.0846**	**0.0252**	**0.0855**	**8.58**	**0.608**	**0.0413**	**2.15**	**0.517**	**0.0402**
Dibenz(a,h)anthracene	53-70-3	1.8		**2.89**	**0.0108**	**0.161**	**0.151**	**3.49**	**0.01**	**0.0031**	**0.0108**	**2.84**	**0.12**	**0.0055**	**0.315**	**0.0919**	**0.0036**
Fluoranthene	206-44-0	30,000		**26.1**	**0.103**	**1.76**	**1.78**	**51.9**	**0.14**	**0.0316**	**0.104**	**13.3**	**0.96**	**0.0524**	**3.8**	**1.0**	**0.0699**
Fluorene	86-73-7	30,000		**0.495**	<0.0049	<0.0401	<0.0246	**0.906**	<0.0049	<0.0049	**0.0083**	**0.205**	**0.0107**	<0.0051	<0.0957	<0.0189	**0.0075**
Indeno(1,2,3-cd)pyrene	193-39-5	29		**7.73**	**0.0376**	**0.604**	**0.501**	**10.8**	**0.0299**	**0.0099**	**0.0297**	**6.65**	**0.446**	**0.0178**	**1.16**	**0.301**	**0.0084**
Naphthalene	91-20-3	170		<0.811	<0.0099	<0.0817	<0.0501	<0.784	<0.0100	<0.0100	**0.0097**	<0.192	<0.0195	<0.0103	<0.195	<0.0384	<0.0089
Phenanthrene	85-01-8	NE		**11.8**	**0.0386**	**0.629**	**0.55**	**21.7**	**0.0595**	**0.0141**	**0.0992**	**4.78**	**0.285**	**0.027**	**1.36**	**0.37**	**0.109**
Pyrene	129-00-0	23,000		**17.8**	**0.0865**	**1.32**	**1.32**	**35.9**	**0.0906**	**0.0226**	**0.0819**	**10**	**0.699**	**0.0496**	**2.85**	**0.721**	**0.0511**
PCBs																	
PCB, Total	1336-36-3	8.66		**9.33**	**59.6**	**1.44**	**0.758**	**3.12**	NA	NA	**3.2**	**0.531**	NA	NA	NA	NA	NA
METALS																	
Cadmium	7440-43-9	980		**0.6**	NA	NA	NA	NA	NA	NA	NA	**0.11**	NA	NA	NA	NA	NA
Chromium	7440-47-3	630		**45.7**	NA	NA	NA	NA	NA	NA	NA	**23**	NA	NA	NA	NA	NA
Copper	7440-50-8	47,000		**52.6**	NA	NA	NA	NA	NA	NA	NA	**19.6**	NA	NA	NA	NA	NA
Lead	7439-92-1	800		**108**	NA	NA	NA	NA	NA	NA	NA	**35.3**	NA	NA	NA	NA	NA
Mercury	7439-97-6	46		<0.080	NA	NA	NA	NA	NA	NA	NA	<0.042	NA	NA	NA	NA	NA
Nickel	7440-02-0	22,000		**16.4**	NA	NA	NA	NA	NA	NA	NA	**13.1**	NA	NA	NA	NA	NA
Silver	7440-22-4	5,800		<0.59	NA	NA	NA	NA	NA	NA	NA	<0.30	NA	NA	NA	NA	NA
Zinc	7440-66-6	100,000		**153**	NA	NA	NA	NA	NA	NA	NA	**28.5**	NA	NA	NA	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)														
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	GT5-1W	SMF1	SMF2	SMF3	SMF4	SMF5	SMF6	SMF7	CTF1	CTF2	CTF3	CTF4	CTF5	CTF6
			SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'
			SAMPLE TYPE	Step-Out	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
			SAMPLE DATE	11/10/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/29/2016	9/29/2016	9/28/2016	9/29/2016	9/29/2016
			SITE AREA	GEOTUBE BREAK	SEDIMENT MANAGEMENT FACILITY				SEDIMENT MANAGEMENT FACILITY			CONFINED TREATMENT FACILITY					
VOCs																	
All VOCs	CS	CS		NA	NA	NA	NA	<RL	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAHs																	
1-Methylnaphthalene	90-12-0	730		NA	<0.0047	<0.0044	<0.0047	<0.0053	<0.0053	<0.0050	<0.0050	<0.0043	<0.0048	<0.0064	<0.0048	<0.0049	<0.0047
2-Methylnaphthalene	91-57-6	30,000		NA	<0.0059	<0.0055	<0.0058	<0.0066	<0.0065	<0.0062	<0.0062	<0.0053	<0.0060	<0.0080	<0.0060	<0.0061	<0.0059
Acenaphthene	83-32-9	45,000		<0.0044	**0.0049**	<0.0042	<0.0045	<0.0051	<0.0051	<0.0048	<0.0048	<0.0041	<0.0046	<0.0062	<0.0046	<0.0047	<0.0046
Acenaphthylene	208-96-8	NE		<0.0037	<0.0039	<0.0036	<0.0038	<0.0044	<0.0043	<0.0041	<0.0041	<0.0035	<0.0039	<0.0053	<0.0039	<0.0040	<0.0039
Anthracene	120-12-7	230,000		<0.0064	**0.0093**	<0.0062	<0.0067	<0.0076	<0.0075	<0.0071	<0.0071	<0.0060	<0.0068	<0.0092	<0.0068	<0.0070	<0.0067
Benzo(a)anthracene	56-55-3	29		**0.0188**	**0.0137**	**0.047**	**0.039**	**0.0112**	**0.0268**	**0.0332**	**0.0182**	**0.0049**	**0.0116**	**0.0103**	**0.0113**	<0.0039	<0.0037
Benzo(a)pyrene	50-32-8	2.9		**0.0209**	**0.0105**	**0.073**	**0.0693**	**0.016**	**0.0388**	**0.0558**	**0.0297**	**0.006**	**0.0176**	**0.0143**	**0.0144**	**0.0045**	<0.0030
Benzo(b)fluoranthene	205-99-2	29		**0.0426**	**0.0155**	**0.0904**	**0.0868**	**0.0163**	**0.0393**	**0.0682**	**0.0329**	**0.0051**	**0.0225**	**0.016**	**0.0167**	**0.0061**	<0.0033
Benzo(g,h,i)perylene	191-24-2	NE		**0.0126**	**0.0091**	**0.06**	**0.0583**	**0.0125**	**0.0311**	**0.0479**	**0.0253**	**0.0044**	**0.0147**	**0.0105**	**0.0121**	**0.0041**	<0.0024
Benzo(k)fluoranthene	207-08-9	290		**0.0172**	**0.0055**	**0.0688**	**0.0606**	**0.0185**	**0.0452**	**0.0542**	**0.0365**	**0.0069**	**0.0177**	**0.0126**	**0.0134**	**0.005**	<0.0030
Chrysene	218-01-9	2,900		**0.0262**	**0.0189**	**0.0771**	**0.0687**	**0.0203**	**0.0449**	**0.0605**	**0.0363**	**0.007**	**0.0207**	**0.0158**	**0.0167**	**0.0053**	<0.0040
Dibenz(a,h)anthracene	53-70-3	1.8		**0.0035**	<0.0026	**0.0192**	**0.0177**	**0.0039**	**0.0098**	**0.0135**	**0.008**	<0.0024	**0.0046**	<0.0036	**0.0039**	<0.0027	<0.0026
Fluoranthene	206-44-0	30,000		**0.0463**	**0.05**	**0.128**	**0.108**	**0.0347**	**0.0773**	**0.1**	**0.0608**	**0.0079**	**0.0338**	**0.0249**	**0.0259**	**0.0064**	<0.0061
Fluorene	86-73-7	30,000		<0.0047	**0.0052**	<0.0045	<0.0048	<0.0055	<0.0054	<0.0051	<0.0051	<0.0044	<0.0049	<0.0066	<0.0049	<0.0050	<0.0049
Indeno(1,2,3-cd)pyrene	193-39-5	29		**0.0102**	**0.0061**	**0.0536**	**0.051**	**0.0114**	**0.0278**	**0.0414**	**0.0219**	**0.0038**	**0.0123**	**0.0094**	**0.0094**	**0.0035**	<0.0026
Naphthalene	91-20-3	170		<0.0095	<0.0099	<0.0092	<0.0098	<0.0112	<0.0110	<0.0104	<0.0104	<0.0089	<0.0100	<0.0135	<0.0100	<0.0103	<0.0099
Phenanthrene	85-01-8	NE		<0.0131	**0.0689**	**0.0356**	**0.0347**	<0.0154	**0.0266**	**0.03**	**0.0217**	<0.0123	<0.0139	<0.0187	<0.0139	<0.0142	<0.0137
Pyrene	129-00-0	23,000		**0.0375**	**0.0341**	**0.0897**	**0.0791**	**0.0257**	**0.0549**	**0.0724**	**0.0423**	**0.0069**	**0.0241**	**0.019**	**0.0193**	<0.0055	<0.0053
PCBs																	
PCB, Total	1336-36-3	8.66		NA	**0.188**	<0.0273	<0.0292	<0.0331	<0.0327	<0.0310	<0.0310	**0.0676**	**0.76**	**0.131**	<0.0298	**0.0329**	<0.0295
METALS																	
Cadmium	7440-43-9	980		NA	**0.2**	<0.067	<0.074	**0.1**	**0.1**	**0.11**	**0.088**	**0.085**	**0.17**	**0.3**	**0.16**	**0.092**	**0.11**
Chromium	7440-47-3	630		NA	**14.2**	**5.4**	**20.9**	**15**	**20.8**	**19.3**	**20.2**	**5.6**	**7.5**	**17.4**	**7.2**	**5.0**	**5.0**
Copper	7440-50-8	47,000		NA	**14.4**	**7.4**	**18.9**	**15.1**	**14.5**	**13.9**	**13.4**	**8.4**	**10.4**	**17**	**10**	**6.1**	**7.4**
Lead	7439-92-1	800		NA	**16.2**	**2.9**	**5.8**	**19.5**	**10**	**9.5**	**9.5**	**3.3**	**5.4**	**15**	**3.8**	**1.4**	**1.4**
Mercury	7439-97-6	46		NA	<0.043	<0.039	<0.043	<0.047	<0.044	<0.041	<0.041	<0.036	<0.043	**0.059**	<0.041	<0.041	<0.039
Nickel	7440-02-0	22,000		NA	**10.5**	**4.7**	**16**	**10.7**	**13.5**	**12.5**	**12.8**	**5.4**	**5.3**	**10.7**	**5.9**	**3.6**	**4.6**
Silver	7440-22-4	5,800		NA	<0.31	<0.28	<0.31	<0.33	<0.34	<0.32	<0.32	<0.26	<0.32	<0.43	<0.32	<0.33	<0.31
Zinc	7440-66-6	100,000		NA	**28.6**	**12.4**	**27.3**	**35.5**	**37.2**	**36.6**	**33.5**	**9.8**	**49.7**	**55**	**16.8**	**5.8**	**5.3**

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Chemical Abstract Service Number	REMEDIAL SCREENING LEVELS (mg/kg)	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)								
		DIRECT CONTACT COMMERCIAL / INDUSTRIAL	SAMPLE LOCATION	CTF7	CTF8	DUP-SOIL 1	DUP-SOIL 4	DUP-SOIL 5	DUP-SOIL 6	DUP-SOIL 1A	DUP-SOIL 2A	DUP SOIL 3A
			SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	GT4 (0 - 0.5')	S9 (0-0.05)	S9 (0.5' - 1.5')	S9 (1.5' - 3.5')	S6-1E (0 - 0.5'')	S71-SE (0 - 0.5'')	GT4-1S (0 - 0.5'')
			SAMPLE TYPE	Standard	Standard	QA/QC	QA/QC	QA/QC	QA/QC	QA/QC	QA/QC	QA/QC
			SAMPLE DATE	9/29/2016	9/29/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016
			SITE AREA	CONFINED TREATMENT FACILITY		QC SAMPLES						
VOCs												
All VOCs	CS	CS		NA	NA	<RL	NA	NA	NA	NA	NA	NA
PAHs												
1-Methylnaphthalene	90-12-0	730		<0.0049	<0.0048	<0.421	<0.0883	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	30,000		<0.0060	<0.0059	<0.524	<0.110	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	45,000		<0.0047	<0.0046	**0.929**	<0.0852	NA	NA	<0.0875	NA	**0.471**
Acenaphthylene	208-96-8	NE		<0.0040	<0.0039	<0.345	<0.0724	NA	NA	<0.0743	NA	<0.295
Anthracene	120-12-7	230,000		<0.0069	<0.0067	**2.71**	<0.125	NA	NA	**0.327**	NA	**1.65**
Benzo(a)anthracene	56-55-3	29		<0.0038	<0.0037	**17.6**	**0.0791**	NA	NA	**1.66**	NA	**12.8**
Benzo(a)pyrene	50-32-8	2.9		<0.0030	**0.0032**	**23.1**	<0.0552	NA	NA	**2.26**	NA	**16.4**
Benzo(b)fluoranthene	205-99-2	29		<0.0034	**0.0047**	**25.1**	<0.0620	NA	NA	**3.62**	NA	**31.2**
Benzo(g,h,i)perylene	191-24-2	NE		<0.0025	**0.0032**	**18.5**	<0.0446	NA	NA	**1.26**	NA	**8.76**
Benzo(k)fluoranthene	207-08-9	290		<0.0030	**0.0043**	**28.2**	<0.0551	NA	NA	**1.33**	NA	**10.2**
Chrysene	218-01-9	2,900		<0.0041	<0.0040	**26.8**	<0.0740	NA	NA	**2.07**	NA	**15.4**
Dibenz(a,h)anthracene	53-70-3	1.8		<0.0027	<0.0026	**6.83**	<0.0491	NA	NA	**0.306**	NA	**2.65**
Fluoranthene	206-44-0	30,000		<0.0063	<0.0062	**49.3**	<0.114	NA	NA	**4.06**	NA	**35.6**
Fluorene	86-73-7	30,000		<0.0050	<0.0049	**1.16**	<0.0909	NA	NA	<0.0933	NA	**0.597**
Indeno(1,2,3-cd)pyrene	193-39-5	29		<0.0027	**0.0029**	**17.3**	<0.0483	NA	NA	**1.05**	NA	**8.23**
Naphthalene	91-20-3	170		<0.0102	<0.0100	<0.882	<0.185	NA	NA	<0.190	NA	<0.753
Phenanthrene	85-01-8	NE		<0.0141	<0.0138	**22.9**	<0.256	NA	NA	**1.49**	NA	**14.6**
Pyrene	129-00-0	23,000		<0.0055	<0.0053	**35.8**	<0.0991	NA	NA	**3.0**	NA	**25.1**
PCBs												
PCB, Total	1336-36-3	8.66		**0.0341**	<0.0295	**3.9**	**11,200**	**5,820**	**1,050**	NA	**1.62**	**6.77**
METALS												
Cadmium	7440-43-9	980		**0.13**	**0.089**	**0.42**	**0.17**	NA	NA	NA	NA	NA
Chromium	7440-47-3	630		**8.3**	**2.1**	**21.9**	**9.9**	NA	NA	NA	NA	NA
Copper	7440-50-8	47,000		**10.7**	**3.5**	**38.3**	**27**	NA	NA	NA	NA	NA
Lead	7439-92-1	800		**7.6**	**0.64**	**35.5**	**4.6**	NA	NA	NA	NA	NA
Mercury	7439-97-6	46		<0.040	<0.042	<0.047	**0.043**	NA	NA	NA	NA	NA
Nickel	7440-02-0	22,000		**5.8**	**1.8**	**12**	**7.4**	NA	NA	NA	NA	NA
Silver	7440-22-4	5,800		<0.32	<0.31	<0.33	<0.30	NA	NA	NA	NA	NA
Zinc	7440-66-6	100,000		**25.9**	**1.7**	**141**	**19.2**	NA	NA	NA	NA	NA

See notes on Page 12.

TABLE 5
SUMMARY OF PREVIOUS (2016) ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

CHEMICAL ANALYSES RESULTS (mg/kg)

Only analytes measured at concentrations above their respective Laboratory Reporting Limit in at least one sample are listed.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
VOCs -Volatile Organic Compounds; PAHs - Polynuclear Aromatic Hydrocarbons; PCBs - Polychlorinated Biphenyls.
Refer to the analytical report for the full list of VOC, PAH, and Metal analytes.
CS - Criterion is specific to individual constituent.
<RL - concentrations of all non-listed constituents were below their respective Laboratory Reporting Limits.
NA - Not applicable or not analyzed (not in assessment scope).

TABLE 6
LABORATORY QA/QC SUMMARY
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

Affected Samples	Holding Time	Method Blank	Continuing Calibration	MS	MSD	MS/MSD RPD	LCS	Surrogates	Analytes	Effect on Conclusion
ALL SAMPLES WITH RESULTS OBTAINED WITH DILUTION	NA	NA	NA	NA	NA	NA	NA	↑	PCBs	The surrogate recovery was not assessed due to dilution of the samples. SME decided this would result in a high bias of the data to be conservative.
MS, MSD	NA	NA	NA	↑	↑	NA	NA	NA	PCBs	The MS/MSD control limit for Arochlor 1260 was exceeded due to the high levels of Arochlor 1260 in the MS/MSD sample. The batch was accepted based on recovery of LCS samples.
S1002E (4-6), MSD, S105E (2-4), S85E (2-4), SBP1 (1-2), SBP2 (2-4), SBP2 (4-6)	NA	NA	NA	NA	NA	NA	NA	↑	PCBs	Surrogate recovery was outside laboratory control limits. SME decided this would result in a high bias of the data to be conservative.

↑ - The results were greater than the control limit or the analyte was present in a blank and the samples are biased high.

↓ - The results were less than the control limit or the holding time was exceeded and the samples are biased low.

NA - Not Applicable, no QA/QC issues identified by the laboratory.

LCS – Laboratory Control Sample

MS/MSD Matrix Spike/Matrix Spike Duplicate

RPD – Relative Percent Difference

Table 7
CUMULATIVE DIRECT CONTACT RISK ASSESSMENT
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.034.001

ANALYTE	Preliminary Cleanup Screening Levels (mg/kg)		Removal of PCB and PAH-Impacted Soil				Engineering Control of PCB and PAH-Impacted Soil			
			Exposure Point Concentration (mg/kg)		Risk		Exposure Point Concentration (mg/kg)		Risk	
	Carcinogenic	Hazard	Value	Type	Carcinogenic	Hazard	Value	Type	Carcinogenic	Hazard
1-Methylnaphthalene	730	53,000	0.0119		2E-10	2E-07	0.0085		1E-10	2E-07
2-Methylnaphthalene	NC	30,000	0.0148		NC	5E-07	0.0126		NC	4E-07
Acenaphthene	NC	45,000	0.0216		NC	5E-07	0.0361		NC	8E-07
Acenaphthylene	NC	NH	0.0154		NC	NH	0.0062		NC	NH
Anthracene	NC	230,000	0.049		NC	2E-07	0.049		NC	2E-07
Benzo(a)anthracene	29	NH	0.27		9E-08	NH	0.186		6E-08	NH
Benzo(a)pyrene	2.9	NH	0.383		1E-06	NH	0.193		7E-07	NH
Benzo(b)fluoranthene	29	NH	0.682		2E-07	NH	0.455		2E-07	NH
Benzo(g,h,i)perylene	NC	NH	0.286		NC	NH	0.134		NC	NH
Benzo(k)fluoranthene	290	NH	0.264		9E-09	NH	0.125		4E-09	NH
Chrysene	2,900	NH	0.407		1E-09	NH	0.202		7E-10	NH
Dibenz(a,h)anthracene	1.8	NH	0.031		2E-07	NH	0.0435		2E-07	NH
Fluoranthene	NC	30,000	0.747		NC	2E-05	0.371		NC	1E-05
Fluorene	NC	30,000	0.023	95% UCL	NC	8E-07	0.0235	95% UCL	NC	8E-07
Indeno(1,2,3-cd)pyrene	29	NH	0.247		9E-08	NH	0.12		4E-08	NH
Naphthalene	170	53,000	0.0421		2E-09	8E-07	0.0108		6E-10	2E-07
Phenanthrene	NC	NH	0.299		NC	NH	0.226		NC	NH
Pyrene	NC	23,000	0.556		NC	2E-05	0.395		NC	2E-05
PCB, Total	8.66	15	2.77		3E-06	2E-01	5.491		6E-06	4E-01
Cadmium	93,000	980	0.417		4E-11	4E-04	0.151		2E-11	2E-04
Chromium	630	3,500	14.59		2E-07	4E-03	13.45		2E-07	4E-03
Copper	NC	47,000	107.1		NC	2E-03	14.22		NC	3E-04
Lead	NC	NH	7.672		NC	NH	8.838		NC	NH
Mercury	NC	46	0.0425		NC	9E-04	0.059		NC	1E-03
Nickel	64,000	22,000	9.343		1E-09	4E-04	9.728		2E-09	4E-04
Silver	NC	5,800	0.313		NC	5E-05	0.313		NC	5E-05
Zinc	NC	350,000	151.9		NC	4E-04	30.41		NC	9E-05
Total					5E-06	2E-01	**Total**		8E-06	4E-01

Notes:
NC - Not Carcinogenic
NH - Not Hazard
95% UCL calculated using ProUCL or the maximum concentration for analytes with less than 10 sample results.

APPENDIX F

1 North Commerce Park Dr.
Suite 130
Cincinnati, OH 45215-3187

T (513) 898-9430

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April 23, 2020

Ms. Terese Van Donsel
United States Environmental Protection Agency (USEPA)
Region 5
Mail Code: SR-6J
77 West Jackson Boulevard
Chicago, Illinois 60604-3507

Via Email: vandonsel.terese@epa.gov

RE: SME Serial Letter #62
Sheboygan River and Harbor Superfund Site
Tecumseh Products Company Site, Sheboygan Falls, WI
SME Project No. 069638.00.051

Dear Ms. Van Donsel:

Pursuant to your request, SME has reviewed readily available historical information and historical assessment reports for the former Tecumseh Products Company Site (Site, Figure 1). The objective of our review was to evaluate the completeness of the historical investigations in assessing soil on the Site with a primary focus on the presence of polychlorinated biphenyls (PCBs). Your request was initiated by SME's discovery of PCB-impacted soil located north, east and northeast of the foundation slab of the former manufacturing building.

HISTORICAL INFORMATION REVIEW

We reviewed historical information from the following readily available historical information sources:

- Previous Site Assessment Reports
- Aerial Photographs
- Historical Fire Insurance Maps

HISTORICAL BACKGROUND INFORMATION FROM HISTORICAL SITE ASSESSMENT REPORTS

The original manufacturing facility on the Site was constructed by the Diecast Corporation in 1957. A fire in the plant in 1959 destroyed portions of the building. The fire in the building was caused due to the use of non-fire retardant hydraulic oil in foundry equipment. In 1960, hydraulic oil in equipment on the Site was replaced with PCB-containing, fire-retardant hydraulic oil. Early in the facility operations, spent oil absorbent materials were reportedly incinerated in a burn pit on the Site and later disposed on the Site. Absorbent materials stored in on-site pits were also removed and disposed at the Sheboygan Falls demolition fill landfill (located in the area of the east-adjoining Rochester Park). During plant expansion, some contaminated soil was moved to fill low spots on the Site and used for flood control along the Sheboygan River. Portions of the plant expansion were also reportedly constructed on areas of contaminated soil.

Diecast Corporation owned and operated the manufacturing facility until 1966, when the Tecumseh Products Company acquired the facility and continued die casting operations. In 1972, hydraulic oil in equipment on the Site was replaced with non-PCB-containing, water-based hydraulic oil.

AERIAL PHOTOGRAPHS

We reviewed aerial photographs, obtained from Historical Information Gathers (HIG), dated 1941, 1950, 1952, 1962, 1967, 1973, 1978, 1981, 1992, 2005, 2008, 2013 and 2018. The aerial photographs are included in the Attachments. A summary of our review is provided below.

AERIAL PHOTOGRAPH SUMMARY	
YEAR(S)	**COMMENTS**
1941, 1950, 1952	**Site:** The Site was undeveloped grass-covered and wooded land. **Off-site:** The area to the east of the Site was developed with a wastewater treatment plant (WWTP) prior to 1941. By 1950, garden plots were present in the area east of the Site and south of the WWTP. By 1950, ground disturbances indicative of potential landfilling activities were present to the east and northeast of the Site and north of the WWTP. This area is consistent with the Sheboygan Falls demolition landfill noted in other historical sources.
1962	**Site:** The central and northern portion of the Site was developed with a manufacturing facility. The western portion of the site was a parking area. The eastern portion was a roadway to the east-adjoining WWTP and garden plots on the east-adjoining site extended onto the Site. Wooded area areas are present along the Sheboygan River along the southern and western portions of the Site. **Off-site:** The WWTP remained present and the garden plots were present in the area east of the Site and south of the WWTP. Ground disturbances indicative of potential landfilling activities were present to the east of the Site and north and east of the WWTP. This area is consistent with the Sheboygan Falls demolition landfill noted in other historical sources.
1967	**Site:** The central and northern portions of the Site were developed with the manufacturing facility. The western portion of the Site was a parking area. The manufacturing facility had been expanded on the southern and northwestern sides. The eastern portion of the Site was cleared and may have been regraded. Wooded areas are present along the Sheboygan River which borders the southern and western portions of the Site. **Off-site:** The WWTP remained present and the garden plots were present in the area east of the Site and south of the WWTP. Ground disturbances indicative of potential landfilling activities were present to the east of the Site and north and east of the WWTP. This area is consistent with the Sheboygan Falls demolition landfill noted in other historical sources.

AERIAL PHOTOGRAPH SUMMARY	
YEAR(S)	**COMMENTS**
1973, 1978, 1981	**Site:** The central and northern portions of the Site were developed with the manufacturing facility. The western portion of the Site was a parking area. The eastern portion of the Site was cleared and appeared to be used for storage. Wooded area areas are present along the Sheboygan River which borders the southern and western portions of the Site. **Off-site:** In 1973, the WWTP remained present and the garden plots were present in the area east of the Site and south of the WWTP. The WWTP, the garden plot area and the Sheboygan Falls demolition landfill were no longer present by 1978. The former WWTP and garden plot areas appeared to be in the process of being regraded. The area of the former demolition landfill was replaced with a tennis court and athletic field (now the location of Rochester Park).
1992	**Site:** The central and northern portions of the Site were developed with the manufacturing facility. The western portion of the Site was a parking area. The manufacturing facility was expanded and covered the majority of the eastern portion of the Site. The remaining area of the eastern portion of the Site appeared to be used for loading/unloading and storage. A Sediment Management Facility (SMF) was present in the western portion of the Site and the Confined Treatment Facility (CFT) was present in the southwestern portion of the Site. Wooded area areas are present along the Sheboygan River which borders the southern and western portions of the Site. **Off-site:** The park area was expanded south and covered the area east of the Site.
2005	**Site:** The manufacturing building was no longer present on the Site. The building was removed; however, the building floor slabs and the paved parking areas remained. The SMF in the western portion was no longer present but the CTF remained present. Wooded areas are present along the Sheboygan River which borders southern and western portions of the Site. **Off-site:** The athletic fields and park covered the area east of the Site.
2008, 2013, 2018	**Site:** The central portion of the former building floor slab was repaved by 2008 and was used for sediment remedial activities being conducted on the Sheboygan River. The paved parking area in the western portion of the Site and the CTF remained present. **Off-site:** The athletic fields and park covered the area east of the Site.

FIRE INSURANCE MAPS

We reviewed fire insurance maps for the area of the Site. Fire insurance maps were available for the Sheboygan Falls area for the years 1884, 1887, 1891, 1903, 1910, 1918, 1921, 1922, 1938, 1940, 1941, 1943, and 1955. However, no fire insurance map coverage was available for the Site which is typical for areas without structures and consistent with the historical aerials and the reported construction of the facility in 1957.

SUMMARY OF HISTORICAL INFORMATION

The original manufacturing facility on the Site was constructed in 1957 and was located on the central portion of the Site with parking areas west of the building. In 1960, hydraulic oil in equipment on the Site was replaced with PCB-containing, fire-retardant hydraulic oil. In 1972, hydraulic oil in equipment on the

Site was replaced with non-PCB-containing, water-based hydraulic oil. The facility was expanded to the south and east sometime between 1962 and 1967 and again sometime between 1987 and 1992. The SMF and CTF were present on the Site by 1992. The SMF was removed by 2005 and the CTF remains on the Site. In 2003, the facility closed and by 2005 the above grade structure of the building was removed but the floor slabs remained. The central portion of the building floor slab was used during the sediment dewatering operations associated with the Sheboygan River cleanup. The central area was paved with asphalt and an asphalt dike was constructed around the paved area for containment of water prior to treatment and discharge to the river.

HISTORICAL SITE ASSESSMENTS REVIEW

Assessments were completed on the Site from 1978 through 1999. The emphasis of these investigations was to identify the "preferential pathways" for PCBs to enter the Sheboygan River. Only the 1999 investigation included samples outside of the areas adjoining the river. Remedial excavations were conducted in 1978 and 2004. Assessment and remedial excavations were primarily focused in the southern portion of the Site and two areas in the eastern portion of the Site. Brief summaries of the assessments and remedial excavations are discussed in the following sections.

1978 ASSESSMENT SUMMARY

Soil sampling was completed in 1978 on the southern portion of the Site and between the former building and the Sheboygan River. In September 1978, forty-eight soil samples (discrete and composite) were collected from the upper 3 feet of soil from the flood control berm located along the Sheboygan River. Some sampling locations were collected and analyzed as discrete samples from one sampling location; however, many of the samples were collected individually but then composited with the sample from the opposite side of the flood control berm and analyzed as a composite sample. The soil samples were analyzed for PCBs. PCB concentrations ranged from 0.44 ppm to 32,011 ppm.

Also in September 1978, eighty soil samples (discrete and composite) were collected from a grid pattern across the southern portion of the southern portion of the Site and between the former building and the flood control berm. Some sampling locations were analyzed as discrete samples from one sampling location; however, many of the samples were collected individually but then composited in grid pairs and analyzed as a composite sample. Soil sample names were a combination of the row number and column number based on the established grid pattern. The soil samples were analyzed for PCBs. PCB concentrations ranged from 1.1 ppm to 10,928 ppm.

In December 1978, forty-two soil samples were collected from select locations within the previous grid pattern at 0.5-foot intervals within the upper 3.5 feet of soil with the majority of the samples being collected from the 1-foot to 1.5-foot interval. Each soil sample was a collected and analyzed as a discrete sample. Soil sample names were a combination of the row number and column number based on the established grid pattern. The soil samples were analyzed for PCBs. PCB concentrations ranged from non-detect (less than 1 part per million (ppm)) to 10,263 ppm.

PCB-impacted soil was identified on the south portion of the Site between the building and the Sheboygan River including the flood control berm. Four monitoring wells were installed on the Site and PCBs were also identified in groundwater samples collected from these monitoring wells.

Two soil samples were collected from the ground surface of the southeast adjoining portion of Rochester Park. PCBs were measured at concentrations of 4 and 8 ppm in the soil samples. Four fruit and vegetable samples were also collected from the community garden. PCBs were measured at concentrations from non-detect to 0.123 ppm in the fruit and vegetable samples. The locations of these off-site samples were not documented.

Results of the 1978 soil sampling activities are shown on Figure 2A (September 1978) and Figure 2B (December 1978). The 1978 assessment data is tabulated in Table 1. Excerpts of the historical reports are also included in the Attachments.

1978/1979 REMEDIAL SOIL EXCAVATION SUMMARY

Limited remedial excavation activities were conducted on the Site in July 1978. Approximately 74 cubic yards of PCB-contaminated soil was removed from the southern portion of the Site. Expanded remedial excavation activities were conducted on the Site in October and November of 1979 and approximately 6,681 cubic yards of PCB-contaminated soil was removed from the southern portion of the Site and in the flood control dike with a cleanup goal of 50 ppm. The areas of impacted soil removal with varying excavation depths were depicted on the historical figures included in Attachment B. The areas of the 1979 remedial excavations are shown on Figure 8A.

1999 ASSESSMENT SUMMARY

Blasland, Bouck & Lee, Inc. (BB&L) conducted an assessment in 1999 which was documented in a November 1999 External Source Assessment Technical Memorandum. The assessment included evaluation of potential preferential pathways on the Site; soil sampling activities; and groundwater monitoring well installation and sampling. Eleven hand auger borings and eighteen soil borings were completed on the Site. Three existing monitoring wells on the Site were abandoned and replaced, four new monitoring wells were installed on the Site and one new monitoring well was installed on the north side of Cleveland Street. Sixty-six soil borings were also completed in a grid pattern on the southern portion of the Site. The soil samples were collected at two foot intervals from the borings and the samples were composited such that sets of two to four grid locations with the same sample depths were composited into a single composite sample.

Soil samples were collected from each hand auger boring, each soil boring and each new monitoring well borehole. Groundwater samples were collected from the ten (existing, replaced and new) monitoring wells. Soil and groundwater samples were analyzed for PCBs.

PCB-impacted soil was identified below the building floor; in the area east of the building; in the area southwest of the building; and in the area south of the building up to the Sheboygan River including on the flood control berm. PCBs were not detected in the groundwater samples. Soil sample locations from soil boring and monitoring well installation activities on the Site in 1999 are shown on Figure 3A. Riverbank sample locations are shown on Figure 3A. Composite sample locations from 1999 are shown on Figure 3B.

Assessment activities included sampling of the Sheboygan riverbank along the Site and along the riverbank downstream of the Site. The assessment also included limited sampling (3 surficial soil samples) on the east-adjoining site, near the Site boundary, and several samples at the location of the east-adjoining wastewater treatment plant discharge to the Sheboygan River. Soil samples were analyzed for PCBs. The samples collected on the riverbank and on the east-adjoining site detected low levels (less than 4 ppm) of PCBs. Soil sample locations on the east-adjoining site in 1999 are shown on Figure 6. The 1999 assessment data is tabulated in Table 1.

Excerpts of the 1999 Technical Memorandum are included in the Attachments.

2004 REMEDIAL SOIL EXCAVATION ACTIVITIES

In accordance with the Upper River Phase I and II Remedial Action Work Plan, excavation activities were conducted at the Site in September and October 2004 by PRS. Approximately 5,440 tons of PCB-impacted soil was removed from the following preferential pathway areas:

- the “source area” noted south and east of the former building;
- the former flood control berm and riverbank;
- a preferential pathway located south of the former building;
- a preferential pathway located southwest of the former building; and
- a trench associated with installation of a groundwater monitoring/ interceptor trench (GMIT).

Confirmatory soil samples were collected from each of the excavated areas with the exception of two areas excavated within the eastern portion of the former building. These two areas were reportedly excavated to the depth of encountered groundwater.

The plant source (PS) areas were excavated to a depth of 1 foot bgs. Twenty-seven confirmatory soil samples were collected from the PS area as discrete samples (14 sidewall and floor samples primarily in the western portion of the Site) or composite samples (13 floor samples) and were analyzed for PCBs. The former flood control berm and riverbank (RB) area was excavated to a depth of 1 foot bgs. Thirty-five discrete confirmatory soil samples were collected from the RB area and were analyzed for PCBs.

The preferential pathway located southwest of the former building (PP1) was excavated to a depth of 1 foot bgs. The preferential pathway located south of the former building (PP2) was excavated to the depth of the water table, which ranged in depth from 1 foot to 7 feet bgs. Fifteen discrete confirmatory soil samples were collected from the PP1 area and five discrete confirmatory soil samples were collected from the PP2 area and were analyzed for PCBs.

Excavation target areas (PS/RB and PS/RB/PP1) overlapped and had the same excavation target depth of 1 foot bgs. The overlapped areas were excavated to a depth of 1 foot; however, confirmatory soil sampling was conducted as separate areas. Excavation target areas (PS/RB/PP2) overlapped but had different excavation target depths (PS/RB target of 1 foot bgs and PP2 target of the depth of the water table). The overlapped area was excavated to the depth of the encountered water table, which ranged in depth from 1 foot to 7 feet bgs. Confirmatory soil sampling was conducted as separate areas.

PCBs measured in each of the confirmatory samples were less than 20 ppm and with an average of 2.1 ppm. Soil sample locations from the 2004 confirmatory sampling activities are shown on Figures 4A, 4B, and 4C. The areas of the 2004 remedial excavations are shown on Figure 8B. The 2004 assessment data is tabulated in Table 1. Excerpts of the historical reports are included in the Attachments.

2016/2018 PHASE II ESA SUMMARY

SME completed Phase II Environmental Site Assessments on the Site in 2016 and 2018 to determine if the river sediment dewatering operations on the Site resulted in exacerbation of PCB impact. During dewatering, there were releases of dredging water/slurry from the containment area onto the adjacent land. SME performed the investigations in the areas where the dredging water/slurry was released.

SME completed 138 soil borings on the Site. The soil borings were completed in the area of the former confined treatment facility; in the area of the former sediment management facility; in the area along the west side of the former building (area of a former preferential pathway); and along the northern, eastern and southeastern sides of the former dewatering pad. The 2016 soil samples were analyzed for PCBs, polycyclic aromatic hydrocarbons (PAHs), and/or select metals (cadmium, total chromium, copper, lead, mercury, nickel, silver, and zinc). Soil samples identified with indications of potential volatile organic compounds (VOCs) from field screening were also analyzed for VOCs.

Based on soil sample results having PCBs and PAHs at concentrations above the screening levels established in the USEPA-approved SAP, SME completed step-out borings in 2018 in an attempt to delineate the horizontal and vertical extent of PCB- and PAH-impacted soil on the Site. Step out borings were analyzed for PCBs or PAHs, depending on the location of the step-out boring. Results of the 2016 initial and step out borings identified previously unidentified PCB-impacted soil on the eastern and

northern portions of the site. PCB-impacted soil was also identified in an area west of the former dewatering pad. The PCB-impacted soil in this area was vertically and horizontally delineated with the 2016 borings. The results of the 2016 initial and step out borings on the western and southern portions of the Site also identified previously unidentified PAH-impacted soil. PAH-impacted soil was limited in extent and was vertically and horizontally delineated. VOCs were not detected above the laboratory reporting limits in the analyzed samples. Selected metals were detected above the laboratory reporting limits but less than the Regional Screening Levels (RSLs).

In 2018, additional soil borings were completed on the northern and eastern portions of the Site in an attempt to delineate the previously unidentified PCB-impacted soil. Based on the results, PCB-impacted soil was identified in a limited area on the north side of the former dewatering pad at concentrations up to 1,570 ppm. PCB-impacted soil was identified covering much of the east portion of the Site and the impact extended to the eastern Site boundary. PCBs were measured at concentrations up to 15,200 ppm. Soil sample locations from the 2016 and 2018 soil sampling activities are shown on Figure 5 and the associated data is tabulated in Table 1 (PCBs) and Table 2 (PAHs).

Soil borings were also completed on the east adjoining Rochester Park in an attempt to determine if rainfall to exposed soil on the Site caused PCB-impacted soil to runoff the Site and onto the adjoining park. Ten soil borings were completed at the Rochester Park including two borings on the east side of Hickory Street; four borings in the area southeast of the Site near the roadway to the Pump House building on the Park property; two borings located between the Pump House and the Sheboygan River; and two borings along the Rochester Park soccer field. Soil samples were collected from each boring at depths between 0 and 0.5 feet bgs. Based on results, PCBs were measured in each of the samples at concentrations less than 7 ppm with an average concentration of 2.07 ppm. Soil sample locations from the 2016 and 2018 soil sampling activities on the adjoining site are shown on Figure 6 and the associated data is tabulated in Table 1.

CUMULATIVE SUMMARY OF PREVIOUS ASSESSMENTS AND DATA GAPS

The area to the south of the former building was evaluated during multiple assessments completed in 1978 and 1999 and PCB-impacted soil was removed from this area during remedial excavations in 1978/1979 and 2004. The eastern portion of the former building; the eastern portion of the Site; the area north of the former building; the area along the west side of the building; the area of the former sediment management facility; and the area of the former confined treatment facility were evaluated during previous assessments. The cumulative sample locations from all historical assessments off-site are shown on Figure 7. The cumulative areas that were historically remediated are shown on Figures 8A and 8B. The cumulative soil sample results are tabulated in Table 1 (PCBs) and Table 2 (PAHs).

Based on review of the cumulative assessment information, we identified six Data Gaps. A Data Gap was defined as an area (either on the Site, or off-site) with limited information or areas that were not historically evaluated. These data gap areas are shown on Figure 9 and summarized below.

DATA GAP #1

Evaluation of the area of the former and current parking lot located on the western portion of the Site was not completed as part of previous assessment activities. The absence of assessment of this area of the Site represents a gap in available data. Since previously unidentified impacts were found during the 2016/2018 Phase II ESAs in areas with no previous assessment activities, this data gap area should be evaluated to ensure no additional previously unidentified impacts are present at the Site.

DATA GAP #2

Evaluation of the potential for PCBs to extend off-site and into the Cleveland Street right of way (ROW) located north and/or the Hickory Street ROW located to the east was not completed as part of previous

assessment activities. Impacted soil was identified up to the Site boundary on the north and east sides of the Site in 2016/2018. The absence of assessment along the Cleveland Street and Hickory Street ROWs represents a gap in available data. This data gap area should be evaluated to identify the limits of PCB-impacted soil along the northern and eastern Site boundaries and to ascertain if impact extends into parkways and under the street pavements Cleveland Street and Hickory Street.

DATA GAP #3

Limited information was available regarding soil conditions below the former building slab used for the dewatering operations. In the several borings completed in this area, PCB-impacted soil was identified at multiple depth intervals; however, the PCB-impacted soil was not at concentrations above the USEPA Principal Threat Waste (PTW) criteria. While information is limited, PCB-impacted soil is assumed to be present beneath this area of the Site. Asphalt pavement was placed on a portion of the former building slab to facilitate the dewatering containment area used during the river dredging operations. The former building slab and dewatering pad pavements are currently acting as an engineering control to prevent direct contact and infiltration as described in the Institutional Control, Implementation, and Management Plan. At the time of the 2018 assessment activities, the former building slab and dewatering pad pavements appeared to be in good condition; however, a pavement condition assessment has not been conducted. The thickness of the former building slab is unknown and the integrity of the former floor slab and pavement system has not been evaluated. The current condition and integrity of the former building slab and dewatering pad pavements represents a data gap. This data gap should be evaluated with a condition assessment of the former floor slab and pavement system.

DATA GAP #4

Extensive sampling was conducted in the eastern portion of the Site and identified PCB-impacted soil across most of this area. In 2016 and 2018, the PCB results were compared to the Wisconsin Department of Natural Resources (WDNR) industrial clean-up level of 8.66 mg/kg, which was used to determine if the Site was impacted at concentrations that would require additional remedial activities. The PCB-impacted soil on the Site was determined to be contaminated to levels that would require remediation. SME evaluated the remedial needs in their 2018 Remedial Action Plan (RAP) assessing either soil removal or capping. Based on those remedies, the impact was sufficiently delineated. However, the USEPA has indicated after review of the RAP that a combination of targeted soil removal on the Site and construction of an engineering control on the Site will be the likely remedy.

For this data gap analysis, PCB results were compared to the PTW criteria of 100 ppm for residential uses and 500 ppm for industrial uses. The future use of the Site may include recreational uses; therefore, the residential PTW criteria was selected as the target criteria for targeted soil removal activities at the Site. The area of PCB-impacted soil above the PTW located north of the former dewatering containment area and at the southeast corner of the former dewatering containment area were delineated. The area of PCB-impacted soil above the PTW criteria on the eastern portion of the Site was partially delineated; however, gaps in the available data in this area limit the ability to effectively determine limits of PCB-impacted soil above the PTW criteria for targeted remedial efforts. This data gap should be evaluated to determine the limits of PCB-impacted soil above the PTW criteria to optimally remediate the Site.

DATA GAPS #5 AND #6

Limited assessment has been completed on the east-adjoining Rochester Park. Limited soil sampling was conducted in 1978, 1999 and 2016/2018. PCBs were detected at concentrations above the laboratory reporting limits in each of the soil samples collected from Rochester Park at concentrations ranging from 0.246 ppm to 8 ppm. Historical sampling was conducted for screening purposes regarding run-off of PCB-impacted soil. The northern portion of Rochester Park was also historically a landfill where waste from the Site was reportedly disposed. No evaluation has been conducted on this portion of the park. The limited sampling on Rochester Park represents a gap in available data. The park areas were divided into two

units; the northern portion of the park where the landfill was historically located, which is identified as Data Gap #5 and the southern portion of the park, which is identified as Data Gap #6. These data gaps should be evaluated to ensure no additional areas of impacted soil from historical disposal in the landfill or surficial deposition are present on Rochester Park.

CONCLUSIONS AND RECOMMENDATIONS

We conclude that the previous investigations of the Property were not sufficient to characterize the Site and were focused on identifying the preferential pathways to the river. The post-remedial investigations in 2016 and 2018 demonstrate there is still PCB-impacted soil at the Site that poses a risk to receptors. SME recommends that a Sampling and Analysis Plan (SAP) be prepared to assess the data gaps. To that end, we have begun the SAP.

Please feel free to contact Keith Egan with any questions regarding this analysis at (513) 898-9430.

Respectfully,

SME

Aaron J. Lammers, EIT
Senior Staff Engineer

Keith Egan, OEPA CP#259
Chief Consultant

Attachments: Figures
Tables
Attachment A – Aerial Photographs
Attachment B – Historical Report Excerpts

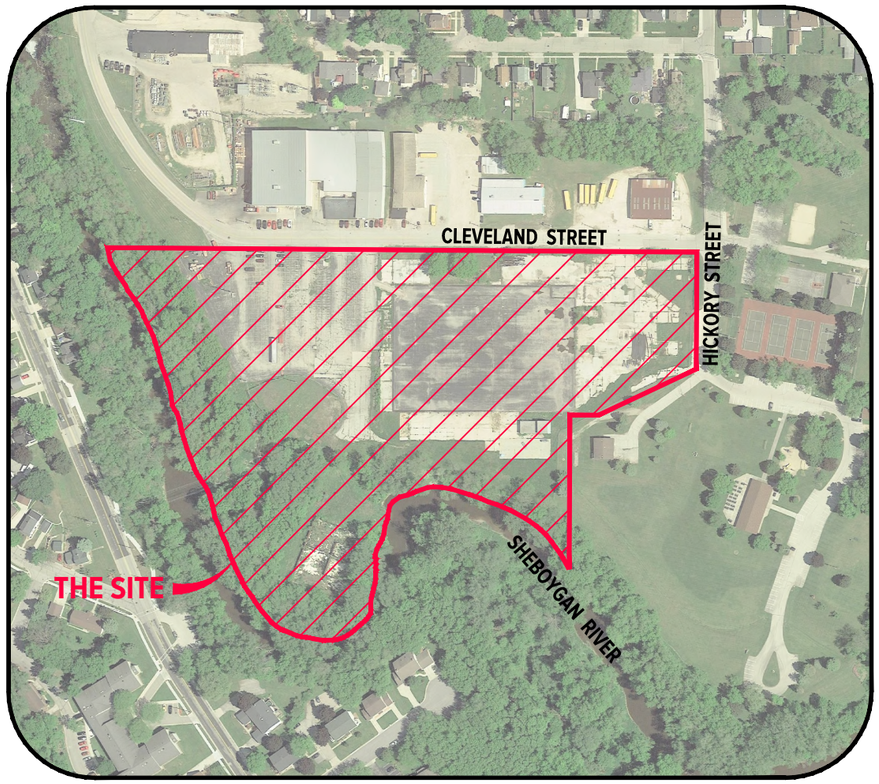
Distribution: Mr. Jason Smith, Tecumseh Products Company via email (Jason.smith@tecumseh.com)
Ms. Debbie McMillan, PRS via email (dmcmillan@grhdevelopment.com)
Mr. Tom Wentland, Wisconsin Department of Natural Resources via email (Thomas.wentland@wisconsin.gov)
Mr. Peter Johnson, Johnson-Wright via email (pjohnson@johnsonwright.net)

FIGURES

SHEBOYGAN RIVER SUPERFUND SITE

FORMER TECUMSEH SITE

SHEBOYGAN FALLS, WISCONSIN



LOCATION MAP

SCALE: 1" = 300'

COUNTY MAP

NOT TO SCALE

LIST OF DRAWINGS

Know what's **below.** **Call** before you dig.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

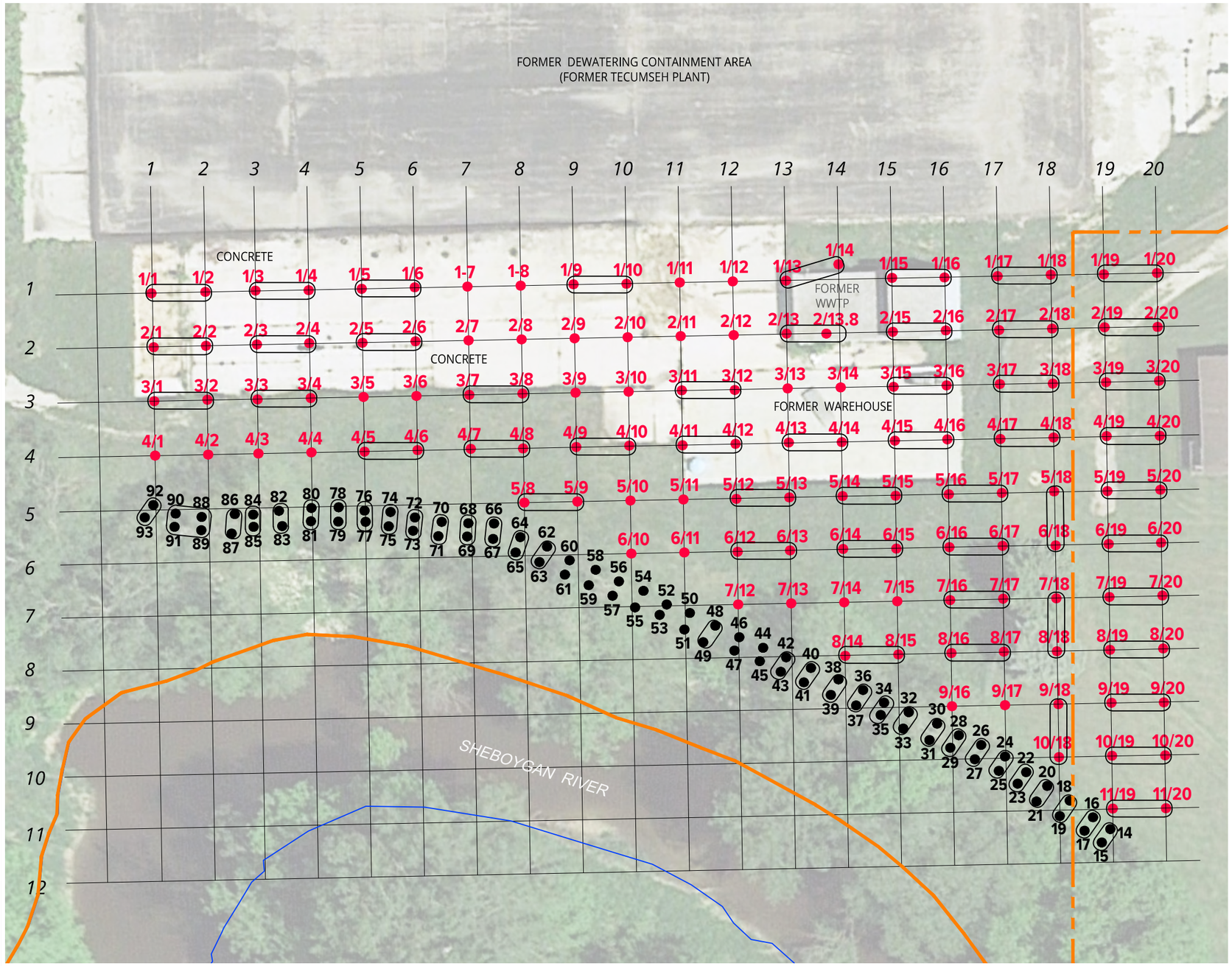
Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
COVER SHEET

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 1

PLOT DATE: Apr 21, 2020 - 4:03pm - jblake \\sme-inc\pz\WIP\069638.00\CAD\069638.00.051\rev1\069638.00-Cover.dwg



GRAPHIC SCALE: 1" = 40'

LEGEND

- APPROXIMATE SITE BOUNDARY
- DISCREET SOIL SAMPLE LOCATION (9-1978)
- COMPOSITE SOIL SAMPLE LOCATION (9-1978)
- 1/1 = ROW/COLUMN
- FLOOD CONTROL BERM DISCREET SOIL SAMPLE LOCATION (9-1978)

NOTE:
BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
SEPTEMBER 1978 ASSESSMENT SAMPLE LOCATIONS

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 2A

PLOT DATE: Apr 21, 2020 - 4:26pm - jblake
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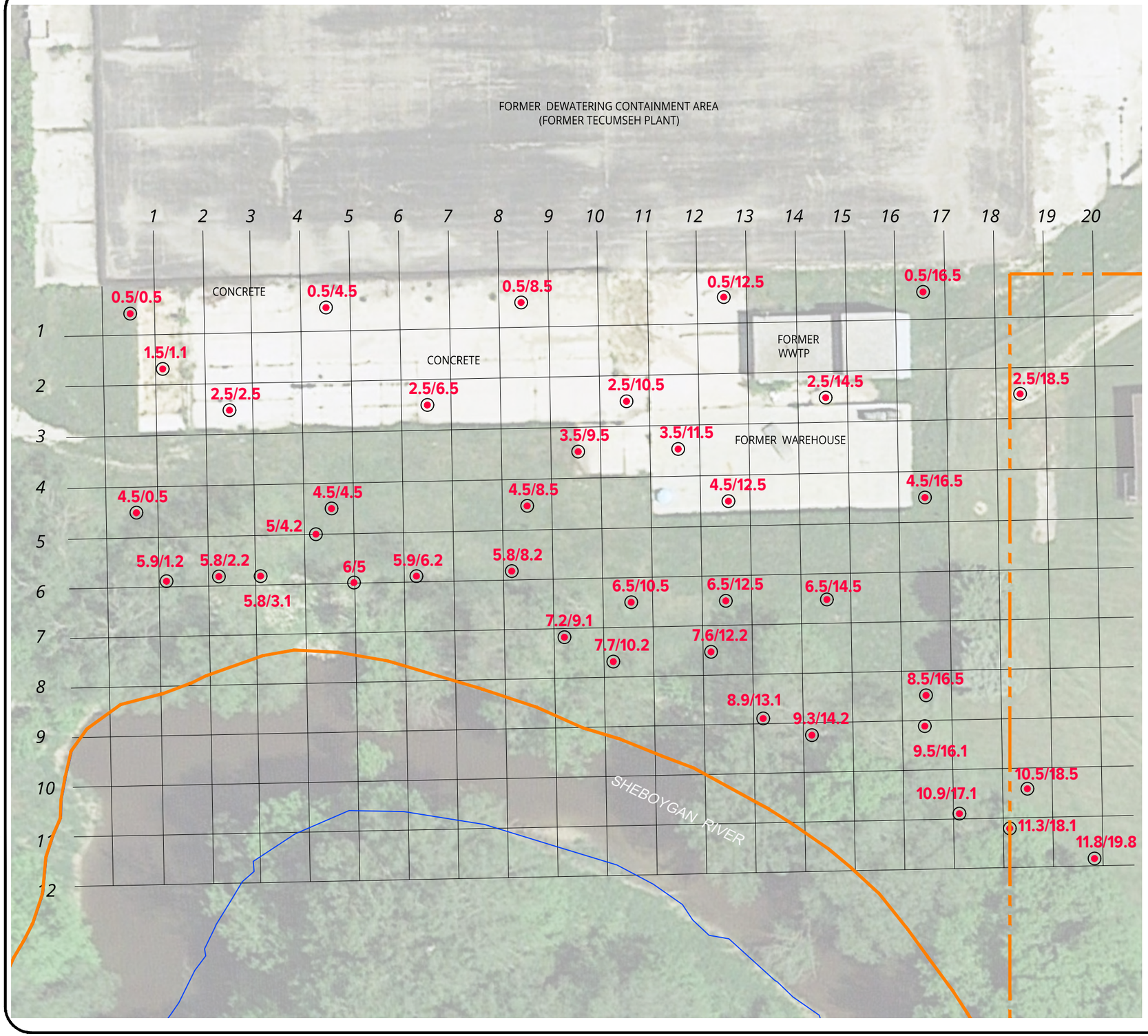

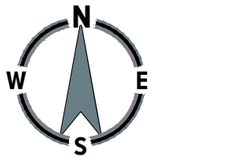

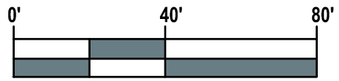

GRAPHIC SCALE: 1" = 40'

LEGEND

- APPROXIMATE SITE BOUNDARY
- DISCREET SOIL SAMPLE LOCATION (12-1978)
- 0.5/0.5 = ROW/COLUMN

NOTE:
BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
DECEMBER 1978 ASSESSMENT SAMPLE LOCATIONS

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 2B

PLOT DATE: Apr 21, 2020 - 4:26pm - jblake
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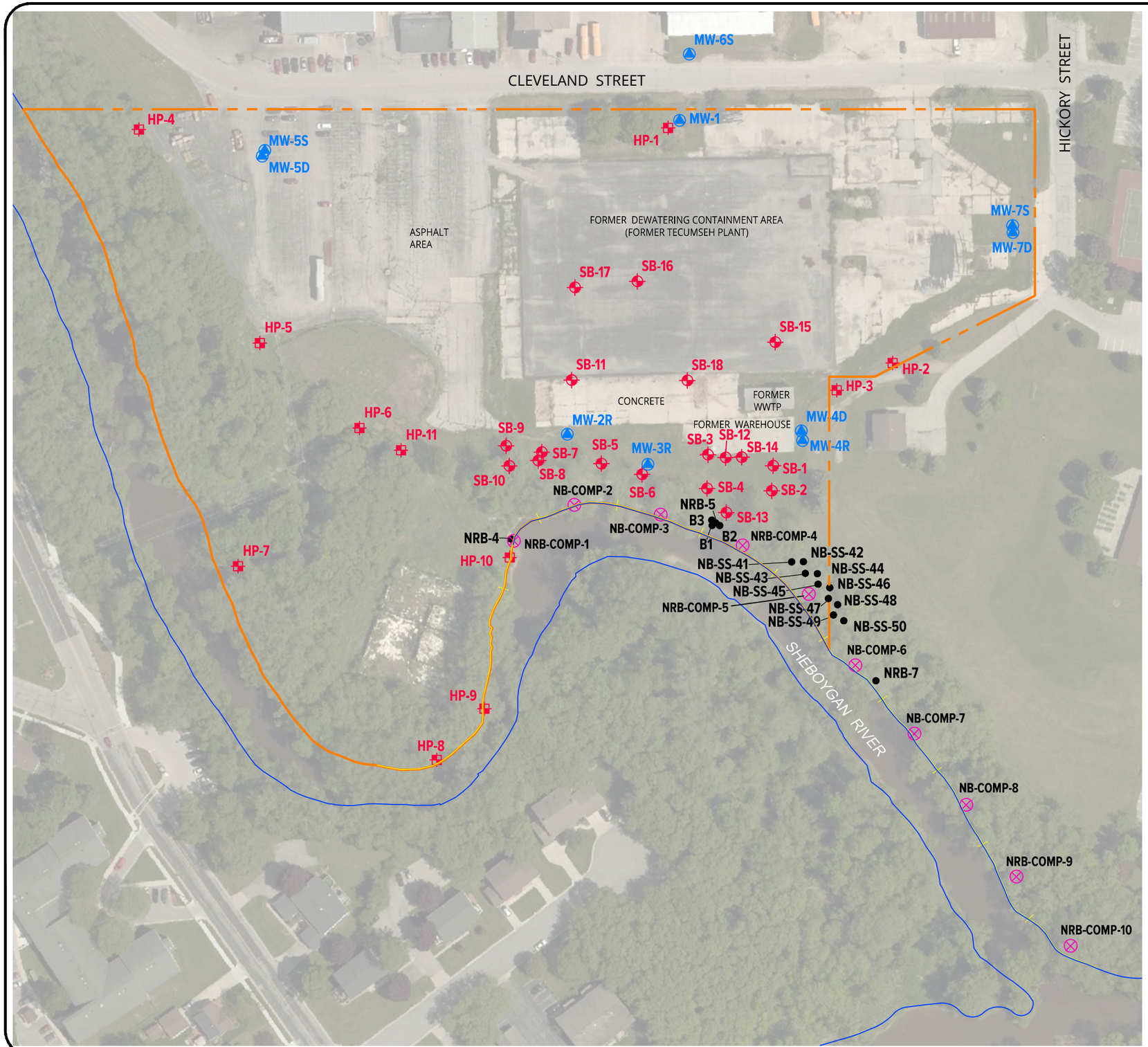

N
W E
S

0' 120' 240'

GRAPHIC SCALE: 1" = 120'

LEGEND

- APPROXIMATE SITE BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- HAND PROBE LOCATION
- SOIL SAMPLE LOCATION
- NB-COMPOSITE SAMPLE LOCATION

NOTE:
BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
1999 SITE AND RIVERBANK ASSESSMENT SAMPLE LOCATIONS

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 3A

PLOT DATE: Apr 21, 2020 - 2:56pm - jblake
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N
W E
S

0' 50' 100'

GRAPHIC SCALE: 1" = 50'

LEGEND

- APPROXIMATE SITE BOUNDARY
- 1999 COMPOSITE SOIL SAMPLE
- 1 — 1999 SOIL SAMPLE COMPOSITE LOCATION WITH SAMPLES

NOTE:
BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
1999 SITE COMPOSITE ASSESSMENT SAMPLE LOCATIONS

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 3B

PLOT DATE: Apr 21, 2020 - 2:58pm - jblake
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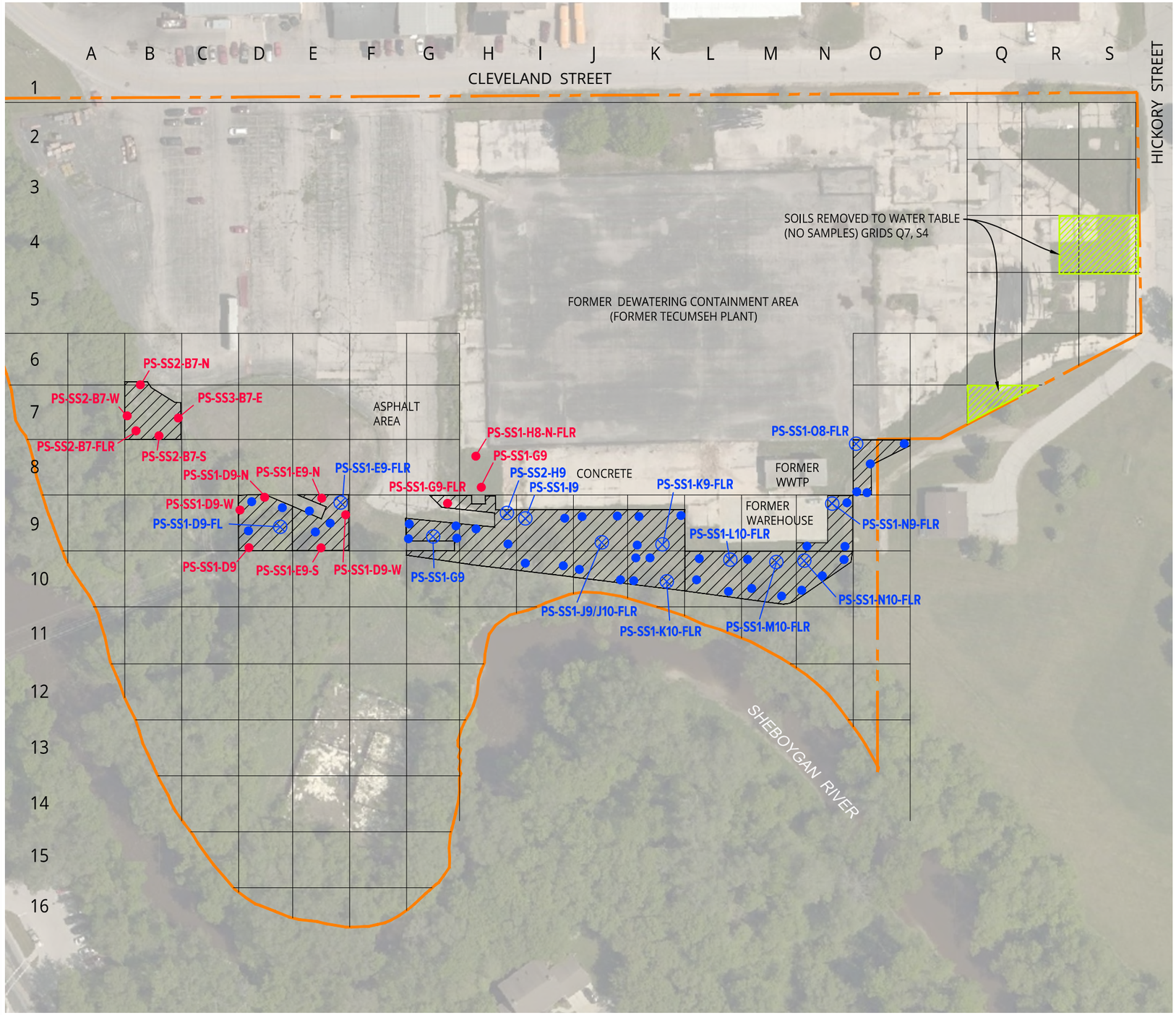

N
W E
S

0' 100' 200'

GRAPHIC SCALE: 1" = 100'

LEGEND

- APPROXIMATE SITE BOUNDARY
- VSR SAMPLE LOCATION
- COMPOSITE SAMPLE LOCATION
- COMPOSITE SAMPLE WITHIN GRID COMBINED WITH OTHERS IN GRID
- PLANT SOURCE (PS) EXCAVATION AREA (0 - 1 FOOT)
- PLANT SOURCE (PS) EXCAVATION AREA TO DEPTH OF WATER TABLE (APPROXIMATELY 6 FEET)

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.
2. EXCAVATION LIMITS AND SAMPLE LOCATIONS FROM PRS FIGURE AB-4 TITLED "SOURCE SOILS AND EXCAVATION AND CONFIRMATION SAMPLES" DATED NOVEMBER 2004.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
2004 PLANT SOURCE (PS) CONFIRMATORY SAMPLE LOCATIONS WITH 2004 REMEDIATION AREA BOUNDARIES

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 4A

PLOT DATE: Apr 21, 2020 - 4:01pm - jblake
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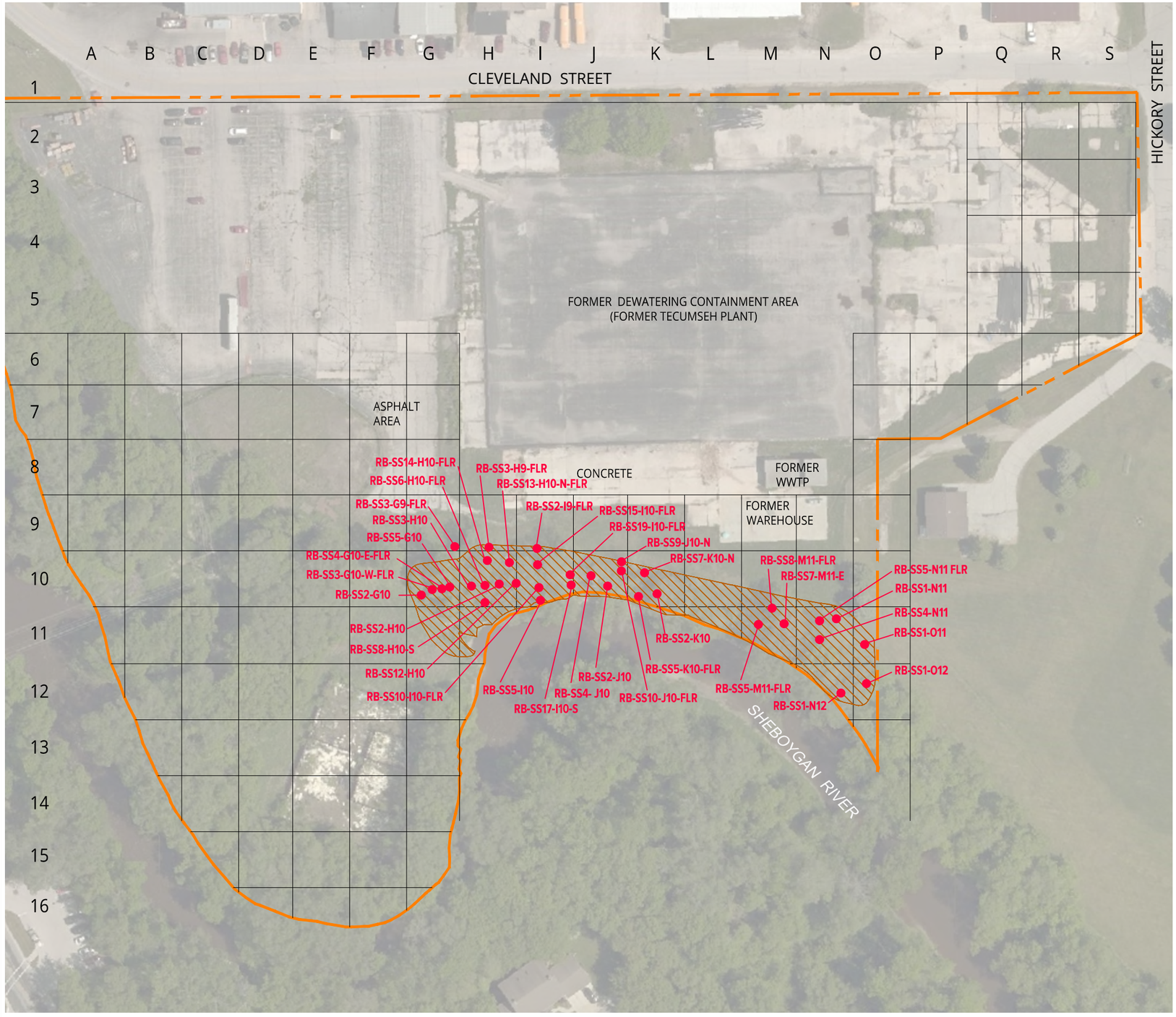

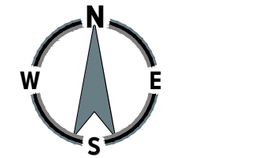

GRAPHIC SCALE: 1" = 100'

LEGEND

- APPROXIMATE SITE BOUNDARY
- VSR SAMPLE LOCATION
- RIVERBANK (RB) EXCAVATION AREA (0 TO 1 FOOT)

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.
2. EXCAVATION LIMITS AND SAMPLE LOCATIONS FROM PRS FIGURE AB-4 TITLED "SOURCE SOILS AND EXCAVATION AND CONFIRMATION SAMPLES" DATED NOVEMBER 2004.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
2004 RIVERBANK (RB) CONFIRMATORY SAMPLE LOCATIONS WITH 2004 REMEDIATION AREA BOUNDARIES

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 4B

PLOT DATE: Apr 21, 2020 - 3:11pm - jblake
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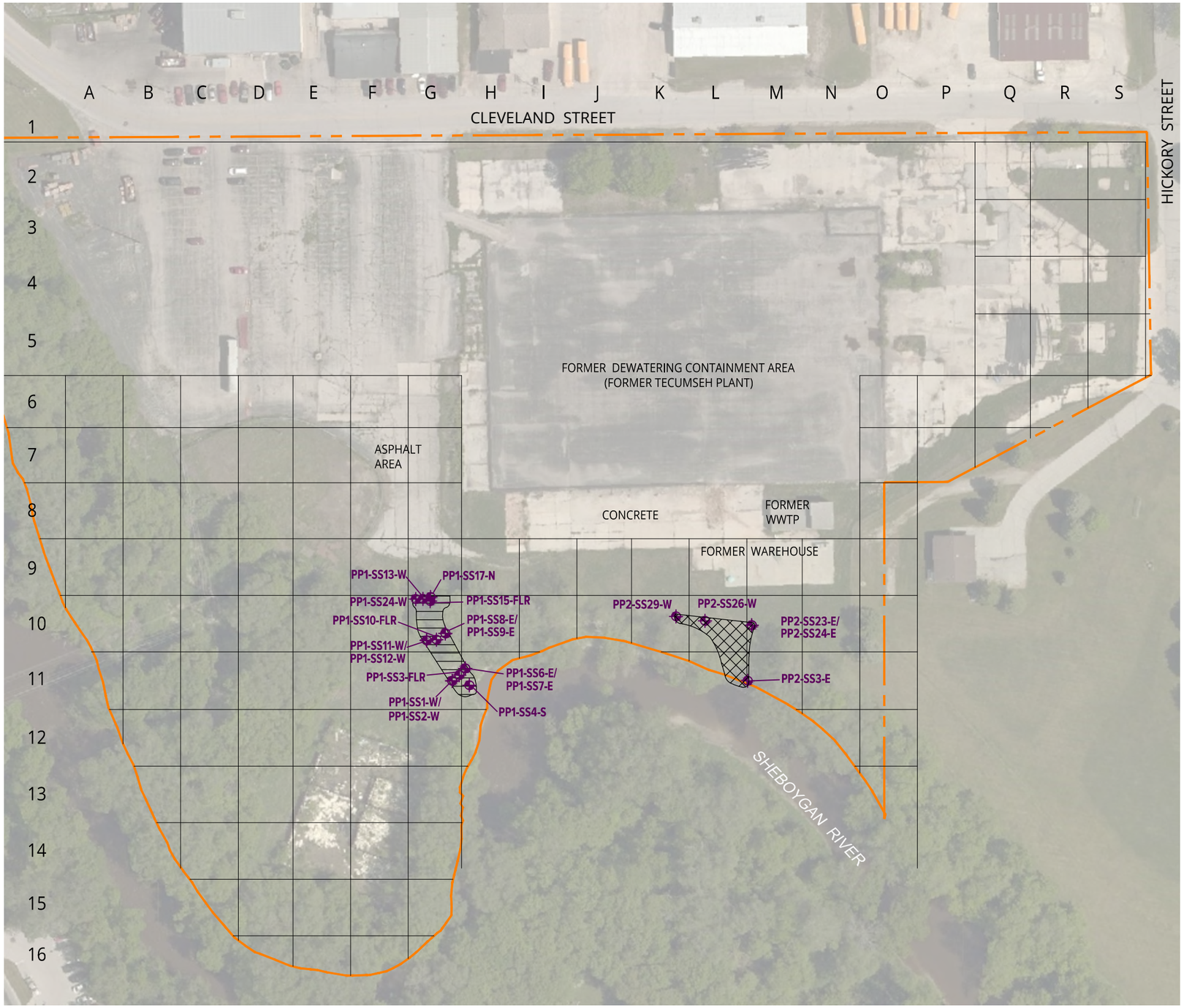

N

W E

S

0' 100' 200'

GRAPHIC SCALE: 1" = 100'

LEGEND

- APPROXIMATE SITE BOUNDARY
- CONFIRMATION SAMPLE LOCATION
- PREFERENTIAL PATHWAY 1 (PP1) EXCAVATION AREA (0 - 1 FOOT)
- PREFERENTIAL PATHWAY 2 (PP2) EXCAVATION AREA TO DEPTH OF WATER TABLE (DEPTHS 1 - 7 FEET)

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.
2. EXCAVATION LIMITS AND SAMPLE LOCATIONS FROM PRS FIGURE AB-4 TITLED "SOURCE SOILS AND EXCAVATION AND CONFIRMATION SAMPLES" DATED NOVEMBER 2004.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
2004 PREFERENTIAL PATHWAY (PP) CONFIRMATORY SAMPLE LOCATIONS WITH 2004 REMEDIATION AREA BOUNDARIES

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 4C

PLOT DATE: Apr 21, 2020 - 3:16pm - jblake
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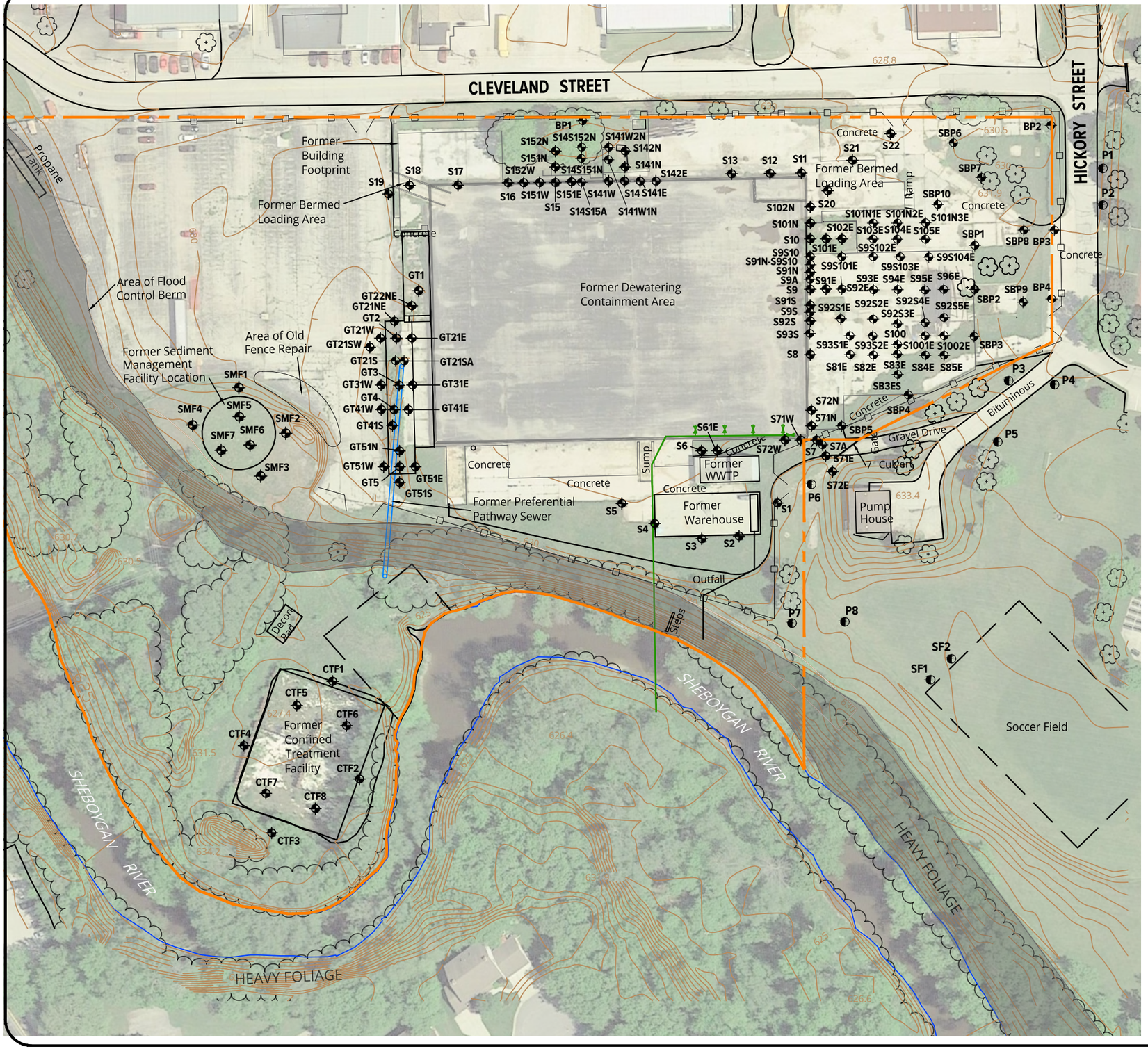

N

W E

S

0' 100' 200'

GRAPHIC SCALE: 1" = 100'

LEGEND

- APPROXIMATE SITE BOUNDARY
- EXISTING FENCE
- EXISTING TREE AND/OR BRUSH
- SITE CONTOURS
- FLOOD CONTROL BERM
- DEWATERING PAD
- FORMER DREDGE SLURRY PIPE
- SOIL SAMPLE LOCATION
- RUN-OFF SAMPLE LOCATION

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015 AND STORMWATER POLLUTION PREVENTION PLAN, BY PETRO ENVIRONMENTAL, LLC, DATED SEPTEMBER 2004.
2. INCLUDED IN THE REMEDIAL ACTION WORK PLAN, UPPER RIVER - PHASE 1, DATED SEPTEMBER 2004.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
2016 / 2018 ASSESSMENT SAMPLE LOCATIONS

No.	Revision Date

Date: 4-16-2020
CADD: JAB
Designer: KE/AJL
Scale: AS NOTED
Project: 069638.00.051
Figure No.: 5

PLOT DATE: Apr 21, 2020 - 4:33pm - jblake
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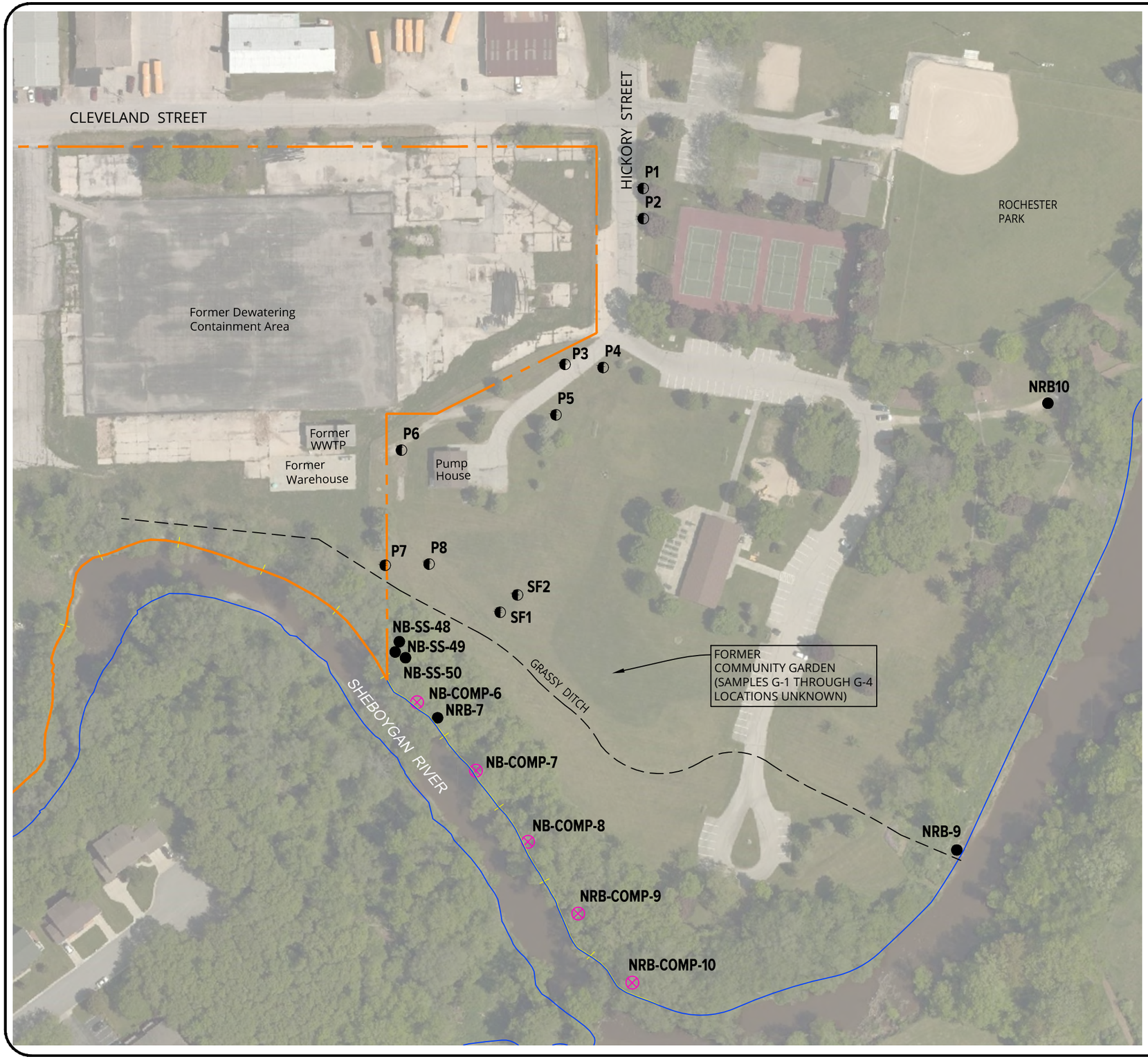

N
W E
S

0' 120' 240'

GRAPHIC SCALE: 1" = 120'

LEGEND

- APPROXIMATE SITE BOUNDARY
- SOIL SAMPLE LOCATION (1999)
- NB-COMPOSITE SAMPLE LOCATION (1999)
- RUN-OFF SAMPLE LOCATION (2018)

NOTE:
BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.

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SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
SUMMARY OF HISTORICAL OFF-SITE ASSESSMENT SAMPLE LOCATIONS

No.	Revision Date

Date: 4-16-2020
CADD: JAB
Designer: KE/AJL
Scale: AS NOTED
Project: 069638.00.051
Figure No.: 6

PLOT DATE: Apr 21, 2020 - 3:35pm - jblake
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LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- EXISTING EDGE OF WATER
- EXISTING FENCE
- EXISTING TREE AND/OR BRUSH
- SITE CONTOURS
- FLOOD CONTROL BERM
- DEWATERING PAD
- SOIL SAMPLE LOCATION (2016/2018)
- RUN-OFF SAMPLE LOCATION (2016/2018)
- DISCREET SOIL SAMPLE LOCATION (9-1978)
- COMPOSITE SOIL SAMPLE LOCATION (9-1978)
- FLOOD CONTROL BERM DISCREET SOIL SAMPLE LOCATION (10-1978)
- DISCREET SOIL SAMPLE LOCATION (12-1978)
- NB-COMPOSITE SAMPLE LOCATION (1999)
- COMPOSITE SOIL SAMPLE LOCATION (1999)
- SOIL SAMPLE COMPOSITE LOCATION WITH SAMPLES (1999)
- SOIL SAMPLE LOCATION (1999)
- SOIL BORING LOCATION (1999)
- MONITORING WELL LOCATION (1999)
- HAND PROBE LOCATION (1999)

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015 AND STORMWATER POLLUTION PREVENTION PLAN, BY PETRO ENVIRONMENTAL, LLC, DATED SEPTEMBER 2004.
2. INCLUDED IN THE REMEDIAL ACTION WORK PLAN, UPPER RIVER - PHASE 1, DATED SEPTEMBER 2004.

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Orientation: N, W, E, S

Scale: 0' 50' 100'
GRAPHIC SCALE: 1" = 50'

Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE
SHEBOYGAN FALLS, WISCONSIN

Sheet Name
SUMMARY OF SITE AND NEAR SITE ASSESSMENT SAMPLE LOCATIONS

Engineer's Seal

Revisions

REV	ISSUED FOR	DATE	BY

Date
6-10-2020

SME Project No.
069638.00.051

Project Manager:
KE

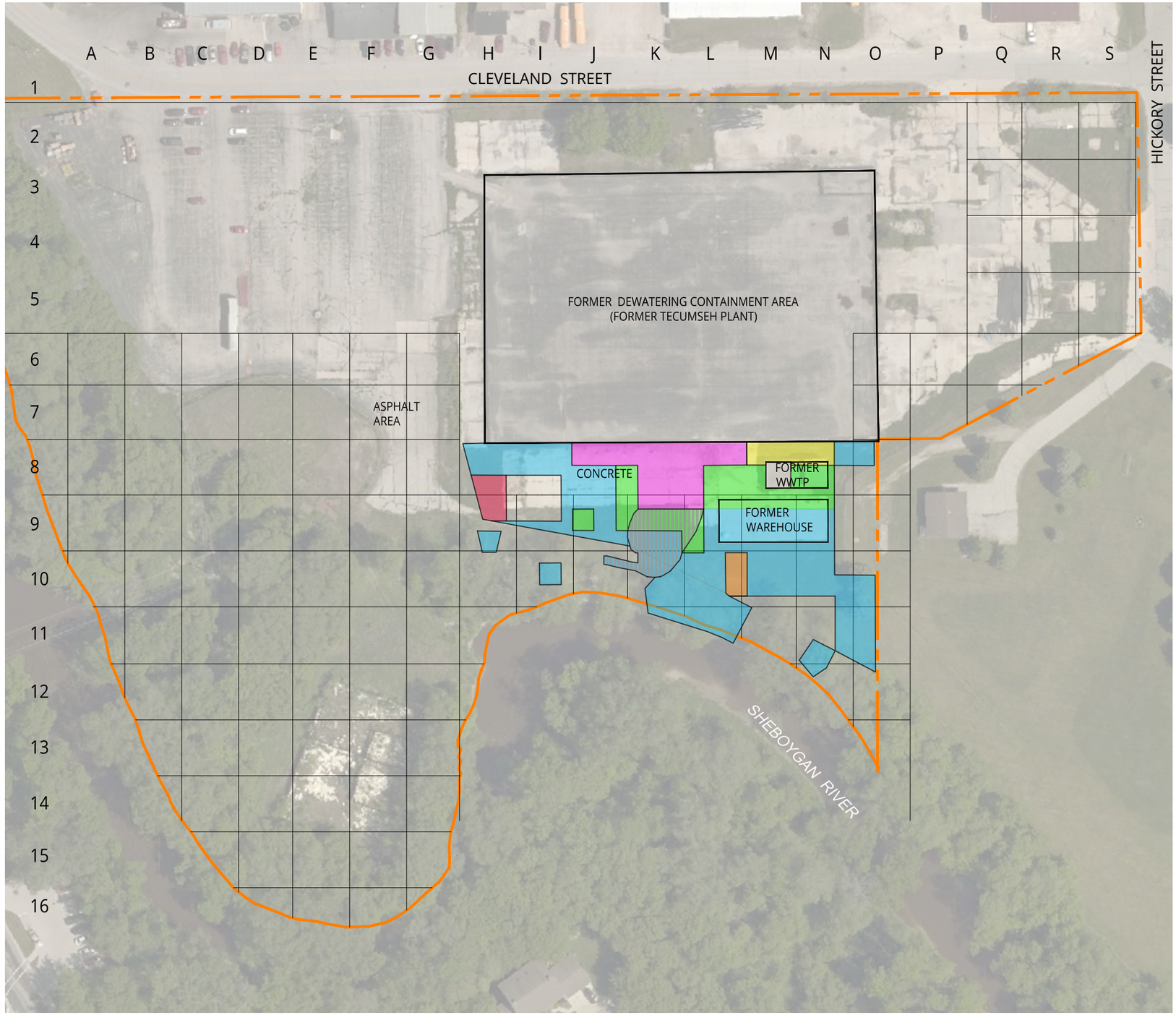
Designer:
KE/AJL

CADD:
JAB

Checked By:
KE

Figure No.
7

PLOT DATE: Apr 21, 2020 - 3:32pm - jblake
FILE LOCATION: \\sme-lincpt\WP\069638.00\CAD\069638.00.051\rev1\069638.00-SB_24x36.dwg



N
W E
S

0' 100' 200'

GRAPHIC SCALE: 1" = 100'

LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE LIMITS OF OIL SLICK EXCAVATION
- EXCAVATION TO 0.5 FEET
- EXCAVATION TO 1 FOOT
- EXCAVATION TO 2 FEET
- EXCAVATION TO 3 FEET
- EXCAVATION TO 4 FEET
- EXCAVATION TO 7 FEET

NOTES:
1. BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.
2. EXCAVATION LIMITS PROVIDED BY PDF TITLED 1979 BACK-YARD EXCAVATION MAP, FIGURE C, BY BLASLAND, BOUCK & LEE, INC. WITH A DATE ON THE DRAWING OF 11/10/99.

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SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
AREAS OF 1979 REMEDIATION ACTIVITIES

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 8A

PLOT DATE: Apr 21, 2020 - 3:38pm - jblake
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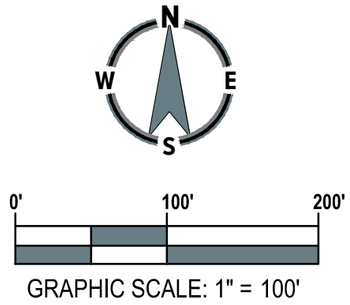

LEGEND

- APPROXIMATE SITE BOUNDARY
- PLANT SOURCE (PS) EXCAVATION AREA (0 - 1 FOOT)
- PLANT SOURCE (PS) EXCAVATION AREA TO DEPTH OF WATER TABLE (APPROXIMATELY 6 FEET)
- RIVERBANK (RB) EXCAVATION AREA (0 TO 1 FOOT)
- PREFERENTIAL PATHWAY 1 (PP1) EXCAVATION AREA (0 - 1 FOOT)
- PREFERENTIAL PATHWAY 2 (PP2) EXCAVATION AREA TO DEPTH OF WATER TABLE (DEPTHS 1 - 7 FEET)

NOTES:

1. BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.
2. EXCAVATION LIMITS PROVIDED FROM PRS FIGURES AB-4, AB-5, AND AB-6. DATED NOVEMBER 2004.
3. OVERLAPPING EXCAVATION AREAS WITH THE SAME EXCAVATION DEPTHS (PS, RB, AND PP1) WERE REMOVED TO A DEPTH OF 1 FOOT; HOWEVER, SAMPLING WAS CONDUCTED AS SEPARATE AREAS.
4. OVERLAPPING EXCAVATION AREAS WITH DIFFERENT EXCAVATION DEPTHS (PS, RB, AND PP1) WERE REMOVED TO THE DEPTH OF THE WATER TABLE; HOWEVER, SAMPLING WAS CONDUCTED AS SEPARATE AREAS.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
AREAS OF 2004 REMEDIATION ACTIVITIES

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 8B

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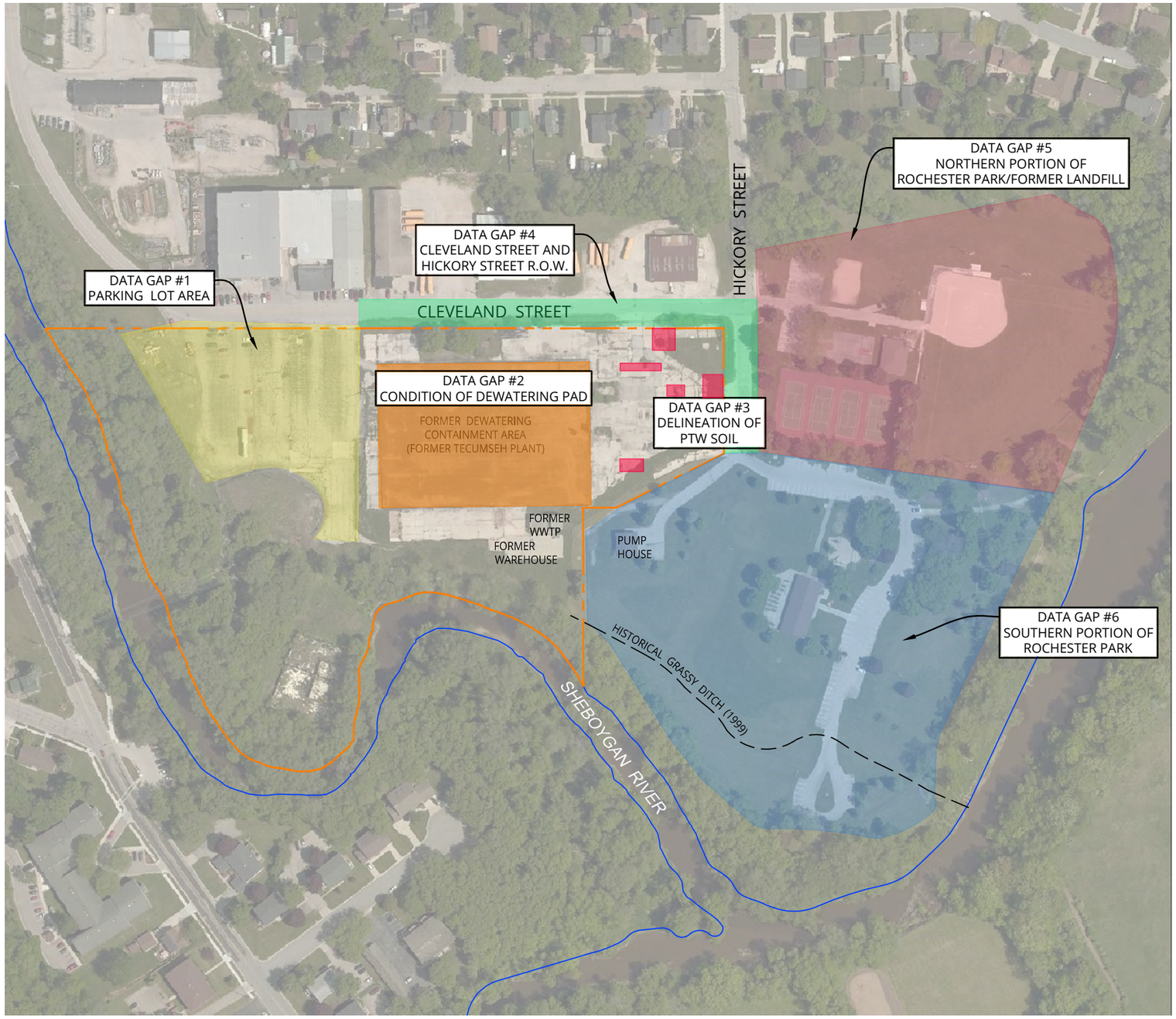

N
W E
S

0' 200' 400'

GRAPHIC SCALE: 1" = 200'

LEGEND

APPROXIMATE SITE BOUNDARY

NOTE:
BASE DRAWING INFORMATION TAKEN FROM GOOGLE EARTH PRO WITH IMAGE DATE 6-1-2015.

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Project
SHEBOYGAN RIVER SUPERFUND SITE

Project Location
FORMER TECUMSEH SITE SHEBOYGAN FALLS, WISCONSIN

Sheet Name
DATA GAP AREAS

No.	Revision Date

Date 4-16-2020
CADD JAB
Designer KE/AJL
Scale AS NOTED
Project 069638.00.051
Figure No. 9

PLOT DATE: Apr 21, 2020 - 3:53pm - jblake
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TABLES

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	C14/15	C16/17	C18/19	C20/21	C22/23	C24/25	C26/27	C28/29	C30/31	C32/33	C34/35	C36/37	C38/39	C40/41
				SAMPLE DEPTH (FEET BGS)	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3
				SAMPLE DATE	9/14/1978	9/14/1978	9/14/1978	9/14/1978	9/14/1978	9/15/1978	9/15/1978	9/15/1978	9/15/1978	9/15/1978	9/15/1978	9/15/1978	9/15/1978	9/15/1978
PCBs																		
PCB, Total	1336-36-3	100	500		297	140	183	1,487	187	360	441	742	NE	410	NE	126	451	50

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	C42/43	C44	C45	C46	C47	C48/49	C50	C51	C52	C53	C54	C55	C56	C57
				SAMPLE DEPTH (FEET BGS)	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3
				SAMPLE DATE	9/15/1978	9/15/1978	9/15/1978	9/15/1978	9/15/1978	9/15/1978	9/19/1978	9/19/1978	9/19/1978	9/19/1978	9/19/1978	9/19/1978	9/19/1978	9/19/1978
PCBs																		
PCB, Total	1336-36-3	100	500		11.7	3,240	6,024	674	32,011	5,994	380	14,793	793	1,633	479	2,617	NE	15,140

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	C58/59	C60	C61	C62/63	C64/65	C66/67	C68/69	C70/71	C72/73	C74/75	C76/77	C78/79	C80/81	C82/83
				SAMPLE DEPTH (FEET BGS)	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3
				SAMPLE DATE	9/19/1978	9/19/1978	9/19/1978	9/19/1978	9/19/1978	9/19/1978	9/19/1978	9/19/1978	9/20/1978	9/20/1978	9/20/1978	9/20/1978	9/20/1978	9/20/1978
PCBs																		
PCB, Total	1336-36-3	100	500		12.7	60.6	1,672	1,454	14.8	1.87	2.4	20,253	516	8.87	4,622	2.4	0.44	1,945

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)											
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	C84/85	C86/87	C88	C89/90	C91	C92/93	M-1	CO-1	GB-1	CA-1	G-1	G-2
				SAMPLE DEPTH (FEET BGS)	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	Honeydew Melon	Corn	Green Bean	Carrot	1 - 1 .5	Ground Surface
				SAMPLE DATE	9/20/1978	9/20/1978	9/20/1978	9/20/1978	9/20/1978	9/20/1978	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
PCBs																
PCB, Total	1336-36-3	100	500		4.7	5,134	60	1,686	ND	8.5	0.052	ND	0.020	0.123	4.0	8.0

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	1-1/2	1-3/4	1-5/6	1-7	1-8	1-9/10	1-11	1-12	1-13/14	1-15/16	1-17/18	1-19/20	2-1/2	2-3/4
				SAMPLE DEPTH (FEET BGS)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1
				SAMPLE DATE	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978
PCBs																		
PCB, Total	1336-36-3	100	500		257	93	192	2,338	89.4	2,233	766	113	190	459	41.9	118	3.7	8.7

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	2-5/6	2-7	2-8	2-9	2-10	2-11	2-12	2-13/14	2-15/16	2-17/18	2-19/20	3-1/2	3-3/4	3-5
				SAMPLE DEPTH (FEET BGS)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1
				SAMPLE DATE	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978
PCBs																		
PCB, Total	1336-36-3	100	500		265	2,864	1,945	9,671	4,622	2,360	266	56	NE	24.5	7.60	48.8	6.25	526.0

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	3-6	3-7/8	3-9	3-10	3-11/12	3-13	3-14	3-15/16	3-17/18	3-19/20	4-1	4-2	4-3	4-4
				SAMPLE DEPTH (FEET BGS)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1
				SAMPLE DATE	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978
PCBs																		
PCB, Total	1336-36-3	100	500		10,928	28.4	7,516	6,667	NE	12.8	464	121	34	2.23	1,303	4,538	1,242	8,406

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	4-5/6	4-7/8	4-9/10	4-11/12	4-13/14	4-15/16	4-17/18	4-19/20	5-8/9	5-10	5-11	5-12/13	5-14/15	5-16/17
				SAMPLE DEPTH (FEET BGS)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1
				SAMPLE DATE	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978
PCBs																		
PCB, Total	1336-36-3	100	500		122	100	722	483	221	191	10.4	2.2	120	1.12	180	231	61	5.5

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	5-18 & 6-18	5-19/20	6-10	6-11	6-12/13	6-14/15	6-16/17	6-19/20	7-12	7-13	7-14	7-15	7-16/17	7-18 & 8-18
				SAMPLE DEPTH (FEET BGS)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1
				SAMPLE DATE	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978
PCBs																		
PCB, Total	1336-36-3	100	500		**6.35**	**2.99**	**516**	**3,321**	NE	**3.38**	**137**	**7.06**	**990**	**165**	**41.6**	**24.9**	**25.3**	**43.2**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)									
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	7-19/20	8-14/15	8-16/17	8-19/20	9-16	9-17	9-18 & 10-18	9-19/20	10-19/20	11-19/20
				SAMPLE DEPTH (FEET BGS)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1
				SAMPLE DATE	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978	9/1978
PCBs														
PCB, Total	1336-36-3	100	500		**40**	**4.26**	**2.2**	**78.2**	**2.61**	**1.7**	**307**	**14.5**	**2.85**	**13.9**

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	GRID - 0.5/0.5	GRID - 0.5/4.5	GRID - 0.5/8.5	GRID - 0.5/8.5	GRID - 0.5/8.5	GRID - 0.5/12.5	GRID - 0.5/16.5	GRID - 2.5/2.5	GRID - 2.5/6.5	GRID - 2.5/10.5	GRID - 2.5/14.5	GRID - 2.5/18.5	GRID - 3.5/9.5	GRID - 3.5/11.5
				SAMPLE DEPTH (FEET BGS)	1 - 1 .5	1 - 1 .5	1 - 1 .5	2 - 2.5	3 - 3.5	1 - 1 .5	1 - 1 .5	1 - 1 .5	1 - 1 .5	1 - 1 .5	1 - 1 .5	1 - 1 .5	1 - 1 .5	1 - 1 .5
				SAMPLE DATE	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978
PCBs																		
PCB, Total	1336-36-3	100	500		ND	**13.7**	**17.3**	**598**	ND	**1,166**	**1,265**	ND	ND	**10,263**	**95.2**	ND	**1.0**	ND

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	GRID - 4.5/0.5	GRID - 4.5/4.5	GRID - 4.5/8.5	GRID - 4.5/12.5	GRID - 4.5/16.5	GRID - 5.0/4.2	GRID - 5.0/4.2	GRID - 5.8/3.1	GRID - 5.8/2.2	GRID - 5.9/6.2	GRID - 5.9/1.2	GRID - 6.0/5.0	GRID - 6.5/10.5	GRID - 6.5/12.5
				SAMPLE DEPTH (FEET BGS)	1 - 1 .5	1 - 1 .5	1 - 1 .5	1 - 1 .5	1 - 1 .5	1 - 1 .5	2 - 2.5	1 - 1 .5	1 - 1 .5	1 - 1 .5	0.5 - 1	0.5 - 1	1 - 1 .5	1 - 1 .5
				SAMPLE DATE	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978
PCBs																		
PCB, Total	1336-36-3	100	500		ND	ND	ND	ND	**23.8**	ND	ND	**2.9**	**7.8**	ND	ND	**1.2**	ND	ND

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	GRID - 6.5/12.5	GRID - 6.5/14.5	GRID - 7.2/9.1	GRID - 7.7/10.2	GRID - 7.6/12.2	GRID - 7.6/12.2	GRID - 8.5/16.5	GRID - 8.9/13.1	GRID - 9.3/14.2	GRID - 9.5/16.1	GRID - 10.5/18.5	GRID - 10.9/17.1	GRID - 11.2/18.1	GRID - 11.8/19.8
				SAMPLE DEPTH (FEET BGS)	1 - 1 .5	1 - 1 .5	0.5 - 1	1 - 1 .5	1 - 1 .5	2 - 2.5	1 - 1 .5	0.5 - 1	1 - 1 .5	1 - 1 .5	1 - 1 .5	0.5 - 1	1 - 1 .5	1 - 1 .5
				SAMPLE DATE	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978	12/28/1978
PCBs																		
PCB, Total	1336-36-3	100	500		**55.2**	**9.6**	**3,779**	**5.1**	**1,926**	ND	ND	**20.5**	**1.13**	ND	ND	ND	ND	ND

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	HP-1	HP-1	HP-2	HP-2	HP-3	HP-3	HP-4	HP-4	HP-5	HP-5	HP-6	HP-6	HP-7	HP-7
				SAMPLE DEPTH (FEET BGS)	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1
				SAMPLE DATE	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999
PCBs																		
PCB, Total	1336-36-3	100	500		**3.5**	**0.175**	**11**	**48**	**38**	**63**	**0.057**	ND	**0.89**	**1.8**	**3.3**	**0.53**	ND	ND

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	HP-8	HP-8	HP-9	HP-9	HP10	HP10	HP-11	HP-11	HP-12	HP-12	HP-13	HP-13	HP-14	HP-14
				SAMPLE DEPTH (FEET BGS)	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1
				SAMPLE DATE	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999
PCBs																		
PCB, Total	1336-36-3	100	500		ND	ND	ND	ND	**0.264**	**2.9**	**52**	**160**	**8.9**	**1.4**	**14.5**	**11.8**	**8.9**	**3.4**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SB-1	SB-1	SB-1	SB-2	SB-2	SB-2	SB-2	SB-2	SB-2	SB-2	SB-2	SB-2	SB-3	SB-3
				SAMPLE DEPTH (FEET BGS)	0 - 2	2 - 4	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	16 - 18	0 - 2	2 - 4
				SAMPLE DATE	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999
PCBs																		
PCB, Total	1336-36-3	100	500		**15.5**	**0.90**	**19**	**22.7**	**99**	**5.6**	**26.3**	ND	ND	**0.75**	**3.6**	**9.3**	**58**	**3.9**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SB-3	SB-3	SB-4	SB-4	SB-4	SB-4	SB-5	SB-5	SB-5	SB-5	SB-5	SB-6	SB-6	SB-6
				SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	0 - 2	2 - 4	4 - 6
				SAMPLE DATE	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999
PCBs																		
PCB, Total	1336-36-3	100	500		**7.2**	ND	**0.24**	**1.5**	**0.79**	**0.50**	ND	**0.64**	NE	**20.6**	**38**	**0.10**	**0.91**	**0.77**

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SB-6	SB-6	SB-7	SB-7	SB-7	SB-7	SB-7	SB-7	SB-7	SB-8	SB-8	SB-8	SB-8	SB-8
				SAMPLE DEPTH (FEET BGS)	6 - 8	8 - 10	0 - 2	2 -4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10
				SAMPLE DATE	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999
PCBs																		
PCB, Total	1336-36-3	100	500		ND	0.19	1.7	2.22	0.67	23	1.62	0.17	3.9	0.092	0.41	60	6.7	6.2

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SB-8	SB-9	SB-9	SB-9	SB-9	SB-9	SB-10	SB-10	SB-10	SB-10	SB-10	SB-11	SB-11	SB-11
				SAMPLE DEPTH (FEET BGS)	10 - 12	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	0 - 2	2 -4	4 - 6	6 - 8	8 - 10	0 - 2	2 - 4	4- 6
				SAMPLE DATE	7/20/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999
PCBs																		
PCB, Total	1336-36-3	100	500		33	19.6	NE	11.7	1.8	7.1	7.4	51	4.5	6.7	0.35	5.1	14.2	0.52

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SB-11	SB-11	SB-11	SB-12	SB-12	SB-12	SB-12	SB-13	SB-13	SB-13	SB-13	SB-13	SB-14	SB-14
				SAMPLE DEPTH (FEET BGS)	6 - 8	8 -10	10 - 12	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	0 - 2	2 - 4
				SAMPLE DATE	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/21/1999	7/29/1999	7/29/1999
PCBs																		
PCB, Total	1336-36-3	100	500		0.207	1.06	0.58	106	0.60	23.3	3.32	ND	ND	ND	NR	0.073	47.2	13.1

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SB-14	SB-14	SB-15	SB-15	SB-15	SB-16	SB-16	SB-16	SB-16	SB-17	SB-17	SB-17	SB-17	SB-18
				SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 8	1 - 3	3 - 5	5 - 7	1 - 3	3 - 5	5 - 7	7 - 9	1 -3	3 - 5	5 - 7	7 - 9	1 - 3
				SAMPLE DATE	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999
PCBs																		
PCB, Total	1336-36-3	100	500		31.5	ND	1.12	1.0	5.1	18	72	ND	0.26	42	14	0.413	0.094	28.6

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SB-18	SB-18	SB-18	SB-18	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D
				SAMPLE DEPTH (FEET BGS)	3 - 5	5 - 7	7 - 9	9 - 11	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	16 - 18	18 - 20
				SAMPLE DATE	7/29/1999	7/29/1999	7/29/1999	7/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999
PCBs																		
PCB, Total	1336-36-3	100	500		**44.6**	**42**	**62**	**166**	**8.7**	**3.09**	ND	**2.68**	NA	**1.49**	**0.30**	NA	ND	ND

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-4D	MW-5D	MW-5D	MW-5D	MW-5D
				SAMPLE DEPTH (FEET BGS)	20 - 22	22 - 24	24 - 26	26 - 28	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38	38 - 40	1 - 3	3 - 5	5 - 7	7 - 9
				SAMPLE DATE	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/29/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999
PCBs																		
PCB, Total	1336-36-3	100	500		NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE	ND	ND

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D	MW-5D
				SAMPLE DEPTH (FEET BGS)	9 - 11	12 - 14	14 - 16	16 - 18	18 - 20	20 - 22	22 - 24	24 - 26	26 - 28	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38
				SAMPLE DATE	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999	3/30/1999
PCBs																		
PCB, Total	1336-36-3	100	500		ND	NE	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D
				SAMPLE DEPTH (FEET BGS)	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	16 - 18	18 - 20	20 - 22	22 - 24	24 - 26	26 - 28
				SAMPLE DATE	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999
PCBs																		
PCB, Total	1336-36-3	100	500		**29**	**11.4**	**23.2**	**0.14**	**0.076**	ND	ND	**3.7**	NE	**0.158**	ND	ND	ND	ND

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	MW-7D	COMP-1	COMP-1	COMP-1	COMP-1	COMP-1	COMP-2	COMP-2	COMP-2
				SAMPLE DEPTH (FEET BGS)	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38	38 - 40	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	0 - 2	2 - 4	4 - 6
				SAMPLE DATE	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	3/31/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999
PCBs																		
PCB, Total	1336-36-3	100	500		ND	ND	ND	**0.15**	NA	ND	**5.4**	**3.4**	**3.2**	**0.1**	ND	**ND**	**14.9**	**0.192**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	COMP-2	COMP-2	COMP-3	COMP-3	COMP-3	COMP-3	COMP-3	COMP-4	COMP-4	COMP-4	COMP-5	COMP-5	COMP-5	COMP-6
				SAMPLE DEPTH (FEET BGS)	6 -8	8 - 10	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	0 - 2	2 - 4	4 - 6	0 - 2	2 - 4	4 - 6	0-2
				SAMPLE DATE	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999
PCBs																		
PCB, Total	1336-36-3	100	500		**0.80**	**0.51**	**0.60**	**0.29**	ND	**0.44**	ND	**1.51**	**1.08**	**1.37**	**0.90**	**7.70**	**0.35**	ND

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	COMP-6	COMP-6	COMP-6	COMP-6	COMP-7	COMP-7	COMP-7	COMP-7	COMP-7	COMP-8	COMP-8	COMP-8	COMP-9	COMP-9
				SAMPLE DEPTH (FEET BGS)	2 - 4	4 - 6	6 - 8	8 - 10	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	0 - 2	2 - 4	4 - 6	0 - 2	2 - 4
				SAMPLE DATE	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999
PCBs																		
PCB, Total	1336-36-3	100	500		**0.23**	**3.13**	**2.46**	**0.015**	**1.28**	**0.57**	**3.50**	ND	**0.61**	**55**	**11.1**	**102**	**2.20**	**2.72**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	COMP-9	COMP-10	COMP-10	COMP-10	COMP-11	COMP-11	COMP-11	COMP-11	COMP-12	COMP-12	COMP-12	COMP-12	COMP-13	COMP-13
				SAMPLE DEPTH (FEET BGS)	4 - 6	0 - 2	2 - 4	4 - 6	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4
				SAMPLE DATE	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999
PCBs																		
PCB, Total	1336-36-3	100	500		**0.58**	**4.3**	**4.0**	**50**	**55.4**	**18.5**	**31**	**0.57**	**70**	**54**	**14**	**9.9**	**61**	ND

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	COMP-13	COMP-13	COMP-14	COMP-14	COMP-14	COMP-14	COMP-14	COMP-15	COMP-15	COMP-15	COMP-15	COMP-16	COMP-16	COMP-16
				SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	8 -10	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 -4	4 - 6
				SAMPLE DATE	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999
PCBs																		
PCB, Total	1336-36-3	100	500		85	34.3	18.8	19.8	26.4	17	1,800	4.2	10.9	21.4	3.8	3.0	3.8	23

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)								
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	COMP-16	COMP-17	COMP-17	COMP-17	COMP-18	COMP-18	COMP-18	COMP-18	COMP-18
				SAMPLE DEPTH (FEET BGS)	6 - 8	0 - 2	2 -4	4 - 6	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10
				SAMPLE DATE	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999	8/10/1999
PCBs													
PCB, Total	1336-36-3	100	500		13.5	0.94	2.6	2.0	28.0	450	16.0	ND	ND

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	NRB-4	NRB-5	NRB-7	NRB-9	NRB-10	B1	B2	B2	B3	B3	B3	B3	B3	B3
				SAMPLE DEPTH (FEET BGS)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	6-8	0-0.5	0.5-1	1-1.5	1.5-2	2-2.5	2.5-3
				SAMPLE DATE	4/1/1999	4/1/1999	4/1/1999	4/1/1999	4/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999
PCBs																		
PCB, Total	1336-36-3	100	500		0.56	2,700	ND	0.73	0.12	1,100	380	100	0.36	0.42	NA	690	38	33

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	NB-COMP-1	NB-COMP-2	NB-COMP-3	NB-COMP-4	NB-COMP-5	NB-COMP-6	NB-COMP-7	NB-COMP-8	NB-COMP-9	NB-COMP-10	NB-SS-41	NB-SS-42	NB-SS-43	NB-SS-44
				SAMPLE DEPTH (FEET BGS)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
				SAMPLE DATE	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999
PCBs																		
PCB, Total	1336-36-3	100	500		2.3	0.77	0.64	2.1	39	2.6	2.8	3.5	1.6	1.9	7.2	7.3	13	31

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)					
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	NB-SS-45	NB-SS-46	NB-SS-47	NB-SS-48	NB-SS-49	NB-SS-50
				SAMPLE DEPTH (FEET BGS)	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
				SAMPLE DATE	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999	5/1/1999
PCBs										
PCB, Total	1336-36-3	100	500		**12**	**17**	**5.8**	**3.3**	**0.25**	**83**

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	RB-SS2, G10, 0 - 1	RB-SS3, G10, W Floor	RB-SS4, G10, E Floor	RB-SS5, G10, 0 - 1	RB-SS3, G9, Floor	RB-SS4, H9, Floor	RB-SS3, H10, 0 - 1	RB-SS6, H10, Floor	RB-SS12, H10, 0 - 1	RB-SS8, H10, 0 - 1	RB-SS2, H10, 0 - 1	RB-SS13, H10, N Floor	RB-SS14, H10, Floor	RB-SS5, I10, 0 - 1
				SAMPLE DEPTH (FEET BGS)	0 - 1	1	1	0 - 1	1	1	0 - 1	1	0 - 1	0 - 1	0 - 1	1	1	0 - 1
				SAMPLE DATE	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/12/2004	10/12/2004	10/8/2004	10/8/2004	10/12/2004	10/7/2004	10/8/2004	10/12/2004	10/12/2004	10/7/2004
PCBs																		
PCB, Total	1336-36-3	100	500		**0.12**	**0.228**	**0.79**	**0.057**	**1.9**	**0.70**	**0.65**	**7.7**	**0.84**	ND	**0.53**	**1.5**	**5.1**	**0.22**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	RB-SS10, I10, Floor	RB-SS15, I10, Floor	RB-SS17, I10, S(0 - 1)	RB-SS19, I10, Floor	RB-SS2, I9, Floor	RB-SS2, J10, 0 - 1	RB-SS4, J10, 0 - 1	RB-SS9, J10, N(0 - 1)	RB-SS10, J10, Floor	RB-SS2, K10, 0 - 1	RB-SS5, K10, Floor	RB-SS7, K10, 0 - 1 North	RB-SS5, M11, Floor	RB-SS7, M11, E(0 - 1)
				SAMPLE DEPTH (FEET BGS)	1	1	0 - 1	1	1	0 - 1	0 - 1	0 - 1	1	0 - 1	1	0 - 1	1	0 - 1
				SAMPLE DATE	10/8/2004	10/8/2004	10/12/2004	10/12/2004	10/12/2004	10/7/2004	10/7/2004	10/12/2004	10/12/2004	10/7/2004	10/8/2004	10/8/2004	10/12/2004	10/12/2004
PCBs																		
PCB, Total	1336-36-3	100	500		**3.3**	ND	**0.67**	**2.0**	**0.021**	**0.21**	**0.18**	**0.80**	ND	**0.18**	**0.84**	**0.044**	**1.1**	**0.16**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)						
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	RB-SS8, M11, Floor	RB-SS1, N11, 0 - 1	RB-SS5, N11, Floor	RB-SS4, N11, 0 - 1	RB-SS1, O11, 0 - 1	RB-SS1, O12, 0 - 1	RB-SS1, N12, 0 - 1
				SAMPLE DEPTH (FEET BGS)	1	0 - 1	1	0 - 1	0 - 1	0 - 1	0 - 1
				SAMPLE DATE	10/12/2004	10/7/2004	10/8/2004	10/7/2004	10/22/2004	10/22/2004	10/22/2004
PCBs											
PCB, Total	1336-36-3	100	500		**2.3**	**0.05**	**0.44**	ND	**0.31**	ND	**0.27**

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	PS-SS2, B7, Floor	PS-SS2, B7, N(0 - 1)	PS-SS2, B7, S(0 - 1)	PS-SS2, B7, W(0 - 1)	PS-SS3, B7, E(0 - 1)	PS-SS1, D9, Floor	PS-SS1, D9, N(0 - 1)	PS-SS1, D9, W(0 - 1)	PS-SS1, E9, E(0 - 1)	PS-SS1, E9, N(0 - 1)	PS-SS1, E9, Floor	PS-SS3, D9, (0 - 1)	PS-SS2, E9, S(0 - 1)	PS-SS1, G9
				SAMPLE DEPTH (FEET BGS)	1	0 - 1	0 - 1	0 - 1	0 - 1	1	0 - 1	0 - 1	0 - 1	0 - 1	1	0 - 1	0 - 1	0 - 1
				SAMPLE DATE	10/21/2004	10/21/2004	10/21/2004	10/21/2004	10/22/2004	10/20/2004	10/20/2004	10/20/2004	10/20/2004	10/20/2004	10/20/2004	10/22/2004	10/21/2004	10/12/2004
PCBs																		
PCB, Total	1336-36-3	100	500		**0.89**	**0.69**	**0.32**	ND	**0.082**	**0.82**	ND	**0.45**	ND	**0.05**	**0.82**	ND	ND	**1.4**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)												
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	PS-SS1, G9, Floor	PS-SS1, H8, N Floor	PS-SS2, H8, S Floor	PS-SS2, H9	PS-SS1, I9	PS-SS1, J9/J10, Floor	PS-SS1, K9, Floor	PS-SS1, K10, Floor	PS-SS1, L10, Floor	PS-SS1, M10, Floor	PS-SS1, N10, Floor	PS-SS1, N9, Floor	PS-SS1, O8, Floor
				SAMPLE DEPTH (FEET BGS)	1	1	1	1	1	1	1	1	1	1	1	1	1
				SAMPLE DATE	10/12/2004	10/12/2004	10/12/2004	10/20/2004	10/20/2004	10/20/2004	10/18/2004	10/18/2004	10/18/2004	10/18/2004	10/18/2004	10/18/2004	10/20/2004
PCBs																	
PCB, Total	1336-36-3	100	500		**2.6**	**2.3**	**4.7**	**18**	**2.9**	**3.3**	**0.94**	**1.9**	**2.6**	**1.2**	**5.6**	**1.6**	**2.9**

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	PPI-SS1-W (0 - 1)	PPI-SS2-W (0 - 1)	PPI-SS3-Floor	PPI-SS4-S (0 - 1)	PPI-SS6-E (0 - 1)	PPI-SS7-E (0 - 1)	PPI-SS8-E (0 - 1)	PPI-SS9-E (0 - 1)	PPI-SS10-Floor	PPI-SS11-W (0 - 1)	PPI-SS12-W (0 - 1)	PPI-SS13-W (0 - 1)	PPI-SS15-Floor	PPI-SS17-N (0 - 1)
				SAMPLE DEPTH (FEET BGS)	0 - 1	0 - 1	3	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	3	0 - 1	0 - 1	0 - 1	7	0 - 1
				SAMPLE DATE	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004	10/6/2004
PCBs																		
PCB, Total	1336-36-3	100	500		**0.58**	**0.27**	**4.3**	**3.8**	ND	ND	**3.5**	**0.32**	**0.41**	**6.9**	**1.95**	**3.1**	**0.48**	ND

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)					
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	PPI-SS24-W (0 - 1)	PP2-SS3-E (0 - 1)	PP2-SS23-E (0 - 1)	PP2-SS24-E (5 - 7)	PP2-SS26-W (0 - 1)	PP2-SS29-W (5 - 7)
				SAMPLE DEPTH (FEET BGS)	0 - 1	0 - 1	0 - 1	5 - 7	0 - 1	5 - 7
				SAMPLE DATE	10/8/2004	10/8/2004	10/18/2004	10/18/2004	10/18/2004	10/20/2004
PCBs										
PCB, Total	1336-36-3	100	500		ND	**0.37**	**0.17**	**0.07**	**0.028**	**27**

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S1	S2	S3	S4	S5	S6	S6	S6	S6-1E	S7	S7	S7	S7-1N	S7-2N
				SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'
				SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016
PCBs																		
PCB, Total	1336-36-3	100	500		**4.75**	**0.75**	**0.826**	**0.489**	**0.176**	**6.73**	NA	NA	NA	**18.2**	**426**	**55.2**	NA	**4.5**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S7-2W	S7-2SE	S8	S9	S9	S9	S9-1N	S9-1N	S9-1N	S9-1E	S9-1E	S9-1E	S9-2E	S9-2E
				SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'
				SAMPLE DATE	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016
PCBs																		
PCB, Total	1336-36-3	100	500		**5.61**	**0.686**	**2.72**	**9,060**	**5,430**	**513**	**525**	**2,090**	**661**	**15,200**	**5,360**	**1,570**	**7,180**	**3,720**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S9-2E	S9-1S	S9-1S	S9-1S	S9-2S	S9-2S	S9-2S	S9-S10	S9-S10	S9-S10	S10	S10	S10	S10-1N
				SAMPLE DEPTH (FEET BGS)	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5'-1.5	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'
				SAMPLE DATE	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016
PCBs																		
PCB, Total	1336-36-3	100	500		**9.59**	**223**	**2,030**	**470**	**102**	**1,200**	**90.4**	**6,270**	**6,640**	**6,840**	**24.8**	**11.2**	**7.28**	**8.48**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S10-2N	S10-1E	S10-2E	S11	S12	S13	S14	S14	S14	S14-1N	S14-2N	S14-1E	S14-1E	S14-1E
				SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'
				SAMPLE DATE	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016
PCBs																		
PCB, Total	1336-36-3	100	500		**3.1**	**0.985**	**0.325**	**0.581**	**5.79**	**5.98**	**99.6**	**0.185**	**0.063**	**1.57**	**2.33**	**24.2**	**15.6**	**0.555**

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
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069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S14-2E	S14-2E	S14-2E	S14-1W	S14-1W	S14-1W	S14-S15	S14-S15	S14-S15	S15	S15	S15	S15-1N	S15-2N
				SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'
				SAMPLE DATE	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016
PCBs																		
PCB, Total	1336-36-3	100	500		19	12.2	0.0349	151	22	0.716	878	616	791	423	56.1	0.0907	8.56	3.89

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)												
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S15-1E	S15-1E	S15-1E	S15-1W	S15-1W	S15-1W	S15-2W	S15-2W	S15-2W	S16	S17	S18	S19	S20
				SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'
				SAMPLE DATE	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016
PCBs																		
PCB, Total	1336-36-3	100	500		1,570	468	2.41	1,030	22.1	0.938	136	19.5	1.05	0.0801	0.83	0.0829	2.82	0.0263

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)												
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S21	S22	GT1	GT2	GT3	GT4	GT4	GT4	GT4-1E	GT4-1S	GT4-1W	GT5	SMF1	SMF2
				SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'
				SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016
PCBs																		
PCB, Total	1336-36-3	100	500		3.73	4.79	0.6	1.28	3.2	9.33	59.6	1.44	0.758	3.12	3.2	0.531	0.188	<0.0273

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)												
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SMF3	SMF4	SMF5	SMF6	SMF7	CTF1	CTF2	CTF3	CTF4	CTF5	CTF6	CTF7	CTF8
				SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'
				SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/29/2016	9/29/2016	9/28/2016	9/29/2016	9/29/2016	9/29/2016	9/29/2016
PCBs																	
PCB, Total	1336-36-3	100	500		<0.0292	<0.0331	<0.0327	<0.0310	<0.0310	0.0676	0.76	0.131	<0.0298	0.0329	<0.0295	0.0341	<0.0295

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
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069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)						
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	DUP-SOIL 1	DUP-SOIL 4	DUP-SOIL 5	DUP-SOIL 6	DUP-SOIL 1A	DUP-SOIL 2A	DUP SOIL 3A
				SAMPLE DEPTH (FEET BGS)	GT4 (0 - 0.5')	S9 (0-0.05)	S9 (0.5' - 1.5')	S9 (1.5' - 3.5')	S6-1E (0 - 0.5")	S71-SE (0 - 0.5")	GT4-1S (0 - 0.5")
				SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016
PCBs											
PCB, Total	1336-36-3	100	500		**3.9**	**11,200**	**5,820**	**1,050**	NA	**1.62**	**6.77**

PCBs - Polychlorinated Biphenyls.
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SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S7A	S7A	S9A	S9A	S9-2EA	S9-2EA	Duplicate Soil - 3	S9-1N-S9S10	S9-1N-S9S10	Duplicate Soil - 4	S9-1N-S9S10	S9-1S-S9-2S	S9-1S-S9-2S	S9-1S-S9-2S
				SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 7	4 - 6	6 - 8	4 - 6	6 - 8	S9-2EA (6-8)	4 - 6	6 - 8	S9-1N-S9S10 (6-8)	8 - 10	4 - 6	6 - 8	8 - 10
				SAMPLE DATE	5/9/2018	5/9/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/9/2018	5/9/2018	5/9/2018
PCBs																		
PCB, Total	1336-36-3	100	500		**0.067**	<0.030	**2.26**	**2.39**	**266**	**18.9**	**3.64**	**8,690**	**7,580**	**11,600**	**6,430**	**12.6**	**12.3**	**0.783**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	Duplicate Soil- 2	S9-1S-S9-2S	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-1E	S9-2S-2E	S9-2S-2E	S9-2S-2E	S9-2S-2E	S9-2S-2E
				SAMPLE DEPTH (FEET BGS)	S9-1S-S9-2S (8 - 10)	10.0 - 10.5	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8	8 - 10	10.0 - 11.5	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8
				SAMPLE DATE	5/9/2018	5/9/2018	5/9/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018
PCBs																		
PCB, Total	1336-36-3	100	500		**0.484**	<0.043	**14.2**	**1,050**	**7.88**	**64.7**	**9.08**	**0.298**	**0.082**	**16.3**	**3.81**	**1.21**	**2,400**	**184**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S9-2S-2E	S9-2S-2E	S9-2S-3E	S9-2S-3E	S9-2S-3E	S9-2S-3E	S9-2S-4E	S9-2S-4E	S9-2S-4E	S9-2S-4E	Duplicate Soil - 6	S9-3S	S9-3S	S9-3S
				SAMPLE DEPTH (FEET BGS)	8 - 10	10.0 - 10.5	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	S9-2S-4E (6 - 8)	0 - 0.5	0.5 - 2.0	2 - 4
				SAMPLE DATE	5/8/2018	5/8/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018
PCBs																		
PCB, Total	1336-36-3	100	500		**0.557**	<0.0404	**6.97**	**0.216**	**199**	**5.86**	**35.1**	**0.207**	**14.3**	**204**	**155**	**5.23**	**9.89**	**155**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S9-3S	S9-3S	S9-3E	S9-3E	S9-3E	S9-3E	S9-3E	S9-4E	S9-4E	S9-4E	S9-4E	S9-4E	S9-5E	S9-5E
				SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 7	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8	0 - 0.5	0.5 - 2.0
				SAMPLE DATE	5/9/2018	5/9/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018
PCBs																		
PCB, Total	1336-36-3	100	500		**396**	**28.6**	**6.82**	**3.22**	**49.7**	**0.043**	**96.4**	**0.53**	**1.66**	**6,450**	**1.29**	**0.123**	**3.03**	**3.69**

PCBs - Polychlorinated Biphenyls.
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		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S9-5E	S9-5E	S9-5E	S9-6E	S9-6E	S9-6E	S9-S10-1E	S9-S10-1E	S9-S10-1E	S9-S10-1E	S9-S10-1E	S9-S10-1E	S9-S10-2E	S9-S10-2E
				SAMPLE DEPTH (FEET BGS)	2 - 3.75	4 - 6	6 - 8	0 - 2	4 - 6	6 - 8	0 - 0.5	0.5 - 2.0	2 - 4	4 - 6	6 - 8	8 - 9	0 - 0.5	0.5 - 2.0
				SAMPLE DATE	5/8/2018	5/8/2018	5/8/2018	5/9/2018	5/9/2018	5/9/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018	5/8/2018
PCBs																		
PCB, Total	1336-36-3	100	500		256	8,740	18.1	0.136	1.39	0.335	44.2	348	1.52	0.127	0.04	172	7.31	205

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		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S9-S10-2E	S9-S10-2E	S9-S10-2E	S9-S10-3E	S9-S10-3E	S9-S10-3E	S9-S10-3E	S9-S10-4E	S9-S10-4E	S9-S10-4E	S14-S15A	S14-S15A	S14-S15A	S14-S15A-1N
				SAMPLE DEPTH (FEET BGS)	2 - 4	4 - 6	6 - 8	0 - 2	2 - 4	4 - 6	6 - 8	0 - 2	4 - 6	6 - 8	4 - 6	6 - 8	8 - 10	0 - 2
				SAMPLE DATE	5/8/2018	5/8/2018	5/8/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/7/2018	5/7/2018	5/7/2018	5/9/2018
PCBs																		
PCB, Total	1336-36-3	100	500		8.98	0.11	0.127	4.24	117	9.08	0.175	1.96	1.83	0.102	0.935	61.8	185	392

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		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S14-S15A-1N	S14-S15A-1N	S100	S100	Duplicate Soil - 7	S100	SF1	SF2	P1	P2	P3	P4	P5	P6
				SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 8	0 - 2	4 - 6	S100 (4 - 6)	6 - 8	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.25
				SAMPLE DATE	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018	5/9/2018
PCBs																		
PCB, Total	1336-36-3	100	500		7.26	7.55	534	67.8	105	0.309	0.385	6.11	2.87	6.89	0.246	0.372	0.407	0.834

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	P7	Duplicate Soil - 5	P8	BP1	BP1	DUP-SOIL #7	BP1	BP1	BP2	BP2	BP2	BP3	BP3	BP3
				SAMPLE DEPTH (FEET BGS)	0 - 0.5	P7 (0 - 0.5)	0 - 0.5	0 - 0.5	0.5 - 2	BP1 (0.5-2)	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 3.75	0 - 0.5	0.5 - 2	2 - 4
				SAMPLE DATE	5/9/2018	5/9/2018	5/9/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018
PCBs																		
PCB, Total	1336-36-3	100	500		0.856	1.68	1.84	1.12	18.5	21.3	1.55	30.4	12.3	13.0	0.0526	0.080	0.451	175

PCBs - Polychlorinated Biphenyls.
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ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	BP3	BP4	BP4	DUP-SOIL #8	BP4	S1001E	S1001E	S1001E	S1001E	S1002E	S1002E	S1002E	S1002E	S1002E
				SAMPLE DEPTH (FEET BGS)	4 - 5	0 - 0.5	0.5 - 2	BP4 (0.5-2)	2 - 4	0.66 - 1.75	2.5 - 4	4 - 6	6 - 7.5	0 - 0.5	0.5 - 2	2 - 4	4 - 5	6 - 8
				SAMPLE DATE	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/02/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018
PCBs																		
PCB, Total	1336-36-3	100	500		83.0	2.15	1.57	1.47	1.06	501	0.305	146	15.1	1.19	887	64.9	6.62	63.3

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	DUP-SOIL #2	S101N1E	S101N1E	S101N1E	S101N1E	S101N2E	S101N2E	S101N2E	S101N2E	S101N3E	S101N3E	S101N3E	DUP-SOIL #3	S101N3E
				SAMPLE DEPTH (FEET BGS)	S1002E (6-8)	0.75 - 2	2 - 4	4 - 6	6 - 8	0.75 - 2	2 - 4	4 - 6	6 - 7.5	0.75 - 2	2 - 4	4 - 6	S101N3E (4-6)	6 - 7
				SAMPLE DATE	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018
PCBs																		
PCB, Total	1336-36-3	100	500		17.5	489	42.7	0.819	1.53	31.2	78.2	0.046	<0.0289	203	3.21	5.33	121	0.386

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S103E	S103E	S103E	S103E	S104E	S104E	S104E	S104E	S105E	S105E	S105E	S105E	S141W1N	S141W1N
				SAMPLE DEPTH (FEET BGS)	0.75 - 2	2 - 4	4 - 6	6 - 7	0.75 - 2	2 - 4	4 - 6	6 - 7	0.75 - 2	2 - 4	4 - 6	6 - 7	0 - 0.5	0.5 - 2
				SAMPLE DATE	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	8/2/2018	8/2/2018
PCBs																		
PCB, Total	1336-36-3	100	500		0.664	7.34	14.2	0.356	11,600	2,280	2.65	1.99	213	0.788	0.344	1.87	6.65	0.0725

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)												
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S141W1N	S141W1N	S141W2N	S141W2N	S141W2N	S141W2N	S14S152N	S14S152N	S14S152N	S14S152N	S81E	S81E	S81E	S82E
				SAMPLE DEPTH (FEET BGS)	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0.66 - 2	2 - 4	4 - 6	0.66 - 2
				SAMPLE DATE	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	8/2/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018
PCBs																		
PCB, Total	1336-36-3	100	500		<0.0282	0.123	9.68	5.20	0.277	0.081	6.18	11,600	112	5.57	1.70	1.40	<0.0283	486

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S82E	S82E	S82E	S83E	S83E	S83E	S83ES	S83ES	DUP SOIL #1	S83ES	S83ES	S83ES	S84E	S84E
				SAMPLE DEPTH (FEET BGS)	2 - 4	4 - 6	6 - 7	0.66 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	S83ES (0.5-2)	2 - 4	4 - 6	6 - 7.5	0 - 0.5	0.5 - 2
				SAMPLE DATE	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	07/31/2018	08/01/2018	08/01/2018
PCBs																		
PCB, Total	1336-36-3	100	500		**13.2**	**4.40**	**0.484**	**32.2**	**0.0367**	**3.99**	**0.869**	**0.0342**	**0.0661**	**8.83**	**3.75**	**4.79**	**2.48**	**8.66**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S84E	S84E	S84E	S85E	S85E	S85E	S85E	S92S5E	S92S5E	S92S5E	S92S5E	S93S1E	S93S1E	S93S1E
				SAMPLE DEPTH (FEET BGS)	2 - 4	4 - 6	6 - 7.5	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0.66 - 2	2 - 4	4 - 6	6 - 7	0.66 - 2	2 - 4	4 - 6
				SAMPLE DATE	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	07/31/2018	07/31/2018	07/31/2018
PCBs																		
PCB, Total	1336-36-3	100	500		**7.04**	**0.856**	**0.509**	**1.30**	**0.553**	**0.620**	**28.2**	**72.3**	**0.454**	**27.2**	**14.5**	**437**	**113**	**1.99**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	S93S2E	S93S2E	S93S2E	SBP1	SBP1	SBP1	SBP2	SBP2	SBP2	SBP3	SBP3	SBP3	SBP3	SBP3
				SAMPLE DEPTH (FEET BGS)	0.5 - 2	2 - 4	4 - 6	1 - 2	2 - 4	4 - 6	1 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	4 - 6	6 - 7.5
				SAMPLE DATE	07/31/2018	07/31/2018	07/31/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018
PCBs																		
PCB, Total	1336-36-3	100	500		**697**	**90.8**	**511**	**0.828**	**1.86**	**33.5**	**3.88**	**0.183**	**1.50**	**0.613**	**0.034**	**16.9**	**18.1**	**4.56**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SBP4	SBP4	SBP4	SBP4	SBP5	SBP5	SBP5	SBP5	SBP6	SBP6	SBP6	DUP-SOIL #4	SBP6	SBP6
				SAMPLE DEPTH (FEET BGS)	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	SBP6 (2-4)	4 - 6	6 - 7
				SAMPLE DATE	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	8/1/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018
PCBs																		
PCB, Total	1336-36-3	100	500		**0.336**	**10.2**	**0.332**	**2.26**	**0.131**	**0.418**	**0.733**	**0.855**	**28**	**161**	**14.8**	**10.2**	**0.281**	**0.394**

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 1
SUMMARY OF PCB ANALYSIS RESULTS - SOIL
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SBP7	SBP7	SBP7	SBP7	SBP8	SBP8	DUP-SOIL #5	SBP8	SBP8	SBP9	SBP9	SBP9	SBP10	SBP10
				SAMPLE DEPTH (FEET BGS)	0 - 0.5	0.5 - 2	2 - 4	4 - 6	0 - 0.5	0.5 - 2	SBP8 (0.5-2)	2 - 4	4 - 6	0 - 0.5	0.5 - 2	2 - 4	0.75 - 2	2 - 4
				SAMPLE DATE	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018	08/01/2018
PCBs																		
PCB, Total	1336-36-3	100	500		**1.77**	**11.8**	**0.244**	**0.379**	**2.16**	**70.6**	**60.1**	**4.97**	**14.6**	**26.8**	**11.8**	**1.55**	**0.139**	**14.8**

ANALYTE	Chemical Abstract Service Number	PRINCIPAL THREAT WASTE THRESHOLD (mg/kg)		SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)	
		RESIDENTIAL	INDUSTRIAL	SAMPLE LOCATION	SBP10	SBP10
				SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 7
				SAMPLE DATE	08/01/2018	6/7/2018
PCBs						
PCB, Total	1336-36-3	100	500		**49.2**	**0.39**

PCBs - Polychlorinated Biphenyls.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
Refer to the analytical report for the full list of PCB analytes.

TABLE 2
SUMMARY OF PAH ANALYSIS RESULTS - SOIL (2016/2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		SAMPLE LOCATION	S1	S2	S3	S4	S5	S6	S6	S6	S6-1E	S7	S7-1N	S7-1W	S7-1W	S7-1W
		SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'
		SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016
PAHs																
1-Methylnaphthalene	90-12-0		<0.0049	**0.0085**	<0.0048	<0.0043	<0.0044	<0.393	<0.0047	<0.0046	NA	<0.0880	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6		<0.0061	**0.0126**	<0.0060	<0.0054	<0.0055	<0.489	<0.0058	<0.0057	NA	<0.109	NA	NA	NA	NA
Acenaphthene	83-32-9		<0.0048	<0.0045	<0.0046	<0.0042	**0.0061**	**0.561**	<0.0045	<0.0044	<0.0910	**0.113**	<0.0041	**0.225**	<0.0043	<0.0044
Acenaphthylene	208-96-8		<0.0040	<0.0038	<0.0039	<0.0036	**0.0062**	<0.322	<0.0038	<0.0037	<0.0773	<0.0721	<0.0035	<0.0726	<0.0037	<0.0037
Anthracene	120-12-7		<0.0070	**0.0079**	**0.0166**	<0.0062	**0.0306**	**2.64**	**0.0154**	<0.0065	**0.188**	**0.375**	<0.0060	**0.734**	<0.0063	<0.0064
Benzo(a)anthracene	56-55-3		**0.0265**	**0.0617**	**0.147**	<0.0034	**0.241**	**8.81**	**0.0854**	**0.0086**	**1.43**	**1.73**	<0.0033	**4.41**	**0.0136**	<0.0036
Benzo(a)pyrene	50-32-8		**0.0454**	**0.0924**	**0.237**	<0.0027	**0.452**	**10.4**	**0.123**	**0.009**	**1.81**	**2.22**	<0.0026	**5.59**	**0.0195**	<0.0028
Benzo(b)fluoranthene	205-99-2		**0.0627**	**0.135**	**0.361**	<0.0031	**0.795**	**17.9**	**0.177**	**0.0133**	**2.84**	**3.18**	<0.0030	**10.1**	**0.0612**	**0.0033**
Benzo(g,h,i)perylene	191-24-2		**0.0372**	**0.0752**	**0.149**	<0.0022	**0.414**	**3.09**	**0.103**	**0.0141**	**1.85**	**1.71**	<0.0021	**2.58**	**0.0348**	<0.0023
Benzo(k)fluoranthene	207-08-9		**0.0294**	**0.0607**	**0.146**	<0.0027	**0.273**	**8.13**	**0.0708**	**0.0063**	**1.15**	**1.48**	<0.0026	**2.92**	**0.0241**	<0.0028
Chrysene	218-01-9		**0.0485**	**0.107**	**0.193**	<0.0036	**0.483**	**12.5**	**0.135**	**0.0146**	**1.97**	**2.93**	<0.0035	**5.31**	**0.0402**	<0.0038
Dibenz(a,h)anthracene	53-70-3		**0.0063**	**0.0145**	**0.035**	<0.0024	**0.081**	**0.748**	**0.0225**	<0.0025	**0.28**	**0.375**	<0.0023	**0.75**	**0.0069**	<0.0025
Fluoranthene	206-44-0		**0.0817**	**0.176**	**0.331**	<0.0056	**0.793**	**26.9**	**0.228**	**0.0148**	**3.97**	**6.32**	<0.0055	**13.3**	**0.0703**	<0.0059
Fluorene	86-73-7		<0.0051	<0.0047	<0.0050	<0.0045	**0.0083**	**0.74**	<0.0048	<0.0047	<0.0970	**0.149**	<0.0043	**0.277**	<0.0046	<0.0047
Indeno(1,2,3-cd)pyrene	193-39-5		**0.0308**	**0.0601**	**0.139**	<0.0024	**0.359**	**3.11**	**0.083**	**0.0061**	**1.51**	**1.4**	<0.0023	**2.43**	**0.0263**	<0.0025
Naphthalene	91-20-3		<0.0103	**0.0108**	<0.0101	<0.0091	<0.0093	<0.824	<0.0098	<0.0096	<0.197	<0.184	<0.0088	<0.186	<0.0093	<0.0095
Phenanthrene	85-01-8		**0.0277**	**0.0715**	**0.102**	<0.0126	**0.247**	**14.3**	**0.0798**	<0.0132	**1.46**	**3.21**	<0.0122	**5.94**	**0.0155**	<0.0131
Pyrene	129-00-0		**0.0622**	**0.137**	**0.273**	<0.0049	**0.6**	**25**	**0.175**	**0.0131**	**2.74**	**4.77**	<0.0047	**9.11**	**0.0332**	<0.0051

Only analytes measured at concentrations above their respective Laboratory Reporting Limit in at least one sample are listed.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
PAHs - Polynuclear Aromatic Hydrocarbons

TABLE 2
SUMMARY OF PAH ANALYSIS RESULTS - SOIL (2016/2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		SAMPLE LOCATION	S7-1SE	S7-1SE	S8	S9	S10	S11	S12	S13	S14	S16	S17	S18	S19	S20
		SAMPLE DEPTH (FEET BGS)	0 - 0.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'
		SAMPLE DATE	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016
PAHs																
1-Methylnaphthalene	90-12-0		NA	NA	<0.0043	<0.0444	<0.0360	<0.0044	<0.0043	<0.0046	<0.0102	<0.0044	<0.0043	<0.0042	<0.0041	<0.0042
2-Methylnaphthalene	91-57-6		NA	NA	<0.0053	<0.0553	<0.0447	<0.0055	<0.0054	<0.0057	<0.0126	<0.0055	<0.0054	<0.0053	**0.0055**	<0.0052
Acenaphthene	83-32-9		**0.165**	<0.0043	<0.0041	<0.0429	**0.042**	<0.0043	<0.0042	<0.0044	**0.0113**	<0.0043	<0.0042	<0.0041	<0.0040	<0.0041
Acenaphthylene	208-96-8		<0.0737	<0.0037	<0.0035	<0.0364	<0.0295	<0.0036	<0.0035	<0.0038	<0.0083	<0.0036	<0.0036	<0.0035	<0.0034	<0.0035
Anthracene	120-12-7		**0.743**	**0.0068**	<0.0061	<0.0631	**0.179**	<0.0063	<0.0061	<0.0065	**0.052**	<0.0063	<0.0062	<0.0060	<0.0059	<0.0060
Benzo(a)anthracene	56-55-3		**3.02**	**0.0314**	<0.0034	<0.0350	**0.783**	<0.0035	<0.0034	<0.0036	**0.271**	**0.0038**	<0.0034	<0.0033	**0.0057**	<0.0033
Benzo(a)pyrene	50-32-8		**3.51**	**0.039**	<0.0027	<0.0277	**0.965**	<0.0028	<0.0027	<0.0029	**0.377**	<0.0028	<0.0027	**0.0033**	**0.0038**	<0.0026
Benzo(b)fluoranthene	205-99-2		**5.78**	**0.0843**	<0.0030	<0.0312	**1.39**	<0.0031	<0.0030	<0.0032	**0.702**	<0.0031	<0.0030	**0.0031**	**0.0068**	<0.0030
Benzo(g,h,i)perylene	191-24-2		**1.73**	**0.0442**	<0.0022	<0.0224	**0.725**	<0.0022	<0.0022	<0.0023	**0.115**	**0.003**	<0.0022	**0.0024**	**0.0041**	<0.0021
Benzo(k)fluoranthene	207-08-9		**1.91**	**0.0374**	<0.0027	<0.0277	**0.563**	<0.0027	<0.0027	<0.0029	**0.285**	<0.0028	<0.0027	**0.0029**	<0.0026	<0.0026
Chrysene	218-01-9		**3.18**	**0.0713**	<0.0036	<0.0372	**1.15**	<0.0037	<0.0036	<0.0039	**0.407**	<0.0037	<0.0036	**0.0038**	**0.01**	<0.0035
Dibenz(a,h)anthracene	53-70-3		**0.456**	**0.0101**	<0.0024	<0.0247	**0.147**	<0.0025	<0.0024	<0.0026	**0.0286**	<0.0025	<0.0024	<0.0023	<0.0023	<0.0023
Fluoranthene	206-44-0		**7.87**	**0.118**	<0.0055	<0.0575	**2.27**	<0.0057	<0.0056	<0.0060	**0.746**	<0.0057	<0.0056	**0.0072**	**0.0222**	<0.0055
Fluorene	86-73-7		**0.196**	<0.0046	<0.0044	<0.0457	**0.047**	<0.0045	<0.0044	<0.0047	**0.0131**	<0.0045	<0.0045	<0.0043	<0.0043	<0.0043
Indeno(1,2,3-cd)pyrene	193-39-5		**1.51**	**0.0385**	<0.0023	<0.0243	**0.614**	<0.0024	<0.0024	<0.0025	**0.115**	<0.0024	<0.0024	<0.0023	<0.0023	<0.0023
Naphthalene	91-20-3		<0.188	<0.0094	<0.0089	<0.0930	<0.0753	<0.0092	<0.0090	<0.0097	<0.0213	<0.0092	<0.0091	<0.0088	<0.0087	<0.0088
Phenanthrene	85-01-8		**3.65**	**0.0496**	<0.0124	<0.129	**0.953**	<0.0128	<0.0125	<0.0134	**0.308**	<0.0128	<0.0126	<0.0122	**0.0259**	<0.0122
Pyrene	129-00-0		**5.8**	**0.0835**	<0.0048	<0.0498	**1.75**	<0.0049	<0.0048	<0.0052	**0.699**	<0.0049	<0.0049	**0.0059**	**0.0135**	<0.0047

Only analytes measured at concentrations above their respective Laboratory Reporting Limit in at least one sample are listed.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
PAHs - Polynuclear Aromatic Hydrocarbons

TABLE 2
SUMMARY OF PAH ANALYSIS RESULTS - SOIL (2016/2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		SAMPLE LOCATION	S21	S22	GT1	GT2	GT2	GT2	GT2-1N	GT2-1NE	GT2-1E	GT2-1E	GT2-1E	GT2-1S	GT2-1S	GT2-1S
		SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'
		SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016
PAHs																
1-Methylnaphthalene	90-12-0		<0.0043	<0.0042	<0.0086	<0.478	<0.0192	<0.0048	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6		<0.0053	<0.0052	<0.0107	<0.594	<0.0238	<0.0059	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9		<0.0041	<0.0040	**0.0361**	**0.896**	<0.0185	<0.0046	**0.0795**	**0.0161**	**0.991**	**0.0084**	<0.0046	**2.27**	**0.6**	**0.56**
Acenaphthylene	208-96-8		<0.0035	<0.0034	<0.0070	<0.391	<0.0157	<0.0039	<0.0138	<0.0035	<0.382	<0.0039	<0.0039	<0.868	<0.379	<0.417
Anthracene	120-12-7		<0.0061	<0.0060	**0.0696**	**3.25**	**0.0551**	<0.0068	**0.149**	**0.0302**	**2.86**	**0.0301**	<0.0068	**8.01**	**2.86**	<0.723
Benzo(a)anthracene	56-55-3		<0.0034	<0.0033	**0.236**	**21.8**	**0.511**	<0.0038	**0.0688**	**0.0155**	**13.5**	**0.164**	**0.0094**	**65.1**	**20.7**	**14**
Benzo(a)pyrene	50-32-8		<0.0027	<0.0026	**0.264**	**30.2**	**0.761**	<0.0030	**0.0443**	**0.0217**	**15.4**	**0.192**	**0.0083**	**82.6**	**29.7**	**17.6**
Benzo(b)fluoranthene	205-99-2		<0.0030	**0.0029**	**0.42**	**47.4**	**1.06**	<0.0033	**0.0865**	**0.0411**	**27.9**	**0.328**	**0.0203**	**160**	**51.7**	**29.2**
Benzo(g,h,i)perylene	191-24-2		<0.0022	**0.0029**	**0.16**	**16.4**	**0.432**	**0.0027**	**0.033**	**0.02**	**8.96**	**0.176**	**0.0112**	**47.6**	**27.6**	**14.6**
Benzo(k)fluoranthene	207-08-9		<0.0027	<0.0026	**0.175**	**18.5**	**0.454**	<0.0030	**0.0224**	**0.0086**	**9.17**	**0.124**	**0.0102**	**49.5**	**17.6**	**11.7**
Chrysene	218-01-9		<0.0036	<0.0035	**0.35**	**31.7**	**0.75**	<0.0040	**0.205**	**0.0735**	**17**	**0.245**	**0.0171**	**80.9**	**34.5**	**22**
Dibenz(a,h)anthracene	53-70-3		<0.0024	<0.0023	**0.0464**	**4.92**	**0.122**	<0.0026	**0.0097**	**0.0066**	**2.53**	**0.0433**	**0.0027**	**14.8**	**5.64**	**3.82**
Fluoranthene	206-44-0		<0.0056	<0.0054	**0.701**	**61.2**	**1.02**	<0.0062	**0.284**	**0.0482**	**44.8**	**0.462**	**0.0228**	**186**	**66**	**44.4**
Fluorene	86-73-7		<0.0044	<0.0043	**0.0235**	**1.22**	<0.0197	<0.0049	**0.0943**	**0.0221**	**1.38**	**0.0116**	<0.0049	**2.91**	**0.81**	**0.76**
Indeno(1,2,3-cd)pyrene	193-39-5		<0.0023	<0.0023	**0.149**	**16.3**	**0.417**	<0.0026	<0.0092	**0.0035**	**8.02**	**0.153**	**0.0094**	**47.7**	**22.2**	**12.7**
Naphthalene	91-20-3		<0.0090	<0.0088	<0.0179	<1.00	<0.0401	<0.0100	**0.0786**	**0.0197**	<0.977	<0.0100	<0.0100	<2.22	<0.969	<1.07
Phenanthrene	85-01-8		<0.0124	<0.0121	**0.406**	**25.2**	**0.21**	<0.0138	**0.784**	**0.15**	**24.8**	**0.222**	<0.0138	**72.8**	**22.9**	**18.6**
Pyrene	129-00-0		<0.0048	<0.0047	**0.585**	**46.6**	**0.813**	<0.0053	**0.156**	**0.0334**	**31.4**	**0.317**	**0.0166**	**123**	**43.5**	**31.1**

Only analytes measured at concentrations above their respective Laboratory Reporting Limit in at least one sample are listed.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
PAHs - Polynuclear Aromatic Hydrocarbons

TABLE 2
SUMMARY OF PAH ANALYSIS RESULTS - SOIL (2016/2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		SAMPLE LOCATION	GT21SA	GT21SA	GT21SA	GT2-1SW	GT2-1W	GT3	GT3	GT3	GT3-1E	GT3-1E	GT3-1E	GT3-1W	GT4	GT4
		SAMPLE DEPTH (FEET BGS)	4 - 6	6 - 8	8 - 10	0 - 0.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'
		SAMPLE DATE	5/7/2018	5/7/2018	5/7/2018	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016
PAHs																
1-Methylnaphthalene	90-12-0		<0.0053	<0.0053	**0.0057**	NA	NA	<0.431	<0.0058	<0.0050	NA	NA	NA	NA	<0.387	<0.0047
2-Methylnaphthalene	91-57-6		<0.0066	<0.0066	<0.0061	NA	NA	<0.536	<0.0073	<0.0062	NA	NA	NA	NA	<0.482	<0.0059
Acenaphthene	83-32-9		<0.0051	<0.0051	<0.0047	<0.0042	<0.0041	<0.416	<0.0056	<0.0048	<0.0046	<0.0045	<0.0046	**0.025**	<0.374	<0.0046
Acenaphthylene	208-96-8		<0.0043	<0.0043	<0.0040	<0.0036	<0.0035	<0.353	<0.0048	**0.0119**	<0.0039	<0.0038	<0.0039	<0.0137	<0.317	**0.0042**
Anthracene	120-12-7		<0.0075	<0.0075	<0.0070	<0.0062	<0.0060	**1.57**	<0.0083	**0.0091**	<0.0068	<0.0066	<0.0068	**0.0432**	**1.2**	**0.0078**
Benzo(a)anthracene	56-55-3		**0.0492**	<0.0042	<0.0039	**0.011**	**0.025**	**11.7**	**0.0215**	**0.0242**	**0.0152**	**0.0269**	**0.0152**	**0.0945**	**8.98**	**0.044**
Benzo(a)pyrene	50-32-8		**0.0708**	<0.0033	<0.0031	**0.0177**	**0.0365**	**14.6**	**0.0271**	**0.0326**	**0.0138**	**0.0297**	**0.0138**	**0.1**	**11.2**	**0.0664**
Benzo(b)fluoranthene	205-99-2		**0.119**	<0.0037	<0.0034	**0.032**	**0.0632**	**18.9**	**0.0385**	**0.0494**	**0.0364**	**0.0801**	**0.0364**	**0.18**	**13.9**	**0.101**
Benzo(g,h,i)perylene	191-24-2		**0.0653**	<0.0027	**0.0032**	**0.0359**	**0.028**	**11**	**0.0188**	**0.0231**	**0.0207**	**0.0419**	**0.0207**	**0.0494**	**8.22**	**0.0448**
Benzo(k)fluoranthene	207-08-9		**0.0427**	<0.0033	<0.0031	**0.0142**	**0.0246**	**14.3**	**0.0197**	**0.0257**	**0.0146**	**0.0267**	**0.0146**	**0.0583**	**10.8**	**0.0437**
Chrysene	218-01-9		**0.0798**	<0.0044	<0.0041	**0.019**	**0.0366**	**17.4**	**0.0328**	**0.0411**	**0.0316**	**0.0566**	**0.0316**	**0.128**	**13.4**	**0.0819**
Dibenz(a,h)anthracene	53-70-3		**0.0139**	<0.0029	<0.0027	**0.0039**	**0.0049**	**3.84**	**0.0046**	**0.0057**	**0.0039**	**0.0089**	**0.0039**	**0.0138**	**2.89**	**0.0108**
Fluoranthene	206-44-0		**0.135**	<0.0068	<0.0064	**0.0188**	**0.0414**	**32.8**	**0.0473**	**0.0659**	**0.0382**	**0.0814**	**0.0382**	**0.276**	**26.1**	**0.103**
Fluorene	86-73-7		<0.0054	<0.0054	<0.0050	<0.0045	<0.0044	**0.507**	<0.0060	<0.0051	<0.0049	<0.0048	<0.0049	<0.0172	**0.495**	<0.0049
Indeno(1,2,3-cd)pyrene	193-39-5		**0.052**	<0.0029	<0.0027	**0.0247**	**0.0209**	**10.4**	**0.015**	**0.0196**	**0.0152**	**0.0337**	**0.0152**	**0.0412**	**7.73**	**0.0376**
Naphthalene	91-20-3		<0.0110	<0.1110	<0.0103	<0.0092	<0.0089	<0.902	<0.0122	<0.0104	<0.0100	<0.0098	<0.0100	<0.0350	<0.811	<0.0099
Phenanthrene	85-01-8		**0.0412**	<0.0153	<0.0142	<0.0127	**0.0159**	**13.5**	<0.0169	**0.0279**	**0.0192**	**0.0311**	**0.0192**	**0.228**	**11.8**	**0.0386**
Pyrene	129-00-0		**0.0943**	<0.0059	<0.0055	**0.0131**	**0.0404**	**22.6**	**0.0379**	**0.0456**	**0.0289**	**0.0585**	**0.0289**	**0.203**	**17.8**	**0.0865**

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PAHs - Polynuclear Aromatic Hydrocarbons

TABLE 2
SUMMARY OF PAH ANALYSIS RESULTS - SOIL (2016/2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		SAMPLE LOCATION	GT4	GT4-1E	GT4-1S	GT4-1S	GT4-1S	GT4-1W	GT5	GT5	GT5	GT5-1N	GT5-1E	GT5-1S	GT5-1W	SMF1
		SAMPLE DEPTH (FEET BGS)	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0.5' - 1.5'	1.5' - 3.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'
		SAMPLE DATE	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016	9/28/2016	9/28/2016	11/10/2016	11/10/2016	11/10/2016	11/10/2016	9/28/2016
PAHs																
1-Methylnaphthalene	90-12-0		<0.0390	NA	NA	NA	NA	NA	<0.0918	<0.0093	<0.0049	NA	NA	NA	NA	<0.0047
2-Methylnaphthalene	91-57-6		<0.0485	NA	NA	NA	NA	NA	<0.114	<0.0116	<0.0061	NA	NA	NA	NA	<0.0059
Acenaphthene	83-32-9		<0.0376	<0.0231	**0.724**	<0.0046	<0.0046	**0.0115**	**0.142**	<0.0090	<0.0047	<0.0897	<0.0177	**0.0126**	<0.0044	**0.0049**
Acenaphthylene	208-96-8		<0.0320	<0.0196	<0.307	<0.0039	<0.0039	<0.0035	**0.0895**	<0.0076	<0.0040	<0.0762	<0.0150	<0.0035	<0.0037	<0.0039
Anthracene	120-12-7		**0.0918**	**0.101**	**2.57**	**0.0087**	<0.0068	**0.016**	**0.652**	**0.0466**	**0.009**	**0.22**	**0.0563**	**0.0207**	<0.0064	**0.0093**
Benzo(a)anthracene	56-55-3		**0.63**	**0.746**	**18.4**	**0.0466**	**0.012**	**0.0531**	**5.41**	**0.35**	**0.0272**	**1.27**	**0.388**	**0.0264**	**0.0188**	**0.0137**
Benzo(a)pyrene	50-32-8		**0.948**	**1.06**	**23.3**	**0.0623**	**0.0167**	**0.0826**	**8.5**	**0.584**	**0.0322**	**1.96**	**0.594**	**0.0252**	**0.0209**	**0.0105**
Benzo(b)fluoranthene	205-99-2		**1.43**	**1.87**	**45.3**	**0.102**	**0.0314**	**0.14**	**9.48**	**0.849**	**0.0427**	**4.28**	**1.11**	**0.043**	**0.0426**	**0.0155**
Benzo(g,h,i)perylene	191-24-2		**0.654**	**0.512**	**11.4**	**0.0361**	**0.0141**	**0.036**	**7.52**	**0.519**	**0.0226**	**1.32**	**0.326**	**0.0132**	**0.0126**	**0.0091**
Benzo(k)fluoranthene	207-08-9		**0.585**	**0.621**	**14.7**	**0.0481**	**0.0135**	**0.0446**	**8.26**	**0.377**	**0.0177**	**1.54**	**0.38**	**0.0146**	**0.0172**	**0.0055**
Chrysene	218-01-9		**1.02**	**0.964**	**22.6**	**0.0846**	**0.0252**	**0.0855**	**8.58**	**0.608**	**0.0413**	**2.15**	**0.517**	**0.0402**	**0.0262**	**0.0189**
Dibenz(a,h)anthracene	53-70-3		**0.161**	**0.151**	**3.49**	**0.01**	**0.0031**	**0.0108**	**2.84**	**0.12**	**0.0055**	**0.315**	**0.0919**	**0.0036**	**0.0035**	<0.0026
Fluoranthene	206-44-0		**1.76**	**1.78**	**51.9**	**0.14**	**0.0316**	**0.104**	**13.3**	**0.96**	**0.0524**	**3.8**	**1.0**	**0.0699**	**0.0463**	**0.05**
Fluorene	86-73-7		<0.0401	<0.0246	**0.906**	<0.0049	<0.0049	**0.0083**	**0.205**	**0.0107**	<0.0051	<0.0957	<0.0189	**0.0075**	<0.0047	**0.0052**
Indeno(1,2,3-cd)pyrene	193-39-5		**0.604**	**0.501**	**10.8**	**0.0299**	**0.0099**	**0.0297**	**6.65**	**0.446**	**0.0178**	**1.16**	**0.301**	**0.0084**	**0.0102**	**0.0061**
Naphthalene	91-20-3		<0.0817	<0.0501	<0.784	<0.0100	<0.0100	**0.0097**	<0.192	<0.0195	<0.0103	<0.195	<0.0384	<0.0089	<0.0095	<0.0099
Phenanthrene	85-01-8		**0.629**	**0.55**	**21.7**	**0.0595**	**0.0141**	**0.0992**	**4.78**	**0.285**	**0.027**	**1.36**	**0.37**	**0.109**	<0.0131	**0.0689**
Pyrene	129-00-0		**1.32**	**1.32**	**35.9**	**0.0906**	**0.0226**	**0.0819**	**10**	**0.699**	**0.0496**	**2.85**	**0.721**	**0.0511**	**0.0375**	**0.0341**

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PAHs - Polynuclear Aromatic Hydrocarbons

TABLE 2
SUMMARY OF PAH ANALYSIS RESULTS - SOIL (2016/2018)
TECUMSEH SITE
SHEBOYGAN FALLS, WI
069638.00.051

ANALYTE	Chemical Abstract Service Number	SAMPLE INFORMATION	CHEMICAL ANALYSES RESULTS (mg/kg)													
		SAMPLE LOCATION	SMF2	SMF3	SMF4	SMF5	SMF6	SMF7	CTF1	CTF2	CTF3	CTF4	CTF5	CTF6	CTF7	CTF8
		SAMPLE DEPTH (FEET BGS)	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'	0 - 0.5'
		SAMPLE DATE	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/28/2016	9/29/2016	9/29/2016	9/28/2016	9/29/2016	9/29/2016	9/29/2016	9/29/2016
PAHs																
1-Methylnaphthalene	90-12-0		<0.0044	<0.0047	<0.0053	<0.0053	<0.0050	<0.0050	<0.0043	<0.0048	<0.0064	<0.0048	<0.0049	<0.0047	<0.0049	<0.0048
2-Methylnaphthalene	91-57-6		<0.0055	<0.0058	<0.0066	<0.0065	<0.0062	<0.0062	<0.0053	<0.0060	<0.0080	<0.0060	<0.0061	<0.0059	<0.0060	<0.0059
Acenaphthene	83-32-9		<0.0042	<0.0045	<0.0051	<0.0051	<0.0048	<0.0048	<0.0041	<0.0046	<0.0062	<0.0046	<0.0047	<0.0046	<0.0047	<0.0046
Acenaphthylene	208-96-8		<0.0036	<0.0038	<0.0044	<0.0043	<0.0041	<0.0041	<0.0035	<0.0039	<0.0053	<0.0039	<0.0040	<0.0039	<0.0040	<0.0039
Anthracene	120-12-7		<0.0062	<0.0067	<0.0076	<0.0075	<0.0071	<0.0071	<0.0060	<0.0068	<0.0092	<0.0068	<0.0070	<0.0067	<0.0069	<0.0067
Benzo(a)anthracene	56-55-3		**0.047**	**0.039**	**0.0112**	**0.0268**	**0.0332**	**0.0182**	**0.0049**	**0.0116**	**0.0103**	**0.0113**	<0.0039	<0.0037	<0.0038	<0.0037
Benzo(a)pyrene	50-32-8		**0.073**	**0.0693**	**0.016**	**0.0388**	**0.0558**	**0.0297**	**0.006**	**0.0176**	**0.0143**	**0.0144**	**0.0045**	<0.0030	<0.0030	**0.0032**
Benzo(b)fluoranthene	205-99-2		**0.0904**	**0.0868**	**0.0163**	**0.0393**	**0.0682**	**0.0329**	**0.0051**	**0.0225**	**0.016**	**0.0167**	**0.0061**	<0.0033	<0.0034	**0.0047**
Benzo(g,h,i)perylene	191-24-2		**0.06**	**0.0583**	**0.0125**	**0.0311**	**0.0479**	**0.0253**	**0.0044**	**0.0147**	**0.0105**	**0.0121**	**0.0041**	<0.0024	<0.0025	**0.0032**
Benzo(k)fluoranthene	207-08-9		**0.0688**	**0.0606**	**0.0185**	**0.0452**	**0.0542**	**0.0365**	**0.0069**	**0.0177**	**0.0126**	**0.0134**	**0.005**	<0.0030	<0.0030	**0.0043**
Chrysene	218-01-9		**0.0771**	**0.0687**	**0.0203**	**0.0449**	**0.0605**	**0.0363**	**0.007**	**0.0207**	**0.0158**	**0.0167**	**0.0053**	<0.0040	<0.0041	<0.0040
Dibenz(a,h)anthracene	53-70-3		**0.0192**	**0.0177**	**0.0039**	**0.0098**	**0.0135**	**0.008**	<0.0024	**0.0046**	<0.0036	**0.0039**	<0.0027	<0.0026	<0.0027	<0.0026
Fluoranthene	206-44-0		**0.128**	**0.108**	**0.0347**	**0.0773**	**0.1**	**0.0608**	**0.0079**	**0.0338**	**0.0249**	**0.0259**	**0.0064**	<0.0061	<0.0063	<0.0062
Fluorene	86-73-7		<0.0045	<0.0048	<0.0055	<0.0054	<0.0051	<0.0051	<0.0044	<0.0049	<0.0066	<0.0049	<0.0050	<0.0049	<0.0050	<0.0049
Indeno(1,2,3-cd)pyrene	193-39-5		**0.0536**	**0.051**	**0.0114**	**0.0278**	**0.0414**	**0.0219**	**0.0038**	**0.0123**	**0.0094**	**0.0094**	**0.0035**	<0.0026	<0.0027	**0.0029**
Naphthalene	91-20-3		<0.0092	<0.0098	<0.0112	<0.0110	<0.0104	<0.0104	<0.0089	<0.0100	<0.0135	<0.0100	<0.0103	<0.0099	<0.0102	<0.0100
Phenanthrene	85-01-8		**0.0356**	**0.0347**	<0.0154	**0.0266**	**0.03**	**0.0217**	<0.0123	<0.0139	<0.0187	<0.0139	<0.0142	<0.0137	<0.0141	<0.0138
Pyrene	129-00-0		**0.0897**	**0.0791**	**0.0257**	**0.0549**	**0.0724**	**0.0423**	**0.0069**	**0.0241**	**0.019**	**0.0193**	<0.0055	<0.0053	<0.0055	<0.0053

Only analytes measured at concentrations above their respective Laboratory Reporting Limit in at least one sample are listed.
Results above RL are shown in **bold**. Results exceeding one or more criteria are shaded, as are the criteria which were exceeded.
PAHs - Polynuclear Aromatic Hydrocarbons

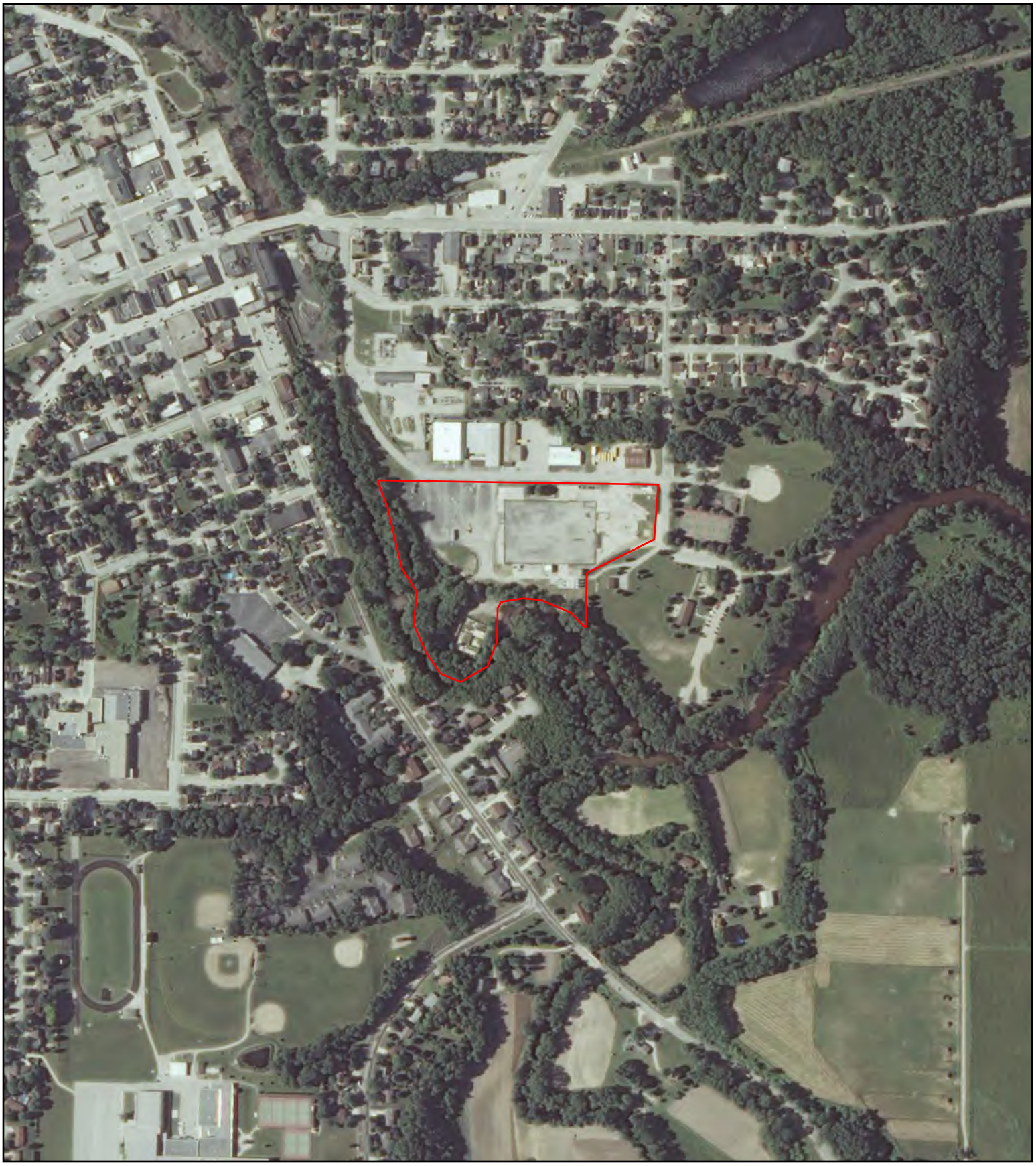
ATTACHMENT A
AERIAL PHOTOGRAPHS

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**2018** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**2013** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG



Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**2008** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**2005** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**1992** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**1981** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

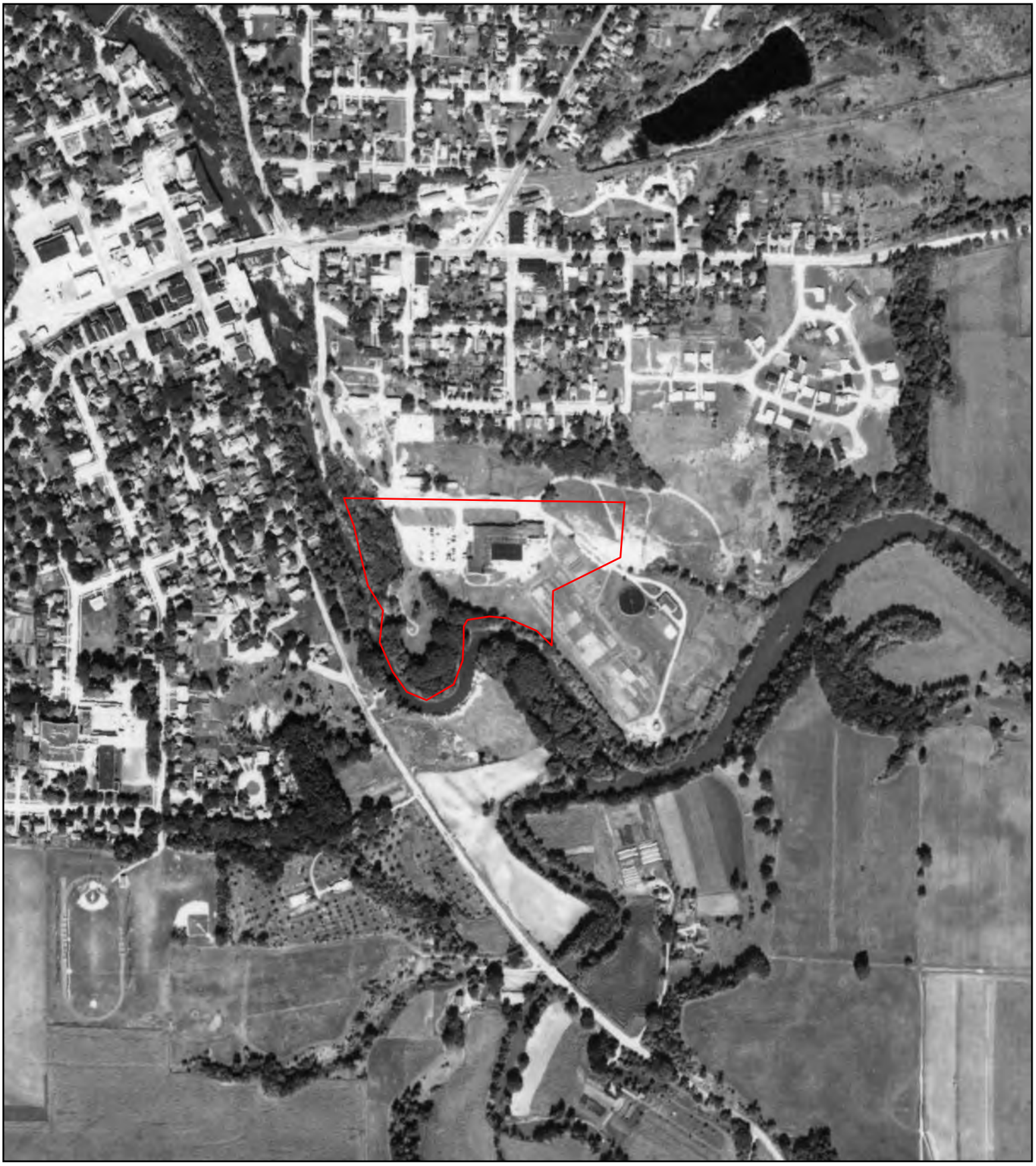
Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**1978** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**1973** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**1967** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG



Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**1962** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**1952** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**1950** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

Site boundaries shown in red are approximate

Former Tecumseh Products 415 Cleveland Street Sheboygan Falls, WI	N	**1941** HIG Project # 2033878 Client Project # 069638.00.051 Approximate Scale 1: 6,000 (1"=500') www.historicalinfo.com	HIG

ATTACHMENT B
HISTORICAL REPORT EXCEPTS

donohue & associates inc.
CONSULTING ENGINEERS

January 15, 1979

Mr. Renato C. Millan, P.E.
Solid Waste Management Section
Department of Natural Resources
P.O. Box 7921
Madison, WI 53707

Re: Progress Report Through January 15, 1979
Donohue Project 4909

Dear Mr. Millan:

This progress report presents a summary of the work completed through January 15, 1979, on the polychlorinated biphenyl (PCB) investigations at the Diecast Plant.

Preliminary engineering plans have been submitted to the Department of Natural Resources (DNR) for dike stabilization. The DNR has indicated to me that they will have completed a preliminary review of these plans by January 17, 1979.

The field work for the sampling program to determine the vertical extent of PCB contamination at the Diecast Plant was completed December 28, 1978. The first set of results of laboratory analyses for PCB's have been received by us and are attached to this letter. The locations of the samples can be found on the attached map in our letter of December 18, 1978, by reading the row number, column number, then the depth of the sample which was analyzed (i.e. 2.5/6.5 12-18, indicates row 2.5, column 6.5, 12-18, inch sample analyzed for PCB's). We have prepared 36 additional samples to be analyzed for PCB's. A list of these samples is also attached to this letter.

We are continuing to evaluate the data as it is received to determine the extent of PCB contamination on the Diecast property. Should you require any additional information or have any questions, please feel free to contact our office.

Very truly yours,

DONOHUE & ASSOCIATES, INC.

Patrick Ries

Patrick Ries
Project Engineer

PR/gd

cc: Ken Miller, Diecast Division
Ken Wachal Tecumseh Products
Sandy Williams, Foley & Lardner

enc: Polychlorinated Biphenyl (PCB) Results
Additional Samples to be Analyzed

4738 N. 40TH ST. SHEBOYGAN, WI 53081 TEL. (414) 458-8711

December 1978 Assessment

POLYCHLORINATED BIPHENYL (PCB) RESULTS
(Preliminary)

Sample		Aroclor	Concentration (PPM)
0.5/0.5	12-18	1254	<1.0
0.5/4.5	12-18	1248	13.7
0.5/8.5	12-18	1248	17.3
0.5/8.5	24-30	1242	598
0.5/8.5	36-42	1254	<1.0
0.5/12.5	12-18	1242	1,166
0.5/16.5	12-18	1248	1,265
2.5/2.5	12-18	1254	<1.0
2.5/6.5	12-18	1254	<1.0
2.5/10.5	12-18	1242	10,263
2.5/14.5	12-18	1248	95.2
2.5/18.5	12-18	1254	<1.0
3.5/9.5	12-18	1254	1.0
3.5/11.5	12-18	1254	<1.0
4.5/0.5	12-18	1254	<1.0
4.5/4.5	12-18	1254	<1.0
4.5/8.5	12-18	1254	<1.0
4.5/12.5	12-18	1254	<1.0
4.5/16.5	12-18	1254	23.8
6.5/10.5	12-18	1254	<1.0
6.5/12.5	12-18	1254	<1.0
6.5/12.5	24-30	1248	55.2
6.5/14.5	12-18	1248	9.58
8.5/16.5	12-18	1254	<1.0
10.5/18.5	12-18	1254	<1.0
5.8/2.2	12-18	1254	7.81
5.0/4.2	12-18	1254	<1.0
5.0/4.2	24-30	1254	<1.0
5.9/6.2	12-18	1254	<1.0
5.8/8.1	12-18	1248	2.87
7.7/10.2	12-18	1248	5.13
7.6/12.2	12-18	1248	1,926
7.6/12.2	24-30	1254	<1.0
9.3/14.2	12-18	1248	1.13
9.5/16.1	12-18	1254	<1.0
11.2/18.1	12-18	1254	<1.0
11.8/19.8	12-18	1254	<1.0
5.9/1.2	6-12	1254	<1.0
6.0/5.0	6-12	1254	1.2
7.2/9.1	6-12	1248	3,779
8.9/13.1	6-12	1248	20.5
10.9/17.1	6-12	1254	<1.0

donohue & associates inc.
CONSULTING ENGINEERS

December 18, 1978

Mr. Renato C. Millan, P.E.
Solid Waste Management Section
Department of Natural Resources
P. O. Box 7921
Madison, WI 53707

Re: Proposed Sampling Program
Diecast Division - Engineering Services
Donohue Project 4909

Dear Mr. Millan:

Attached to this letter is an outline of our proposed sampling program to determine the vertical extent of PCB contamination at the Diecast plant. The sampling program as outlined in the attachment is intended to provide the necessary information to determine the vertical extent of PCB contamination.

We intend to initiate this sampling program on December 20, 1978. We estimate that the field work will take 5-7 days; therefore, completing the sampling program on December 29, 1978. Samples will be analyzed for PCB's by Raltech Scientific Services, Inc. The results for all samples will be received by us within 10-14 days, enabling analyses of all results to be completed by January 19, 1979. If further analyses become necessary, samples will be analyzed as required.

Please let us know your comments on this program prior to December 20, 1978; otherwise we are presuming you find this program acceptable.

If there are any questions concerning this sampling program, please feel free to contact us.

Very truly yours,

DONOHUE & ASSOCIATES, INC.

Patrick Ries
Project Engineer

PR/gh

cc: Mr. Ken Miller, Diecast Division
Mr. Ken Wachal, Tecumseh Products
Mr. Sandy Williams, Foley & Lardner
Mr. L. D. Bakke, Tecumseh Products

4738 N. 40TH ST. SHEBOYGAN, WI 53081 TEL. (414) 458-8711

SAMPLING PROGRAM
TO DETERMINE VERTICAL CONTAMINATION
DIECAST DIVISION - TECUMSEH PRODUCTS
DONOHUE PROJECT 4909

The field investigations as outlined below are intended to provide the necessary information requested by the Department of Natural Resources (DNR) to determine the vertical extent of polychlorinated biphenyl (PCB) contamination on Diecast property. Attached to this sampling program is a map showing the approximate locations for all the soil borings.

1. Soil Sampling Between Building and Dike.

   Soil borings will be conducted at 40 foot intervals in an area defined as being between the building and the dike, resulting in approximately 41 boring locations. The locations of these soil borings are shown on the attached map. Soil samples from the borings will be collected at the surface, 1 foot, 2 foot, 3 foot, 4 foot, and 5 foot depths. Samples will be obtained by using a split spoon sampler. Initially, all 1 foot samples from the boring locations which are circled will be analyzed for PCB's. Upon review of the results of the analyses, additional analyses may be performed on a portion or all of the remaining samples to define the vertical extent of contamination.

2. Soil Sampling on Dike.

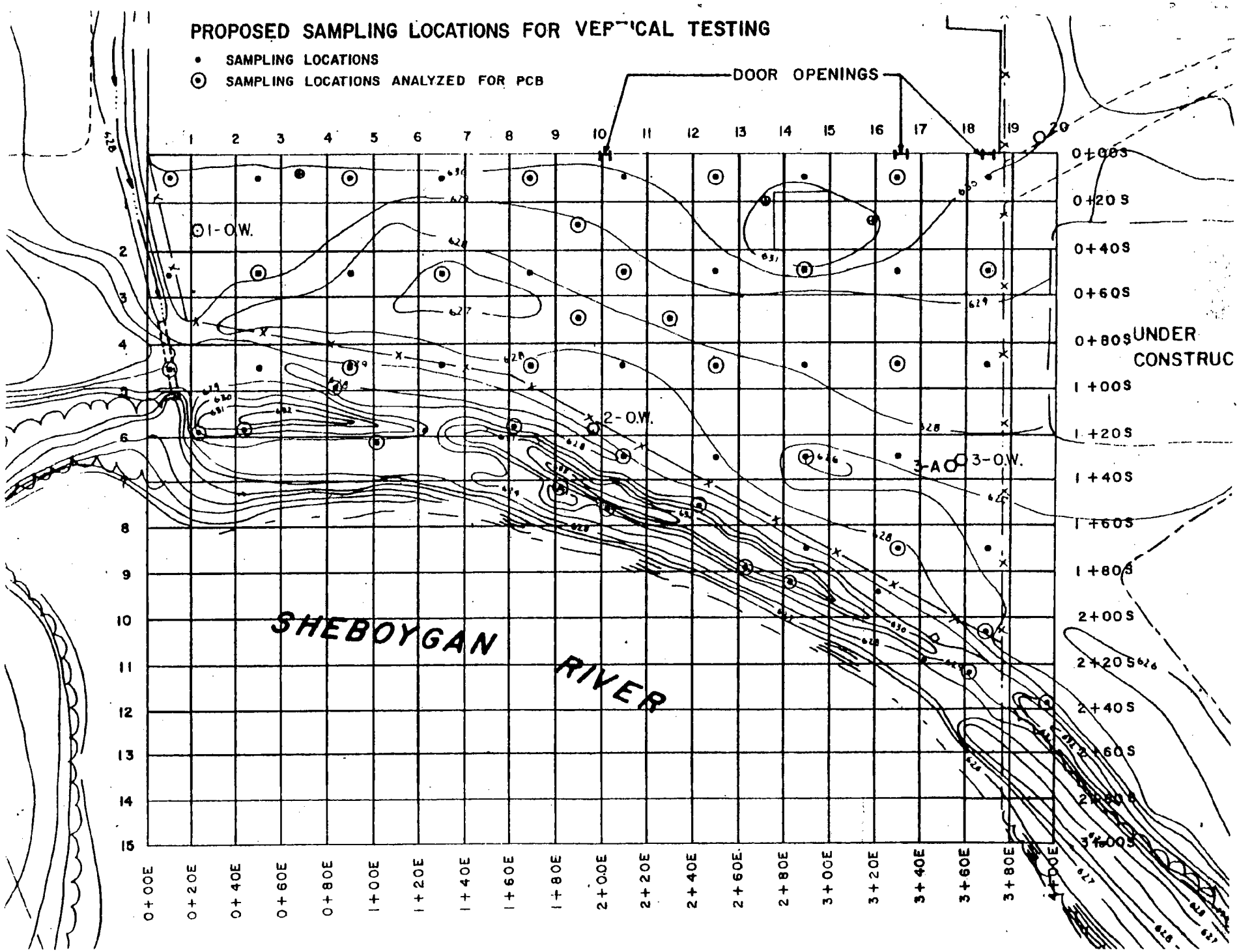
   Soil borings will be conducted at 40 foot intervals along the toe of the dike, resulting in approximately 10 boring locations. The soil borings will alternate on each side of the dike. The locations of these borings are shown on the attached map. Soil samples from the borings will be collected at the surface, 1 foot, and 2 foot depths. Samples will be obtained by using a split spoon sampler. Initially, all 1 foot samples from the boring locations which are circled will be analyzed for PCB's. Upon review of the results of the analyses, additional analyses may be performed on a portion or all of the remaining samples to define the vertical extent of contamination.

3. Soil Sampling Between Dike and River.

   Soil borings will be conducted at 80 foot intervals between the dike and the river, resulting in approximately 5 boring locations. The locations of these borings are shown on the attached map. Soil samples from the borings will be collected at the surface, 6 inch, 1 foot, and 2 foot depths. Samples will be obtained by using a split spoon sampler. Initially, all 6 inch samples from the boring locations will be analyzed for PCB's. Upon review of the results of the analyses, additional analyses may be performed on a portion or all of the remaining samples to define the vertical extent of contamination.

For all sampling locations described above, samples will be obtained continuously for the first 1 foot. When the hole is augered out at the 1 foot level, a 6 inch sample will be obtained for PCB analysis at the 1 foot level. The hole will then be augered to 2 feet and again a 6 inch sample will be obtained at the 2 foot level for PCB analyses. This procedure will continue to a depth of 5 feet. All soil samples will be visually classified, and those not analyzed for PCB will be preserved for future reference or laboratory testing.

PR/jl



B and D (M) 10008028 Front

TECUMSEH PRODUCTS COMPANY
DIECAST DIVISION. SHEBOYGAN FALLS, WISCONSIN 53085

October 4, 1978

The Honorable Gladys Morken
375 Buffalo Street
Sheboygan Falls, WI 53085

Dear Mayor Morken:

As you know, the DNR has requested that Tecumseh, Diecast Division and the City carry out various tests to determine whether, and where, PCB traces might be found in the soil in and around the City's sewage treatment plant and the Diecast premises.

You are also aware that Donohue & Associates, Inc. has been conducting soil sampling tests over the past several weeks. Results from some of these tests have now become available. Today Donohue reported to Company personnel some of these results. Although only limited tests were conducted off of the Diecast property, it does appear that at some locations, soil on the City's property east of the Division's land contains measurable levels of PCB. One of several tests taken in the area apparently leased by the City for garden plots contained 288 parts per million of PCB at the surface. The second test showed 2.29 parts per million while for two other tests, no results were received. Although 288 ppm represents a lower concentration than the Federal EPA had previously defined to be contaminated soil (500 ppm), it is higher than the 50 ppm level currently being proposed. Because of the presence of measurable PCB levels in the garden area and since without further testing the presence of PCBs in other areas of the garden cannot be determined, and further because, at this time, Tecumseh does not know whether PCB in the soil could create any potential health problem for foods grown, we are bringing this information to your immediate attention.

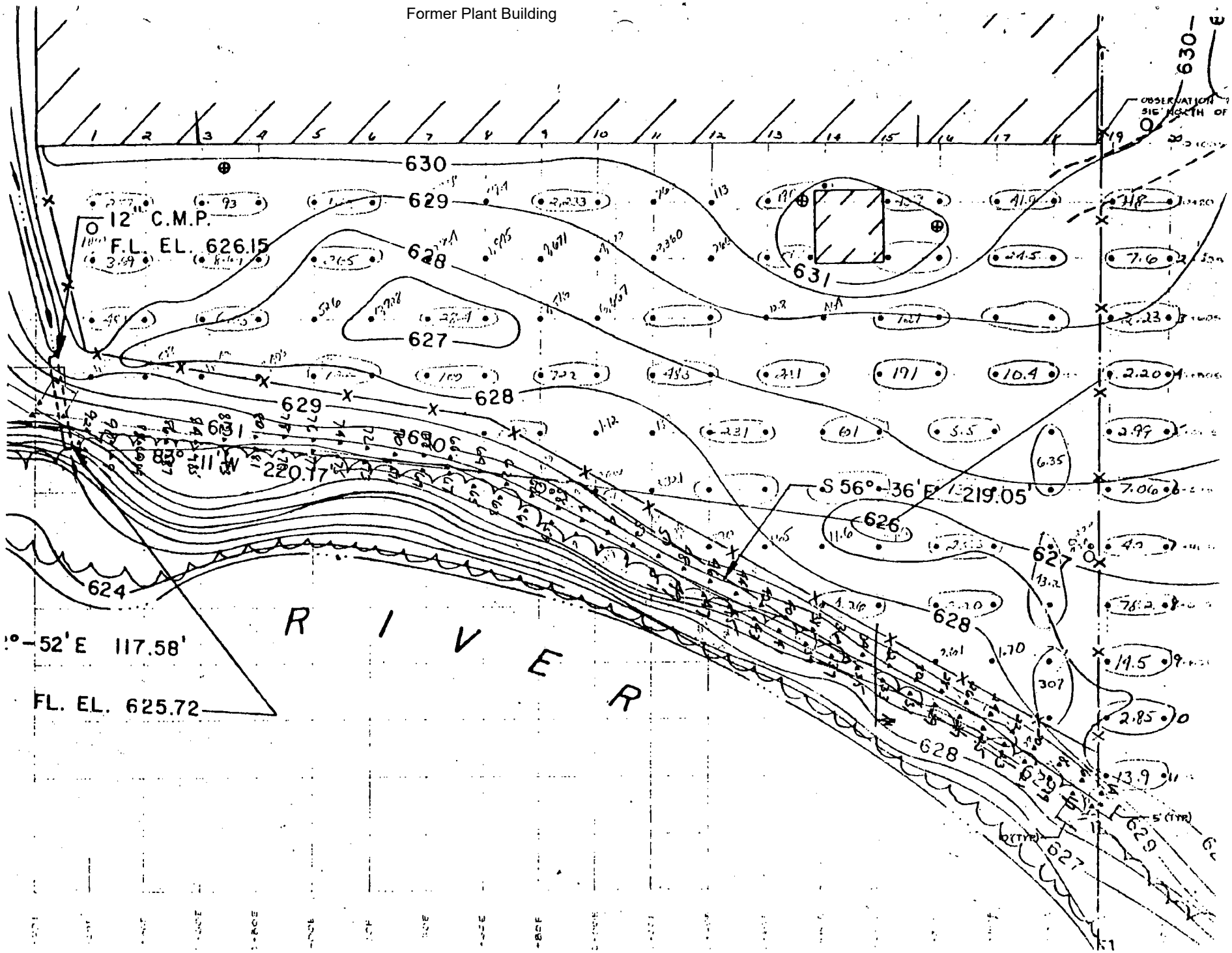
We should also emphasize that Tecumseh does not have any reason currently to believe that the produce being grown is unsafe. Several vegetables were tested, and all showed miniscule PCB levels well below the FDA standards permissible in baby food, of 0.2 ppm. However, because no firm conclusions about the area of impact of PCB can be reached without further testing, you might want to consider notifying the individuals known to be gardening, of these test results.

Very truly yours,

TECUMSEH PRODUCTS CO.
Diecast Division

Kenneth F. Miller
Assistant Works Manager

KFM:rjz



B and D (M) 10008073 Front

Project #4909
Tecumseh Diecast Division
Geochemical Soil Survey - W. Rehfeldt

Sample Number	Description of Material	Date Sampled
C-14	0-46" Reddish-brown silty clay fill 46-54" Dark brown silt loam	9-14-78
C-15	0-18" Reddish-brown silty clay fill 18-36" Mixed silty clay fill & burned refuse	"
C-16	0-36" Reddish-brown silty clay fill	"
C-17	0-15" Reddish-brown silty clay fill 15-36" Black mixed soil, ash & refuse	"
C-18	0-16" Reddish-brown silty clay fill 16-36" Black mixed soil, ash & refuse	"
C-19	0-12" Reddish-brown silty clay fill 12-36" Black mixed soil, ash & refuse	"
C-20	0-10" Reddish-brown silty clay fill 10-34" Black mixed soil, ash & refuse 34-36" Dark brown silt loam	"
C-21	0-24" Reddish-brown silty clay fill 24-32" Black mixed soil, ash & refuse 32-36" Dark brown silt loam	"
C-22	0-18" Reddish-brown silty clay fill w/concrete demolition material 18-44" Black mixed soil, ash & refuse 44-54" Dark brown silt loam	"
C-23	0-8" Brown silty, sandy clay fill 8-18" Black mixed soil, ash & refuse w/concrete demolition material	"
C-24	0-24" Reddish-brown silty clay fill w/thin layers of sand 24-36" Black mixed soil, ash & refuse	9-15-78
C-25	0-24" Reddish-brown silty clay fill 24-34" Black mixed soil, ash & refuse 34-36" Dark brown silt loam	"
C-26	0-10" Reddish-brown silty clay fill 10-36" Black mixed soil, ash & refuse	"
C-27	0-8" Reddish-brown silty clay fill 8-24" Black mixed soil, ash & refuse w/tree stumps and logs	"
C-28	0-10" Reddish-brown silty clay fill 10-26" Black mixed soil, ash & refuse 26-36" Dark brown silt loam	"
C-29	0-12" Reddish-brown silty clay fill 12-30" Black mixed soil, ash & refuse 30-36" Dark brown silt loam	"

Sample Number	Description of Material	Date Sampled
C-30	0-16" Reddish-brown silty clay fill 16-32" Black mixed soil, ash & refuse 32-36" Dark brown silt loam	9-15-78
C-31	0-12" Reddish-brown silty clay fill 12-33" Black mixed soil, ash & refuse 33-36" Dark brown silt loam	"
C-32	0-24" Reddish-brown silty clay fill 24-36" Black mixed soil, ash & refuse	"
C-33	0-12" Reddish-brown silty clay fill 12-40" Black mixed soil, ash & refuse 40-54" Dark brown silt loam	"
C-34	0-24" Reddish-brown silty clay fill 24-33" Black mixed soil, ash & refuse 33-36" Dark brown silt loam	"
C-35	0-12" Reddish-brown silty clay fill 12-22" Black mixed soil, ash & refuse 22-36" Dark brown silt loam	"
C-36	0-30" Reddish-brown silty clay fill 30-36" Dark brown silt loam	"
C-37	0-18" Reddish-brown silty clay fill 18-34" Black mixed soil, ash & refuse 34-36" Dark brown silt loam	"
C-38	0-22" Reddish-brown silty clay fill 22-33" Black mixed soil, ash & refuse 33-36" Dark brown silt loam	"
C-39	0-15" Reddish-brown silty clay fill 15-34" Black mixed soil, ash & refuse 34-36" Dark brown silt loam	"
C-40	0-45" Reddish-brown silty clay fill 45-54" Dark brown silt loam	"
C-41	0-22" Reddish-brown silty clay fill 22-36" Black mixed soil, ash & refuse	"
C-42	0-28" Reddish-brown silty clay fill 28-36" Brown silt loam	"
C-43	0-22" Reddish-brown silty clay fill 22-34" Brown sandy loam fill 34-36" Brown silt loam	"
C-44	0-22" Brown gravelly clay fill 22-61" Mixed soil, sand & "oildry" compound (contaminated soil)	"
C-45	0-14" Brown silty clay fill 14-48" Mixed soil, sand & "oildry" compound 48-54" Brown silt loam	"

Sample Number	Description of Material	Date Sampled
C-46	0-24" Brown silty gravelly fill 24-36" Dark brown silt loam	9-15-78
C-47	0-3" Reddish-brown silty clay fill 3-14" "Oildry" compound 14-18" Dark brown silt loam	"
C-48	0-14" Reddish-brown silty clay fill 14-32" Mixed soil, sand & "oildry" compound	"
C-49	0-6" Reddish-brown silty clay fill 6-30" "Oildry" compound 30-36" Brown silt loam	"
C-50	0-15" Reddish-brown silty clay fill 15-22" Mixed soil & sand fill 22-48" Mixed soil & "oildry" compound 48-54" Brown silt loam	9-19-78
C-51	0-12" Reddish-brown silty clay fill 12-34" Mixed soil & "oildry" compound 34-36" Brown silt loam	"
C-52	0-20" Reddish-brown silty clay fill 20-28" Brown silty clay fill 28-33" Mixed soil & refractory brick material 33-36" Brown silt loam	"
C-53	0-15" Reddish-brown silty clay fill 15-30" Mixed soil & "oildry" compound 30-36" Brown silt loam	"
C-54	0-3" Mixed soil & "oildry" compound 3-32" Reddish-brown silty clay fill 32-36" Brown silt loam	"
C-55	0-10" Reddish-brown silty clay fill 10-24" Mixed soil & "oildry" compound 24-36" Brown silt loam	"
C-56	0-48" Reddish-brown silty clay fill 48-54" Dark brown silt loam	"
C-57	0-12" Reddish-brown silty clay fill 12-50" Mixed soil & "oildry" compound 50-54" Dark brown silt loam	"
C-58	0-18" Reddish-brown silty clay fill 18-47" Brown sandy, gravelly fill 47-54" Brown silt loam	"
C-59	0-22" Reddish-brown silty clay fill 22-33" Mixed soil & "oildry" compound 33-36" Brown sandy silt loam	"
C-60	0-17" Reddish-brown silty clay fill 17-42" Brown sand & gravel fill 42-54" Brown silt loam	"

Sample Number	Description of Material	Date Sampled
C-61	0-6" Reddish-brown silty clay fill 6-18" Dark brown silt loam	9-19-78
C-62	0-24" Reddish-brown silty clay fill 24-50" Brown sandy & silty clay fill 50-54" Dark brown silt loam	"
C-63	0-26" Reddish-brown silty clay fill 26-34" Mixed fill & gravel 34-36" Dark brown silt loam	"
C-64	0-8" Reddish-brown silty clay fill 8-32" Mixed fill, sand & gravel 32-36" Dark brown silt loam	"
C-65	0-12" Reddish-brown silty clay fill 12-36" Mixed fill, sand & gravel	"
C-66	0-20" Reddish-brown silty clay fill 20-31" Mixed fill, sand & gravel 31-36" Dark brown silt loam	"
C-67	0-18" Reddish-brown silty clay fill 18-33" Mixed fill, sand & gravel 33-36" Dark brown silt loam	"
C-68	0-20" Reddish-brown silty clay fill 20-44" Gray-brown clayey fill w/gravel 44-54" Dark brown silt loam	"
C-69	0-22" Reddish-brown silty clay fill 22-36" Brown mixed silty clay, sand & gravel	"
C-70	0-26" Reddish-brown silty clay fill 26-36" Brown mixed fill w/gravel	"
C-71	0-22" Reddish-brown silty clay fill 22-36" Brown mixed sandy silt w/gravel	"
C-72	0-24" Reddish-brown silty clay fill 24-36" Brown mixed clay, sand & gravel	"
C-73	0-20" Reddish-brown silty clay fill 20-36" Mixed sand & gravel	"
C-74	0-26" Reddish-brown silty clay fill 26-36" Brown gravelly silt loam	9-20-78
C-75	0-24" Reddish-brown silty clay fill 24-36" Brown gravelly silt loam	"
C-76	0-36" Reddish-brown silty clay fill	"
C-77	0-33" Reddish-brown silty clay fill 33-36" Dark brown silt loam	"
C-78	0-36" Reddish-brown silty clay fill	"
C-79	0-34" Reddish-brown silty clay fill 34-36" Dark brown silt loam	"

Sample Number	Description of Material	Date Sampled
C-80	0-35" Reddish-brown silty clay fill 35-36" Dark brown silt loam	9-20-78
C-81	0-36" Reddish-brown silty clay fill	"
C-82	0-32" Reddish-brown silty clay fill 32-36" Dark brown silt loam	"
C-83	0-26" Reddish-brown silty clay fill 26-36" Dark brown silt loam	"
C-84	0-30" Reddish-brown silty clay fill 30-36" Dark brown silt loam	"
C-85	0-28" Reddish-brown silty clay fill 28-36" Dark brown silt loam	"
C-86	0-30" Reddish-brown silty clay fill mixed w/"oildry" compound 30-36" Dark brown silt loam	"
C-87	0-28" Reddish-brown silty clay fill mixed w/"oildry" compound 28-36" Dark brown silt loam	"
C-88	0-26" Reddish-brown silty clay fill mixed w/"oildry" compound 26-36" Dark brown silt loam	"
C-89	0-25" Reddish-brown silty clay fill mixed w/"oildry" compound 25-36" Dark brown silt loam	"
C-90	0-24" Reddish-brown silty clay fill Mixed w/"oildry" compound 24-36" Dark brown silt loam	"
C-91	0-26" Reddish-brown silty clay fill 26-36" Dark brown silt loam	"
C-92	0-18" Reddish-brown silty clay fill 18-36" Dark brown silt loam	"
C-93	0-24" Reddish-brown silty clay fill 24-36" Dark brown silt loam	"

Polychlorinated Biphenyl (PCB) Results

Sample	Aroclor	Concentration (ppm)
C14/15	1254	297.0
C16/17	"	140.0
C18/19	"	183.0
C20/21	"	1,487.0
C22/23	"	187.0
C24/25	"	360.0
C26/27	"	441.0
C28/29	"	792.0
C30/31	"	
C32/33	"	410.0
C34/35		
C36/37	1254	126.0
C38/39	"	461.0
C40/41	"	50.0
C42/43	1248	11.7
C44	"	3,240.0
C45	"	6,024.0
C46	"	674.0
C47	"	32,011.0
C48/49	"	5,994.0
C50	"	384 96.5 (1248)
C51	"	14,793
C52	"	793
C53	"	2,633
C54	"	479
C55	"	2,617
C56		(MISSING)
C57	1248	15,140
C58	1254*	1.27
C59	COMPOSITED W/ C58	
C60	1248	60.6
C61	"	150.0 (1,672)
C62/63	"	1,454
C64/65	"	14.8
C666/67	1254*	1.87 (1)

POLYCHLORINATED BIPHENYL (PCB) RESULTS (cont)

	Sample	Aroclor	Concentration (ppm)
	C68/69	1254*	2.41
	C70/71	1248	20,253
	C72/73	1254*	~~7,516~~ 73.6
	C74/75	"	8.78
	C76/77	1254*	~~4,622.0~~ 55.2
	C78/79	1254*	2.43
	C80/81	1254	0.44
	C82/83	1254*	~~1,945~~ 30.4
	C84/85	"	4.67
	C86/87	"	CLAY 5,134 (B.D. ~~679~~ B) TWO SAMPLES
	C88	1254*	60.0
	C89/90	1254*	CLAY 1,686 (B.D. 510) TWO SAMPLES
	C91	—	<1.0
	C92/93	1254*	8.50
	1-1/2	1248	257
=?	1-3/4	"	93.0
=?	1-5/6	"	142.0
	1-7	1254*	2,338
	1-8	1248	89.4
	1-9/10	"	2,233
	1-11	1254*	766.0
	1-12	"	113.0
=?	1-13/14	1248	190.0
=?	1-15/16	1254*	459.0
=?	1-17/18	1254*	41.9
	1-19/20	"	118.0
=?	2-1/2	1254*	3.69
=?	2-3/4	1254*	8.69
	2-5/6	1254*	265.0
	2-7	1254	2,864.0
	2-8	1254*	~~55.2~~ 1,945
	2-9	1248	9,671
	2-10	1254*	~~10,928.0~~ 4,622
	2-11	1248	2,360

Polychlorinated Biphenyl (PCB) Results (cont)

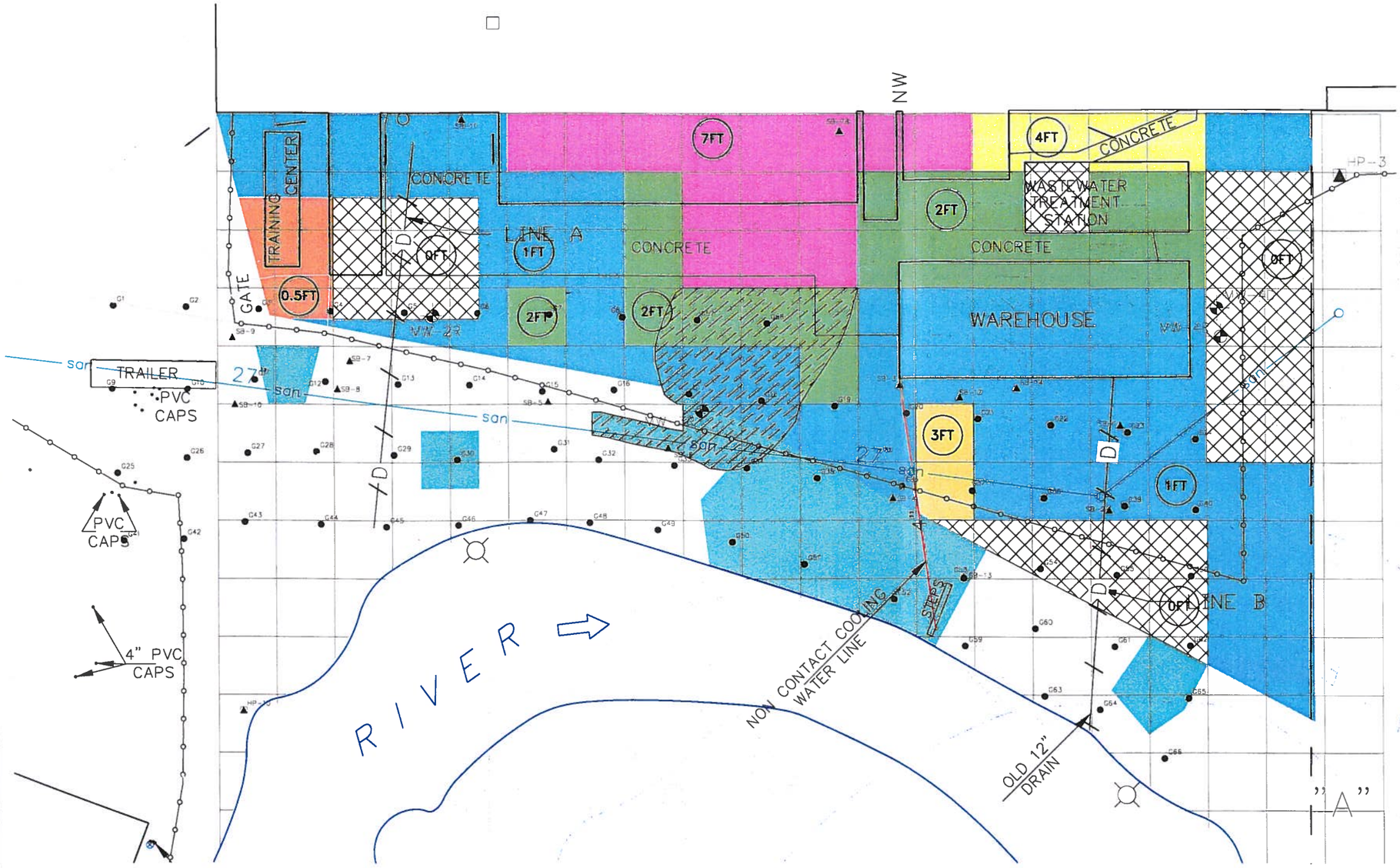
Sample	Aroclor	Concentration (ppm)
2-12	1248	266.0
=> 2-13/14	1254*	56.0
2-15/16		
2-17/18	1254*	24.5
2-19/20	1254*	7.6
=> 3-1/2	1248	48.8
3-3/4	1254*	6.25
3-5	1254*	526
3-6	1254*	~~94.0~~ 10,928
3-7/8	1254*	28.4
3-9	1254*	~~510.0~~ 7,516
3-10	1248	6,667.0
3-11/12		(MISSING
3-13	~~1248~~ 1254*	~~734.0~~ 12.8
3-14	1254*	464
3-15/16	1248	121.0
3-17/18	1248	~~34.0~~
3-19/20	1254*	2.23
4-1	1254	1,303.0
4-2	1254*	4,538.0
4-3	1254	1,242.0
4-4	1254*	8,406
=> 4-5/6	1254	122.0
4-7/8	1254*	100.0
4-9/10	1248	722.0
4-11/12	1248	983.0
4-13/14	1248	221.0
4-15/16	1254*	191.0
4-17/18	1248	10.4
4-19/20	1254*	2.20
=> 5-8/9	"	120
5-10	1254*	~~404.0~~ 1.12
5-11	1248	180.0
=> 5-12/13	1254*	231.0
5-14/15	1254*	61.0

Polychlorinated Biphenyl (PCB) Results (cont)

Sample	Aroclor	Concentration (ppm)
5-16/17	1254*	5.5
5-18 & 6-18	1254*	6.35
5-19/20	1254*	2.99
6-10	1248 1254	516.0
6-11	"	3321.0
6-12/13		(MISSING)
6-14/15	1254*	3.38
6-16/17	1254*	137.0
6-19/20	1254*	7.06
7-12	1248	990
7-13	1254*	165
7-14	1254*	41.6
7-15	1254*	24.9
7-16/17	1254*	25.3
7-18 & 8-18	"	43.2
7-19/20	1254	40.0
8-14/15	1254*	4.26
8-16/17	1254*	2.20
8-19/20	1248	78.2
9-16	1254*	2.61
9-17	1254*	~~165~~ 1.70
9-18 & 10-18	1254*	307 (Interferences Present ≈150 ppm if interferences dimin
9-19/20	1254	14.5
10-19/20	1254*	~~589.0~~ 2.85
11-19/20	"	13.9
10.w.-5	1254*	9.23
10.w.-3	1248	9.03
10.w.-5	1254	<1.0
10.w.-10		<1.0
10.w.-15	1248	202.0
20.w.-5	1248	468
20.w.-3	1254*	8.08
20.w.-5	1254*	2.26
20.w.-10		<1.0
20.w.-15		<1.0

Polychlorinated Biphenyl (PCB) Results (cont.)

Sample		Aroclor	Concentration (ppm)
Honey Dew Melon	M-1	1248	0.052
Corn	CO-1	1248	< 0.010
Green Bean	GB-1	1248	0.020
Carrot	CA-1	1248	0.123
Ground	G-1		4.0
Ground	G-2		8.0



LEGEND:

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AREA DRAIN(STORM)
- STORM CATCH BASIN-CURB TYPE
- WATER GAUGE
- SANITARY SEWER
- DRAIN LINE
- CHAIN LINK FENCE
- GRID BORING SAMPLE
- MONITORING WELL
- SOIL BORING
- HAND PROBE
- EXCAVATED 7 FEET
- EXCAVATED 4 FEET
- EXCAVATED 3 FEET
- EXCAVATED 2 FEET
- XCAVATED 0.5 FEET
- AREAS WHERE ADDITIONAL 1 FOOT WAS EXCAVATED
- APPROXIMATE LIMITS OF OIL SLICK EXCAVATION
- NOT EXCAVATED

GRAPHIC SCALE

NOTES:

1. THE BASE MAP WAS OBTAINED FROM A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" (SURVEY PLAN) PREPARED BY HINZE & ASSOCIATES, DATED 7/27/99.
2. ALL EXTERIOR UNDERGROUND UTILITIES SHOWN ON THE SURVEY PLAN AND THIS MAP WERE OBTAINED FROM FIELD SURVEY AND FROM MAPS SUPPLIED BY THE CITY OF SHEBOYGAN FALLS ON OR BEFORE JUNE 15, 1999. THE LOCATIONS OF ALL UTILITIES ARE APPROXIMATE.
3. THE EXCAVATION LIMITS ARE APPROXIMATE AND WERE OBTAINED FROM A SKETCH PROVIDED IN A LETTER FROM DONOHUE AND ASSOCIATES, INC. TO WISCONSIN DEPARTMENT OF NATURAL RESOURCES DATED NOVEMBER 27, 1979.

X: 17606X01.DWG
LMAN: GRID1
P: STD-PCP/DL
11/10/99 SYR-54-GMS YCC GMS
17605004/TEC/17606B05.DWG

TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

EXTERNAL SOURCE ASSESSMENT

1979 BACK-YARD EXCAVATION MAP

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE C

11/16/99

REPORT

Technical Memorandum

External Source Assessment

Tecumseh Products Company
Sheboygan Falls, Wisconsin

November 1999

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Tecumseh Products Company
Sheboygan Falls, Wisconsin
Sheboygan River and Harbor Site

Table 6
External Source Assessment
PCB Concentrations of Hand-Augered Probe Samples

Sample I.D.	Depth Interval (feet)	Total PCB Concentration (mg/kg dry weight)
HP-1	0.0 - 0.5	3.5
	0.5 - 1.0	0.175
HP-2	0.0 - 0.5	11
	0.5 - 1.0	48
HP-3	0.0 - 0.5	38
	0.5 - 1.0	63
HP-4	0.0 - 0.5	0.057
	0.5 - 1.0	ND (0.055)
HP-5	0.0 - 0.5	0.89
	0.5 - 1.0	1.8
HP-6	0.0 - 0.5	3.3
	0.5 - 1.0	0.53
HP-7	0.0 - 0.5	ND (0.056)
	0.5 - 1.0	ND (0.054)
HP-8	0.0 - 0.5	ND (0.055)
	0.5 - 1.0	ND (0.058)
HP-9	0.0 - 0.5	ND (0.057)
	0.5 - 1.0	ND (0.059)
HP10	0.0 - 0.5	0.264
	0.5 - 1.0	2.9
HP-11	0.0 - 0.5	52
	0.5 - 1.0	160
HP-12	0.0 - 0.5	8.9
	0.5 - 1.0	1.4
HP-13	0.0 - 0.5	14.5
	0.5 - 1.0	11.8
HP-14	0.0 - 0.5	8.9
	0.5 - 1.0	3.4
CB-1	Catch Basin Grab	0.14

Notes:
ND = Non-Detect (detection limit in parentheses)
mg/kg = Milligram per kilogram
CB-1 = Catch basin grab sample along Cleveland Street

Tecumseh Products Company
Sheboygan Falls, Wisconsin
Sheboygan River and Harbor Site

Table 7
External Source Assessment
PCB Concentrations of Soil Boring Samples

Sample I.D.	Depth Interval (feet)	Total PCB Concentration (mg/kg dry weight)
SB-1	0 - 2	15.5
	2 - 4	0.9
	4 - 6	NR
	6 - 8	19
SB-2	0 - 2	22.7
	2 - 4	99
	4 - 6	5.6
	6 - 8	26.3
	8 - 10	ND (120*)
	10 - 12	ND (120*) [ND(31*)]
	12 - 14	0.75
	14 - 16	3.6
	16 - 18	9.3
SB-3	0 - 2	58
	2 - 4	3.9
	4 - 6	7.2
	6 - 8	ND (0.061) [ND(0.059)]
SB-4	0 - 2	0.24
	2 - 4	1.5
	4 - 6	0.79
	6 - 8	0.5
SB-5	0 - 2	ND (0.058) [ND (0.056)]
	2 - 4	0.64
	4 - 6	NR
	6 - 8	20.6
	8 - 10	38
SB-6	0 - 2	0.1
	2 - 4	0.91
	4 - 6	0.77
	6 - 8	ND (0.058)
	8 - 10	0.19
SB-7	0 - 2	1.7
	2 - 4	2.22
	4 - 6	0.67
	6 - 8	23
	8 - 10	1.62
	10 - 12	0.168
	12 - 14	3.9

Tecumseh Products Company
Sheboygan Falls
Sheboygan River and Harbor Site

Table 7 (Continued)
External Source Assessment
PCB Concentrations of Soil Boring Samples

Sample I.D.	Depth Interval (feet)	Total PCB Concentration (mg/kg)
SB-8	0 - 2	0.092
	2 - 4	0.41
	4 - 6	60
	6 - 8	6.7
	8 - 10	6.2
	10 - 12	33
SB-9	0 - 2	19.6
	2 - 4	NR
	4 - 6	11.7
	6 - 8	1.8
	8 - 10	7.1
SB-10	0 - 2	7.4
	2 - 4	51
	4 - 6	4.5
	6 - 8	6.7
	8 - 10	0.35
SB-11	0 - 2	5.1
	2- 4	14.2
	4- 6	0.52
	6 - 8	0.207
	8 - 10	1.06
	10 - 12	0.58
SB-12	0 - 2	106
	2 - 4	0.6
	4 - 6	23.3
	6 - 8	3.32
SB-13	0 - 2	ND (0.056)
	2 - 4	ND (0.054)
	4 - 6	ND (0.054)
	6 - 8	NR
	8 - 10	0.073
SB-14	0 - 2	47.2
	2 - 4	13.1
	4 - 6	31.5
	6 - 8	ND (0.059)
SB-15**	1 - 3	1.12
	3 - 5	1.0
	5 - 7	5.1

Tecumseh Products Company
Sheboygan Falls
Sheboygan River and Harbor Site

Table 7 (Continued)
External Source Assessment
PCB Concentrations of Soil Boring Samples

Sample I.D.	Depth Interval (feet)	Total PCB Concentration (mg/kg)
SB-16**	1 - 3	18
	3 - 5	72
	5 - 7	ND (0.059)
	7 - 9	0.26
SB-17**	1 - 3	42
	3 - 5	14
	5 - 7	0.413
	7 - 9	0.094
SB-18**	1 - 3	28.6
	3 - 5	44.6
	5 - 7	42
	7 - 9	62
	9 - 11	166

Notes:
ND = Non-detect (detection limit in parentheses)
NR = No Recovery
mg/kg = Milligram per kilogram
[ ] = Duplicate Sample

* = Analytical Laboratory reported possible interference from other organic compounds, resulting in an elevated detection limit.
** = Sampling interval was changed due to concrete floor

Tecumseh Products Company
Sheboygan Falls, Wisconsin
Sheboygan River and Harbor Site

Table 8
External Source Assessment
PCB Concentrations of Monitoring Well Soil Samples

Sample I.D.	Depth Interval (feet)	Total PCB Concentration (mg/kg dry weight)
MW-4D	0 - 2	8.7
	2 - 4	3.09
	4 - 6	ND (0.06)
	6 - 8	2.68
	8 - 10	NA
	10 - 12	1.49
	12 - 14	0.3
	14 - 16	NA
	16 - 18	ND (0.061)
	18 - 20	ND (0.062)
	20 - 22	NA - ST
	22 - 24	ND (0.059)
	24 - 26	ND (0.062)
	26 - 28	ND (0.061)
	28-30	ND (0.061)
	30-32	ND (0.061)
	32.34	ND (0.054)
	34-36	ND (0.057)
	36 - 38	ND (0.058)
	38 - 40	ND (0.055)
MW-5D	1 - 3	ND (0.056)
	3 - 5	NA
	5 - 7	ND (0.052)
	7 - 9	ND (0.057)
	9 - 11	ND (0.060)
	12 - 14	NA
	14 - 16	NA - ST
	16 - 18	ND (0.066)
	18 - 20	ND (0.064)
	20 - 22	ND (0.056)
	22 - 24	ND (0.068)
	24 - 26	ND (0.054)
	26 - 28	ND (0.053)
	28 - 30	ND (0.053)
	30 - 32	ND (0.058)
	32 - 34	ND (0.055)
	34 - 36	ND (0.062)
	36 - 38	ND (0.059)
MW-7D	0 - 2	29
	2 - 4	11.4
	4 - 6	23.2
	6 - 8	0.14
	8 - 10	0.076
	10 - 12	ND (0.056)

Tecumseh Products Company
Sheboygan Falls
Sheboygan River and Harbor Site

Table 8 (Continued)
External Source Assessment
PCB Concentrations of Monitoring Well Soil Samples

Sample I.D.	Depth Interval (feet)	Total PCB Concentration (mg/kg)
MW-7D (Cont'd)	12 - 14	ND (0.060)
	14 - 16	3.7
	16 - 18	NA - ST
	18 - 20	0.158
	20 - 22	ND (0.065)
	22 - 24	ND (0.066)
	24 - 26	ND (0.067)
	26 - 28	ND (0.062)
	28 - 30	ND (0.063)
	30 - 32	ND (0.068)
	32 - 34	ND (0.057)
	34 - 36	0.15
	36 - 38	Not Sampled
	38 - 40	ND (0.055)
Off-Site MW-6S	0 - 2	1.4
	2 - 4	0.161
	4 - 6	0.31

Notes:
ND = Non-detect (detection limit in parentheses)
NA = Not Analyzed
ST = Shelby Tube Sample
mg/kg = Milligram per kilogram

Tecumseh Products Company
Sheboygan Falls, Wisconsin
Sheboygan River and Harbor Site

Table 9
External Source Assessment
Northern Sheboygan River Bank Evaluation Results

Location	Sample I.D.	Depth Interval (in)	Total Organic Carbon Concentration (mg/kg dry weight)	Total PCB Concentration (mg/kg dry weight)
North Bank Soil Samples from Walkover	NRB-4	0-6	16000	0.56
	NRB-5	0-6	7000	2700 [4400]
	NRB-7	0-6	2600	ND(0.062)
	NRB-9	0-6	19000	0.73
	NRB-10	0-6	5000	0.12
Soils Near Non-Contact Cooling Water Discharge Area Area	B1	0-6	--	1100
	B2	0-6	--	380 [330]
		6-8	--	100
	B3	0-6	--	0.36
		6-12	--	0.42
		12-18	--	NA
		18-24	--	690
		24-30	--	38
		30-34	--	33
North Bank Soil Composites	NB-COMP-1	0-6	32000	2.3
	NB-COMP-2	0-6	23000	0.77
	NB-COMP-3	0-6	22000	0.64
	NB-COMP-4	0-6	39000	2.12
	NB-COMP-5	0-6	19000	39
	NB-COMP-6	0-6	23000 [26000]	2.6 [2.4]
	NB-COMP-7	0-6	15000	2.8
	NB-COMP-8	0-6	18000	3.5
	NB-COMP-9	0-6	28000	1.6
	NB-COMP-10	0-6	15000	1.9
North Bank Surface Soil Samples (Section 5)	NB-SS-41	0-6	26000	7.2
	NB-SS-42	0-6	31000	7.3
	NB-SS-43	0-6	26000	13
	NB-SS-44	0-6	19000	31
	NB-SS-45	0-6	19000	12
	NB-SS-46	0-6	35000	17
	NB-SS-47	0-6	25000	5.8
	NB-SS-48	0-6	30000	3.3
	NB-SS-49	0-6	28000	0.25
	NB-SS-50	0-6	28000	83
Non-Contact Cooling Water	NCCW-1	N/A	N/A	ND(0.053) μg/l

Notes:
1. Total Organic Carbon concentration results were obtained by taking the average of all replicate samples.
2. Total PCB concentration results in mg/kg except as noted.

[ ] = Duplicate result
ND( ) = Result was non-detect, value in parenthesis is the detection limit.
in = inch
mg/kg = Milligram per kilogram
μg/L = Microgram per liter
NA = Not Analyzed
N/A = Not applicable

Tecumseh Products Company
Sheboygan Falls, Wisconsin
Sheboygan River and Harbor Site

Table 10
External Source Assessment
PCB Concentrations of Grid Boring Composite Soil Samples

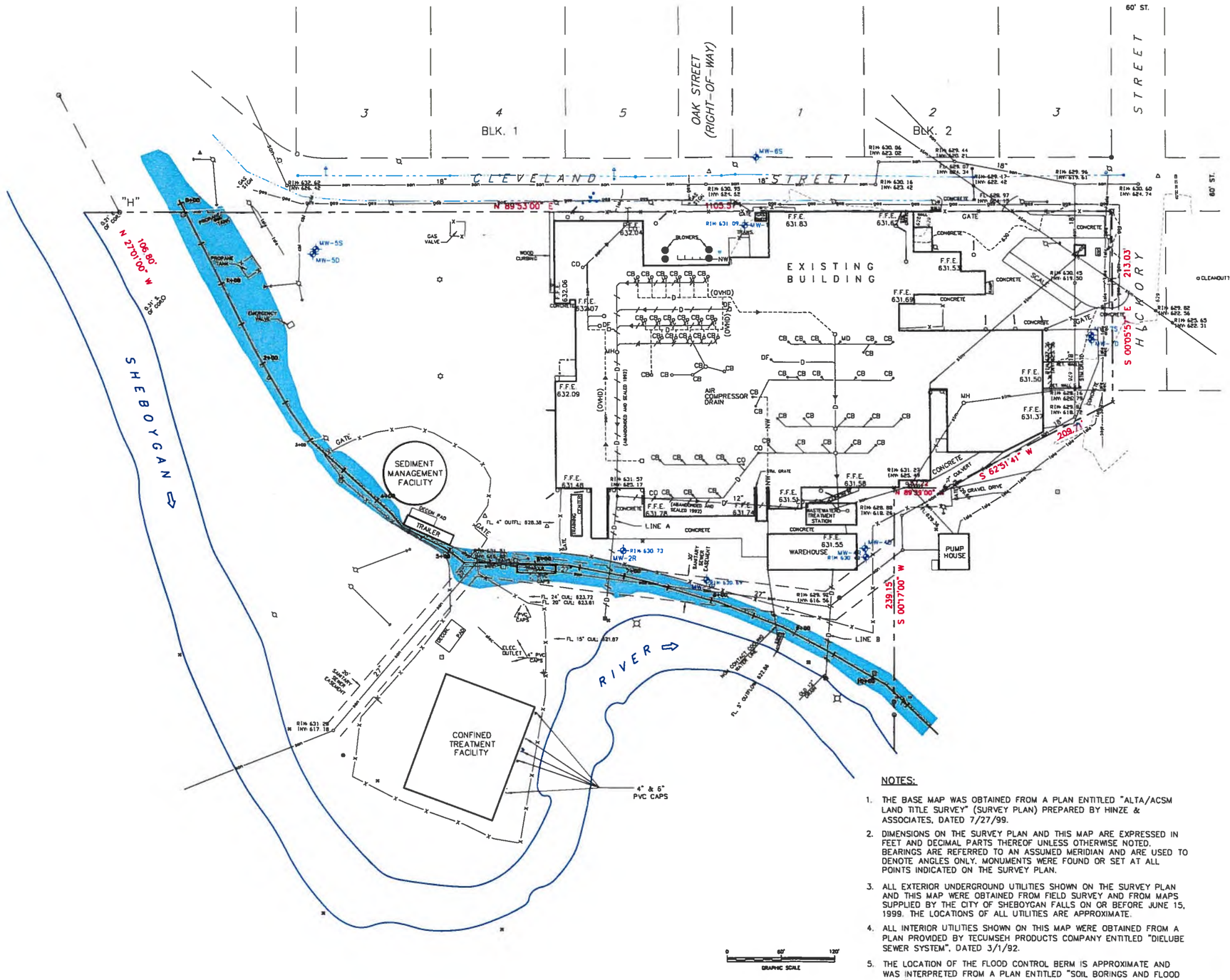
Composite Sample I.D.	Grid Borings Sampled in Depth Interval	Depth Interval (feet)	Total PCB Concentration (mg/kg dry weight)
COMP-1	G55, G56, G61, G62	0 - 2	5.4
		2 - 4	3.4
		4 - 6	3.2
	G61, G62	6 - 8	0.1
	G61	8 - 10	ND (0.06)
COMP-2	G53, G54, G59, G60	0 - 2	12
		2 - 4	14.9 [2.24]
	G54, G60	4 - 6	0.192
		6 - 8	0.8
	G60	8 - 10	0.51
COMP-3	G65, G66	0 - 2	0.6
		2 - 4	0.29
	G65	4 - 6	ND (0.055)
		6 - 8	0.44
		8 - 10	ND (0.058)
COMP-4	G63, G64	0 - 2	1.51
		2 - 4	1.08
	G63	4 - 6	1.37
COMP-5	G51, G52	0 - 2	0.9
		2 - 4	7.7
		4 - 6	0.35
COMP-6	G33, G34, G49, G50	0 - 2	2.7
		2 - 4	0.23
	G33, G34	4 - 6	3.13
		6 - 8	2.46
		8 - 10	0.015
COMP-7	G31, G32, G47, G48	0 - 2	1.28
	G31, G32	2 - 4	0.57
		4 - 6	3.5
		6 - 8	ND (0.058)
		8 - 10	0.61
COMP-8	G29, G30, G45, G46	0 - 2	55
	G29, G30, G45	2 - 4	11.1
	G29, G30	4 - 6	102
COMP-9	G27, G28, G43, G44	0 - 2	2.2
	G27, G28, G43	2 - 4	2.72 [2.39]
	G28, G43	4 - 6	0.58

Tecumseh Products Company
Sheboygan Falls, Wisconsin
Sheboygan River and Harbor Site

Table 10
External Source Assessment
PCB Concentrations of Grid Boring Composite Soil Samples

Composite Sample I.D.	Grid Borings Sampled in Depth Interval	Depth Interval (feet)	Total PCB Concentration (mg/kg dry weight)
COMP-10	G25, G26, G41, G42	0 - 2	4.3
		2 - 4	4.0
	G41	4 - 6	50
COMP-11	G23, G24, G39, G40	0 - 2	55.4
		2 - 4	18.5
		4 - 6	31
	G23, G24, G39	6 - 8	0.57
COMP-12	G21, G22, G37, G38	0 - 2	70
		2 - 4	54
		4 - 6	14
	G22, G37, G38	6 - 8	9.9
COMP-13	G19, G20, G35, G36	0 - 2	61
		2 - 4	52
		4 - 6	85
		6 - 8	34.3
COMP-14	G17, G18, G57, G58	0 - 2	18.8
		2 - 4	19.8
		4 - 6	26.4
		6 - 8	17
	G18, G58	8 - 10	1,800
COMP-15	G7, G8, G15, G16	0 - 2	4.2
		2 - 4	10.9
		4 - 6	21.4
	G8, G15, G16	6 - 8	3.8
COMP-16	G5, G6, G13, G14	0 - 2	3.0
		2 - 4	3.8
		4 - 6	23
	G13, G14	6 - 8	13.5
COMP-17	G3, G4, G11, G12	0 - 2	0.94
		2 - 4	2.6
		4 - 6	2.0 [.07]
COMP-18	G1, G2, G9, G10	0 - 2	28
		2 - 4	450
		4 - 6	16
	G9, G10	6 - 8	ND (0.059)
	G9	8 - 10	ND (0.06)

Notes:
ND = Non-detect (detection limit in parentheses)
mg/kg = Milligram per kilogram
[ ] = Duplicate Sample



LEGEND

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AREA DRAIN (STORM)
- STORM CATCH BASIN-CURB TYPE
- WATER MANHOLE
- FIRE HYDRANT
- WATER SHUT-OFF VALVE
- UTILITY POLE & GUY WIRE
- LIGHT POLE
- WATER GAUGE
- GAS SHUT-OFF VALVE
- FLAG POLE
- NW — NON-CONTACT COOLING WATER
- D — DRAIN LINE (ACTIVE)
- DRAIN LINE (ABANDONED)
- gas — UNDERGROUND GAS
- elec — UNDERGROUND ELECTRIC
- tele — UNDERGROUND TELEPHONE
- cbl — UNDERGROUND CABLE
- san — SANITARY SEWER
- stm — STORM SEWER
- WATER MAIN
- WOOD FENCE
- CHAIN LINK FENCE
- MONITORING WELL
- FLOOD CONTROL BERM

NOTES:

1. THE BASE MAP WAS OBTAINED FROM A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" (SURVEY PLAN) PREPARED BY HINZE & ASSOCIATES, DATED 7/27/99.
2. DIMENSIONS ON THE SURVEY PLAN AND THIS MAP ARE EXPRESSED IN FEET AND DECIMAL PARTS THEREOF UNLESS OTHERWISE NOTED. BEARINGS ARE REFERRED TO AN ASSUMED MERIDIAN AND ARE USED TO DENOTE ANGLES ONLY. MONUMENTS WERE FOUND OR SET AT ALL POINTS INDICATED ON THE SURVEY PLAN.
3. ALL EXTERIOR UNDERGROUND UTILITIES SHOWN ON THE SURVEY PLAN AND THIS MAP WERE OBTAINED FROM FIELD SURVEY AND FROM MAPS SUPPLIED BY THE CITY OF SHEBOYGAN FALLS ON OR BEFORE JUNE 15, 1999. THE LOCATIONS OF ALL UTILITIES ARE APPROXIMATE.
4. ALL INTERIOR UTILITIES SHOWN ON THIS MAP WERE OBTAINED FROM A PLAN PROVIDED BY TECUMSEH PRODUCTS COMPANY ENTITLED "DIELUBE SEWER SYSTEM", DATED 3/1/92.
5. THE LOCATION OF THE FLOOD CONTROL BERM IS APPROXIMATE AND WAS INTERPRETED FROM A PLAN ENTITLED "SOIL BORINGS AND FLOOD BERM" PREPARED BY MILLER ENGINEERS AND SCIENTISTS, DATED 6/4/98. THE BASE DRAWING FOR THE PLAN ENTITLED "SOIL BORINGS AND FLOOD BERM" WAS OBTAINED FROM DONOHUE AND ASSOCIATES, DATED 5/10/98.

X: 17606X01.DWG, 17606X03.DWG
LMAN: EXISTING
P: STD-PCP/DL
11/10/99 SYR-54-GMS CBM GMS
17606004/TEC/17606B01.DWG

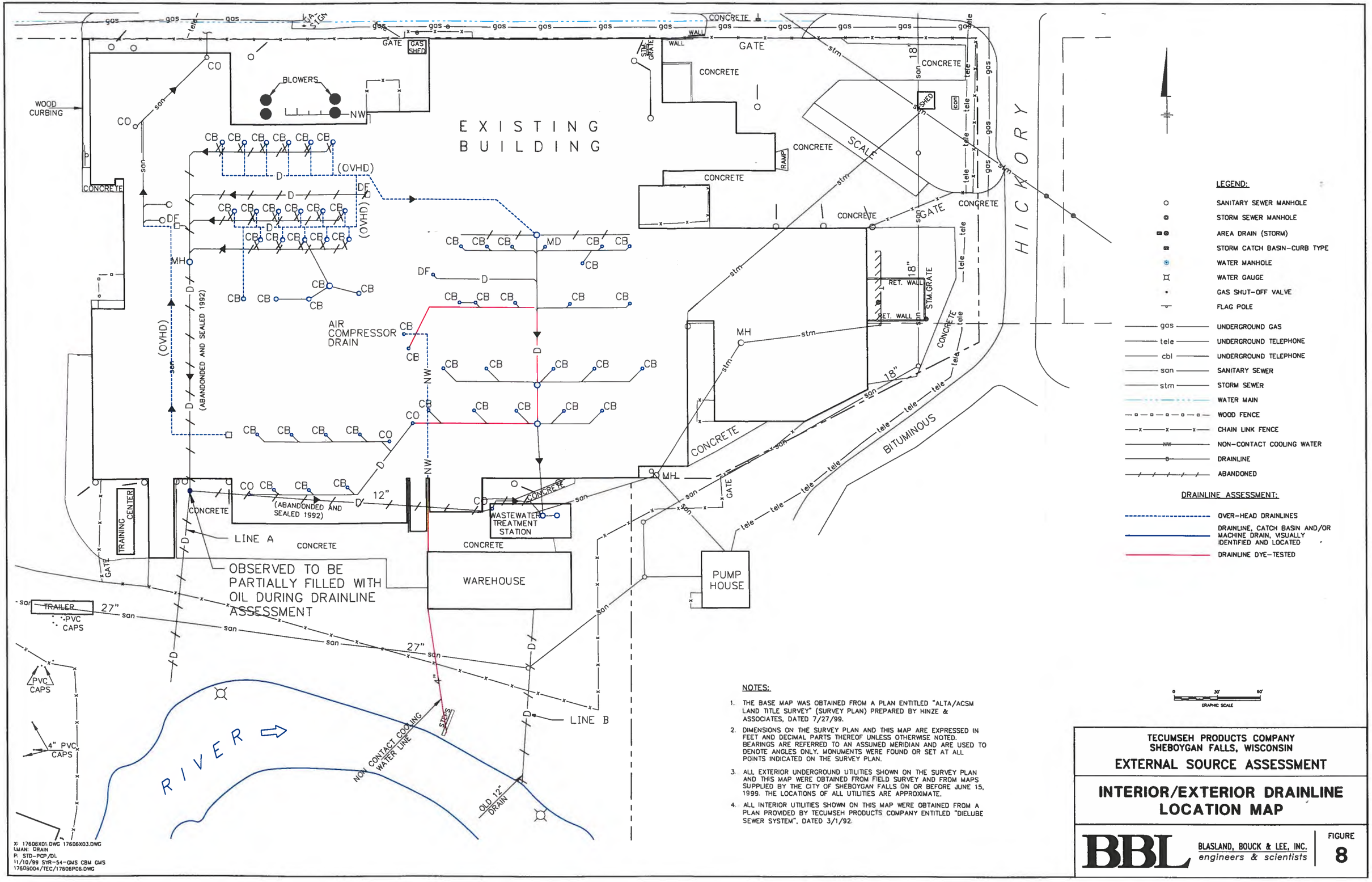
TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

EXTERNAL SOURCE ASSESSMENT

FLOOD CONTROL BERM LOCATION MAP

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 3



NOTES:

1. THE BASE MAP WAS OBTAINED FROM A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" (SURVEY PLAN) PREPARED BY HINZE & ASSOCIATES, DATED 7/27/99.
2. DIMENSIONS ON THE SURVEY PLAN AND THIS MAP ARE EXPRESSED IN FEET AND DECIMAL PARTS THEREOF UNLESS OTHERWISE NOTED. BEARINGS ARE REFERRED TO AN ASSUMED MERIDIAN AND ARE USED TO DENOTE ANGLES ONLY. MONUMENTS WERE FOUND OR SET AT ALL POINTS INDICATED ON THE SURVEY PLAN.
3. ALL EXTERIOR UNDERGROUND UTILITIES SHOWN ON THE SURVEY PLAN AND THIS MAP WERE OBTAINED FROM FIELD SURVEY AND FROM MAPS SUPPLIED BY THE CITY OF SHEBOYGAN FALLS ON OR BEFORE JUNE 15, 1999. THE LOCATIONS OF ALL UTILITIES ARE APPROXIMATE.
4. ALL INTERIOR UTILITIES SHOWN ON THIS MAP WERE OBTAINED FROM A PLAN PROVIDED BY TECUMSEH PRODUCTS COMPANY ENTITLED "DIELUBE SEWER SYSTEM", DATED 3/1/92.

X: 17606X01.DWG 17606X03.DWG
LMAN: DRAIN
P: STD-PCP/DL
11/10/99 SYR-54-GMS CBM GMS
17606004/TEC/17606P06.DWG

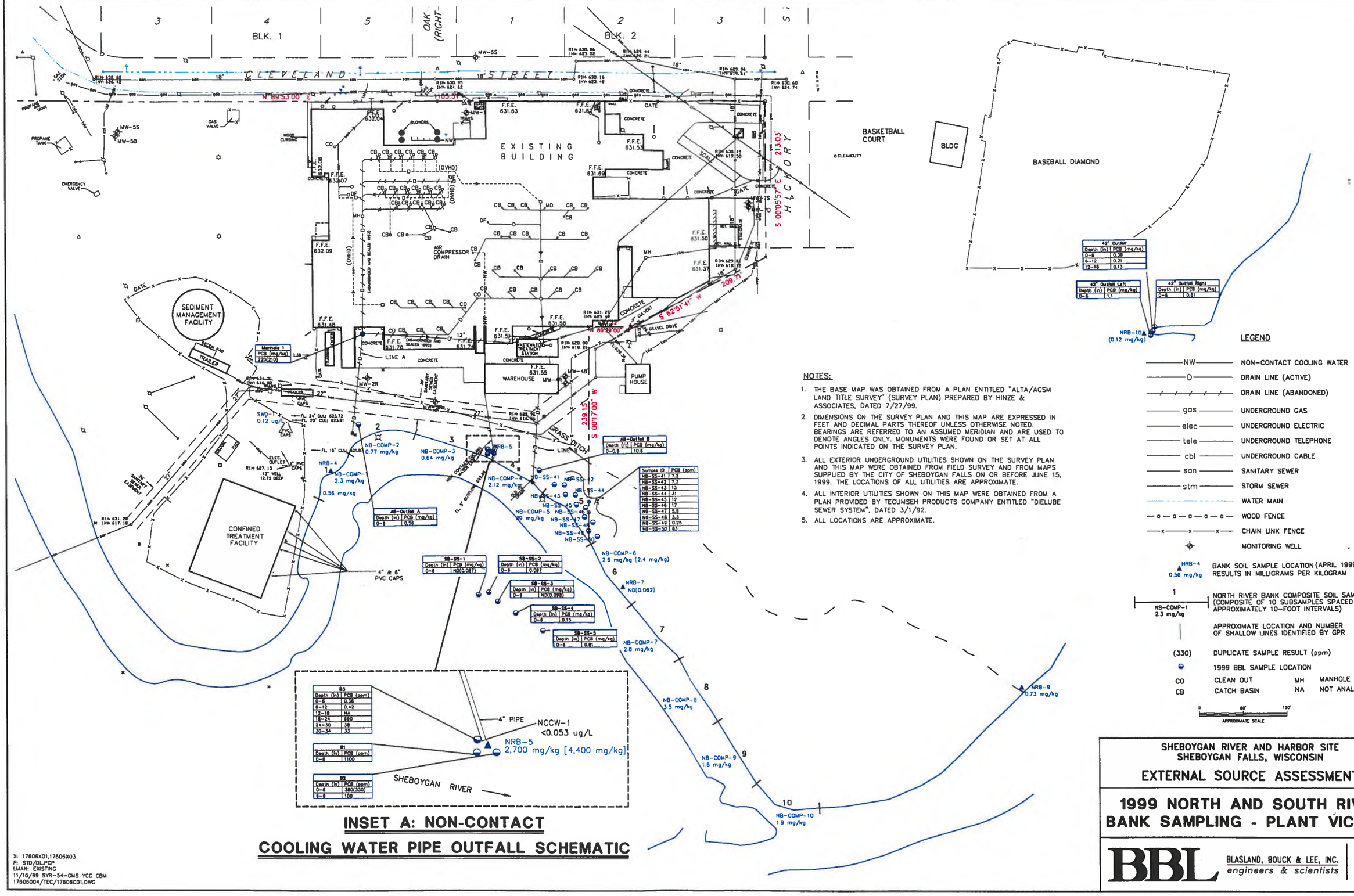
TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

EXTERNAL SOURCE ASSESSMENT

INTERIOR/EXTERIOR DRAINLINE LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 8



INSET A: NON-CONTACT COOLING WATER PIPE OUTFALL SCHEMATIC

NOTES:

1. THE BASE MAP WAS OBTAINED FROM A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" (SURVEY PLAN) PREPARED BY HINZE & ASSOCIATES, DATED 7/27/99.
2. DIMENSIONS ON THE SURVEY PLAN AND THIS MAP ARE EXPRESSED IN FEET AND DECIMAL PARTS THEREOF UNLESS OTHERWISE NOTED. BEARINGS ARE REFERRED TO AN ASSUMED MERIDIAN AND ARE USED TO DENOTE ANGLES ONLY. MONUMENTS WERE FOUND OR SET AT ALL POINTS INDICATED ON THE SURVEY PLAN.
3. ALL EXTERIOR UNDERGROUND UTILITIES SHOWN ON THE SURVEY PLAN AND THIS MAP WERE OBTAINED FROM FIELD SURVEY AND FROM MAPS SUPPLIED BY THE CITY OF SHEBOYGAN FALLS ON OR BEFORE JUNE 15, 1999. THE LOCATIONS OF ALL UTILITIES ARE APPROXIMATE.
4. ALL INTERIOR UTILITIES SHOWN ON THIS MAP WERE OBTAINED FROM A PLAN PROVIDED BY TECUMSEH PRODUCTS COMPANY ENTITLED "DIELUBE SEWER SYSTEM", DATED 3/1/92.
5. ALL LOCATIONS ARE APPROXIMATE.

LEGEND

- NW — NON-CONTACT COOLING WATER
- D — DRAIN LINE (ACTIVE)
- DRAIN LINE (ABANDONED)
- gas — UNDERGROUND GAS
- elec — UNDERGROUND ELECTRIC
- tele — UNDERGROUND TELEPHONE
- cbl — UNDERGROUND CABLE
- son — SANITARY SEWER
- stm — STORM SEWER
- WATER MAIN
- WOOD FENCE
- CHAIN LINK FENCE
- MONITORING WELL
- NRB-4 / 0.56 mg/kg — BANK SOIL SAMPLE LOCATION (APRIL 1999) RESULTS IN MILLIGRAMS PER KILOGRAM
- 1 / NB-COMP-1 / 2.3 mg/kg — NORTH RIVER BANK COMPOSITE SOIL SAMPLES (COMPOSITE OF 10 SUBSAMPLES SPACED AT APPROXIMATELY 10-FOOT INTERVALS)
- APPROXIMATE LOCATION AND NUMBER OF SHALLOW LINES IDENTIFIED BY GPR
- (330) — DUPLICATE SAMPLE RESULT (ppm)
- 1999 BBL SAMPLE LOCATION
- CO — CLEAN OUT; MH — MANHOLE
- CB — CATCH BASIN; NA — NOT ANALYZED

0 60' 120'
APPROXIMATE SCALE

SHEBOYGAN RIVER AND HARBOR SITE
SHEBOYGAN FALLS, WISCONSIN

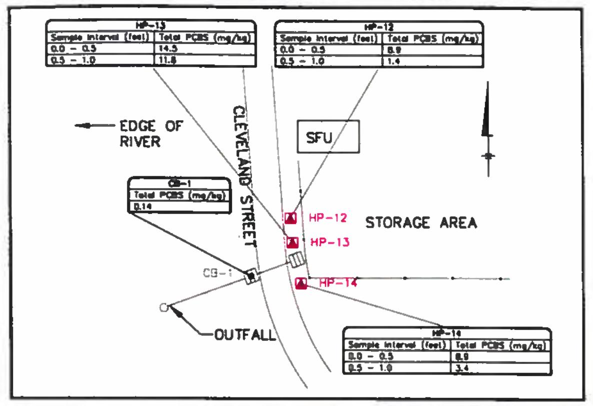
EXTERNAL SOURCE ASSESSMENT

1999 NORTH AND SOUTH RIVER BANK SAMPLING - PLANT VICINITY

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 9

X: 17606X01,17606X03
P: STD/DL.PCP
LMAN: EXISTING
11/16/99 SYR-54-GMS YCC CBM
17606004/TEC/17606C01.DWG



HAND PROBE LOCATIONS

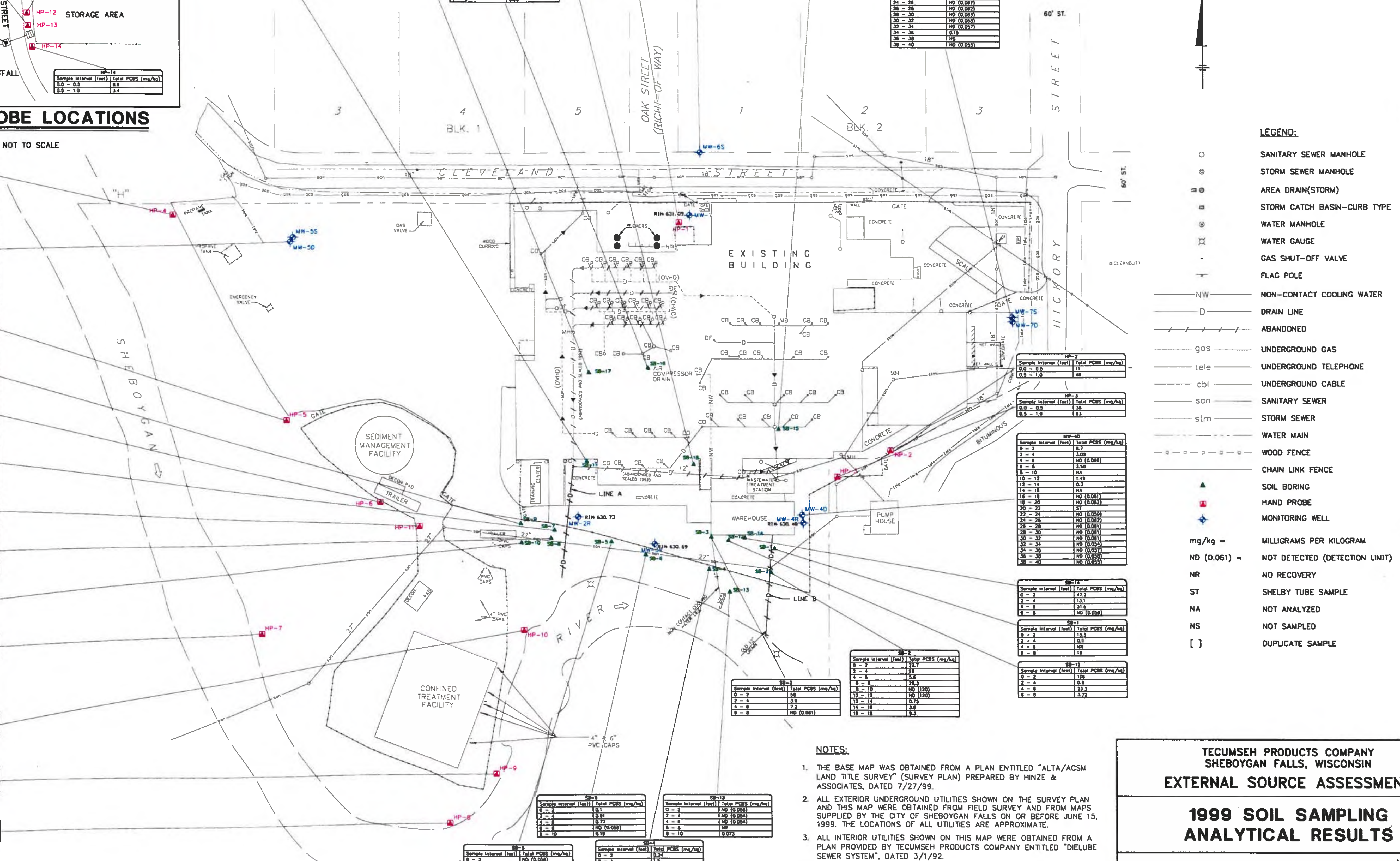
NOT TO SCALE

HP-13	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	14.5
0.5 – 1.0	11.8

HP-12	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	8.9
0.5 – 1.0	1.4

CB-1
Total PCBS (mg/kg)
0.14

HP-14	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	8.9
0.5 – 1.0	3.4



HP-4	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	0.057
0.5 – 1.0	ND (0.055)

MW-5D	
Sample Interval (feet)	Total PCBS (mg/kg)
1 – 3	ND (0.056)
3 – 5	NA
5 – 7	ND (0.052)
7 – 9	ND (0.057)
9 – 11	ND (0.060)
12 – 14	NA
14 – 16	ST
16 – 18	ND (0.066)
18 – 20	ND (0.064)
20 – 22	ND (0.056)
22 – 24	ND (0.068)
24 – 26	ND (0.054)
26 – 28	ND (0.053)
28 – 30	ND (0.053)
30 – 32	ND (0.058)
32 – 34	ND (0.055)
34 – 36	ND (0.062)
36 – 38	ND (0.059)

HP-5	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	0.89
0.5 – 1.0	1.8

SB-9	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	19.6
2 – 4	NR
4 – 6	11.7
6 – 8	1.8
8 – 10	7.1

HP-6	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	3.3
0.5 – 1.0	0.53

SB-7	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	1.7
2 – 4	2.22
4 – 6	0.67
6 – 8	23
8 – 10	1.62
10 – 12	0.168
12 – 14	3.9

HP-11	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	52
0.5 – 1.0	160

SB-6	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	0.092
2 – 4	0.41
4 – 6	60
6 – 8	6.7
8 – 10	8.2
10 – 12	33

SB-10	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	7.4
2 – 4	51
4 – 6	4.5
6 – 8	6.7
8 – 10	0.35

HP-7	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	ND (0.056)
0.5 – 1.0	ND (0.054)

HP-10	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	0.264
0.5 – 1.0	2.9

HP-9	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	ND (0.057)
0.5 – 1.0	ND (0.059)

HP-8	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	ND (0.055)
0.5 – 1.0	ND (0.058)

SB-11	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	5.1
2 – 4	14.2
4 – 6	0.52
6 – 8	0.207
8 – 10	1.06
10 – 12	0.58

SB-17	
Sample Interval (feet)	Total PCBS (mg/kg)
1 – 3	42
3 – 5	14
5 – 7	0.413
7 – 9	0.094

SB-16	
Sample Interval (feet)	Total PCBS (mg/kg)
1 – 3	18
3 – 5	72
5 – 7	ND (0.059)
7 – 9	0.26

SB-18	
Sample Interval (feet)	Total PCBS (mg/kg)
1 – 3	26.6
3 – 5	44.6
5 – 7	42
7 – 9	62
9 – 11	188

HP-1	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	3.5
0.5 – 1.0	0.175

MW-6S	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	1.4
2 – 4	0.161
4 – 6	0.31

SB-15	
Sample Interval (feet)	Total PCBS (mg/kg)
1 – 3	1.12
3 – 5	1.0
5 – 7	3.1

MW-7D	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	29
2 – 4	11.4
4 – 6	23.2
6 – 8	0.14
8 – 10	0.076
10 – 12	ND (0.056)
12 – 14	ND (0.060)
14 – 16	3.7
16 – 18	ST
18 – 20	0.158
20 – 22	ND (0.065)
22 – 24	ND (0.066)
24 – 26	ND (0.067)
26 – 28	ND (0.062)
28 – 30	ND (0.063)
30 – 32	ND (0.068)
32 – 34	ND (0.057)
34 – 36	0.15
36 – 38	NS
38 – 40	ND (0.055)

HP-2	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	11
0.5 – 1.0	48

HP-3	
Sample Interval (feet)	Total PCBS (mg/kg)
0.0 – 0.5	38
0.5 – 1.0	83

MW-4D	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	8.7
2 – 4	3.09
4 – 6	ND (0.060)
6 – 8	2.56
8 – 10	NA
10 – 12	1.49
12 – 14	0.3
14 – 16	NA
16 – 18	ND (0.061)
18 – 20	ND (0.062)
20 – 22	ST
22 – 24	ND (0.059)
24 – 26	ND (0.062)
26 – 28	ND (0.061)
28 – 30	ND (0.061)
30 – 32	ND (0.061)
32 – 34	ND (0.054)
34 – 36	ND (0.057)
36 – 38	ND (0.058)
38 – 40	ND (0.055)

SB-14	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	47.2
2 – 4	13.1
4 – 6	31.5
6 – 8	ND (0.059)

SB-1	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	15.5
2 – 4	0.9
4 – 6	NR
6 – 8	19

SB-12	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	106
2 – 4	0.8
4 – 6	23.3
6 – 8	3.32

SB-3	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	58
2 – 4	3.9
4 – 6	7.2
6 – 8	ND (0.061)

SB-2	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	22.7
2 – 4	99
4 – 6	5.6
6 – 8	26.3
8 – 10	ND (120)
10 – 12	ND (120)
12 – 14	0.75
14 – 16	3.6
16 – 18	9.3

SB-8	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	0.1
2 – 4	0.91
4 – 6	0.77
6 – 8	ND (0.058)
8 – 10	0.19

SB-13	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	ND (0.058)
2 – 4	ND (0.054)
4 – 6	ND (0.054)
6 – 8	NR
8 – 10	0.073

SB-5	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	ND (0.058)
2 – 4	0.64
4 – 6	NR
6 – 8	20.6
8 – 10	38

SB-4	
Sample Interval (feet)	Total PCBS (mg/kg)
0 – 2	0.24
2 – 4	1.5
4 – 6	0.78
6 – 8	0.5

NOTES:

1. THE BASE MAP WAS OBTAINED FROM A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" (SURVEY PLAN) PREPARED BY HINZE & ASSOCIATES, DATED 7/27/99.
2. ALL EXTERIOR UNDERGROUND UTILITIES SHOWN ON THE SURVEY PLAN AND THIS MAP WERE OBTAINED FROM FIELD SURVEY AND FROM MAPS SUPPLIED BY THE CITY OF SHEBOYGAN FALLS ON OR BEFORE JUNE 15, 1999. THE LOCATIONS OF ALL UTILITIES ARE APPROXIMATE.
3. ALL INTERIOR UTILITIES SHOWN ON THIS MAP WERE OBTAINED FROM A PLAN PROVIDED BY TECUMSEH PRODUCTS COMPANY ENTITLED "DIELUBE SEWER SYSTEM", DATED 3/1/92.

X: 17606X01.DWG, 17606X03.DWG
LMAN: SOIL-2
P: STD-PCP/DL
11/10/99 SYR-54-YCC CBM GMS
17606004/TEC/17606P03.DWG

TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

EXTERNAL SOURCE ASSESSMENT

1999 SOIL SAMPLING ANALYTICAL RESULTS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 10

COMP-18	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	28
2 – 4	450
4 – 6	16
6 – 8	ND (0.059)
8 – 10	ND (0.06)

COMP-17	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	0.94
2 – 4	2.6
4 – 6	2.0 [0.7]

COMP-16	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	3.0
2 – 4	3.8
4 – 6	2.3
6 – 8	13.5

COMP-15	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	4.2
2 – 4	10.9
4 – 6	21.4
6 – 8	3.8

COMP-14	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	18.8
2 – 4	19.8
4 – 6	26.4
6 – 8	17
8 – 10	1,800

COMP-13	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	61
2 – 4	52
4 – 6	85
6 – 8	34.3

COMP-12	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	70
2 – 4	54
4 – 6	14
6 – 8	9.9

COMP-11	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	55.4
2 – 4	18.5
4 – 6	31
6 – 8	0.57

COMP-1	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	5.4
2 – 4	3.4
4 – 6	3.2
6 – 8	0.1
8 – 10	ND (0.06)

COMP-3	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	0.6
2 – 4	0.29
4 – 6	ND (0.055)
6 – 8	0.44
8 – 10	ND (0.058)

COMP-9	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	2.2
2 – 4	2.72 [2.39]
4 – 6	0.58

COMP-10	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	4.3
2 – 4	4.0
4 – 6	50

COMP-8	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	55
2 – 4	11.1
4 – 6	102

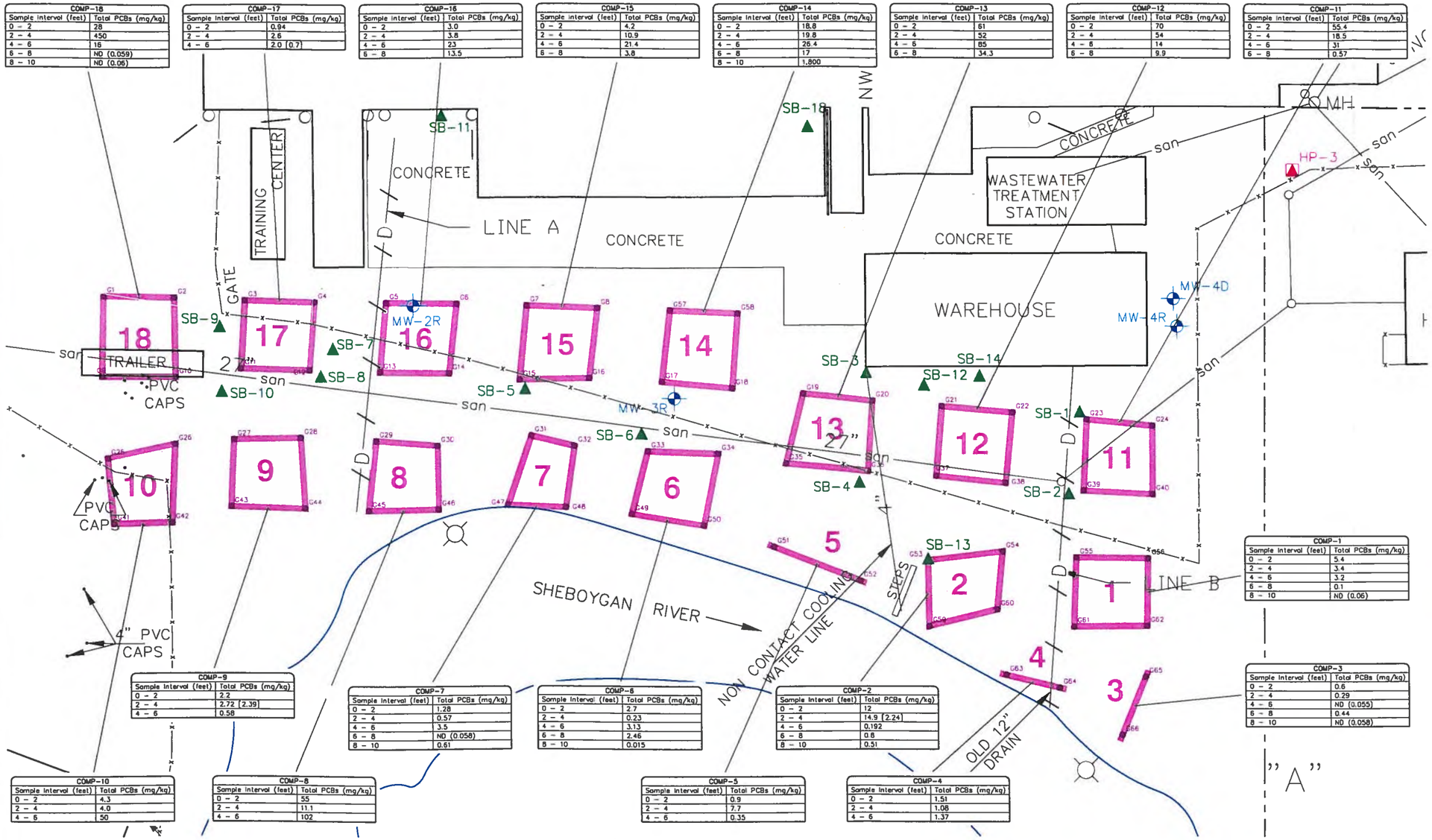
COMP-7	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	1.28
2 – 4	0.57
4 – 6	3.5
6 – 8	ND (0.058)
8 – 10	0.61

COMP-6	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	2.7
2 – 4	0.23
4 – 6	3.13
6 – 8	2.46
8 – 10	0.015

COMP-5	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	0.9
2 – 4	7.7
4 – 6	0.35

COMP-2	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	12
2 – 4	14.9 [2.24]
4 – 6	0.192
6 – 8	0.8
8 – 10	0.51

COMP-4	
Sample Interval (feet)	Total PCBs (mg/kg)
0 – 2	1.51
2 – 4	1.08
4 – 6	1.37



LEGEND:

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AREA DRAIN(STORM)
- STORM CATCH BASIN–CURB TYPE
- WATER MANHOLE
- FIRE HYDRANT
- WATER SHUT-OFF VALVE
- UTILITY POLE & GUY WIRE
- LIGHT POLE
- WATER GAUGE
- GAS SHUT-OFF VALVE
- FLAG POLE
- NW — NON-CONTACT COOLING WATER
- D — DRAIN LINE
- ABANDONED
- san — SANITARY SEWER
- stm — STORM SEWER
- WATER MAIN
- WOOD FENCE
- CHAIN LINK FENCE
- GRID BORING SAMPLE
- GRID BORING SAMPLES COMPOSITED FOR ANALYSIS
- MONITORING WELL
- SOIL BORING
- HAND PROBE
- mg/kg = MILIGRAMS PER KILOGRAM
- ND (0.06) = NOT DETECTED (DETECTION LIMIT)
- [ ] = DUPLICATE SAMPLE

0 20' 40'
GRAPHIC SCALE

NOTES:

1. THE BASE MAP WAS OBTAINED FROM A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" (SURVEY PLAN) PREPARED BY HINZE & ASSOCIATES, DATED 7/27/99.
2. ALL EXTERIOR UNDERGROUND UTILITIES SHOWN ON THE SURVEY PLAN AND THIS MAP WERE OBTAINED FROM FIELD SURVEY AND FROM MAPS SUPPLIED BY THE CITY OF SHEBOYGAN FALLS ON OR BEFORE JUNE 15, 1999. THE LOCATIONS OF ALL UTILITIES ARE APPROXIMATE.

X: 17606X01.DWG, 17606X03.DWG
LMAN: GRID1
P: STD-PCP/DL
11/10/99 SYR-54-YCC CBM GMS
17605004/TEC/17606P04.DWG

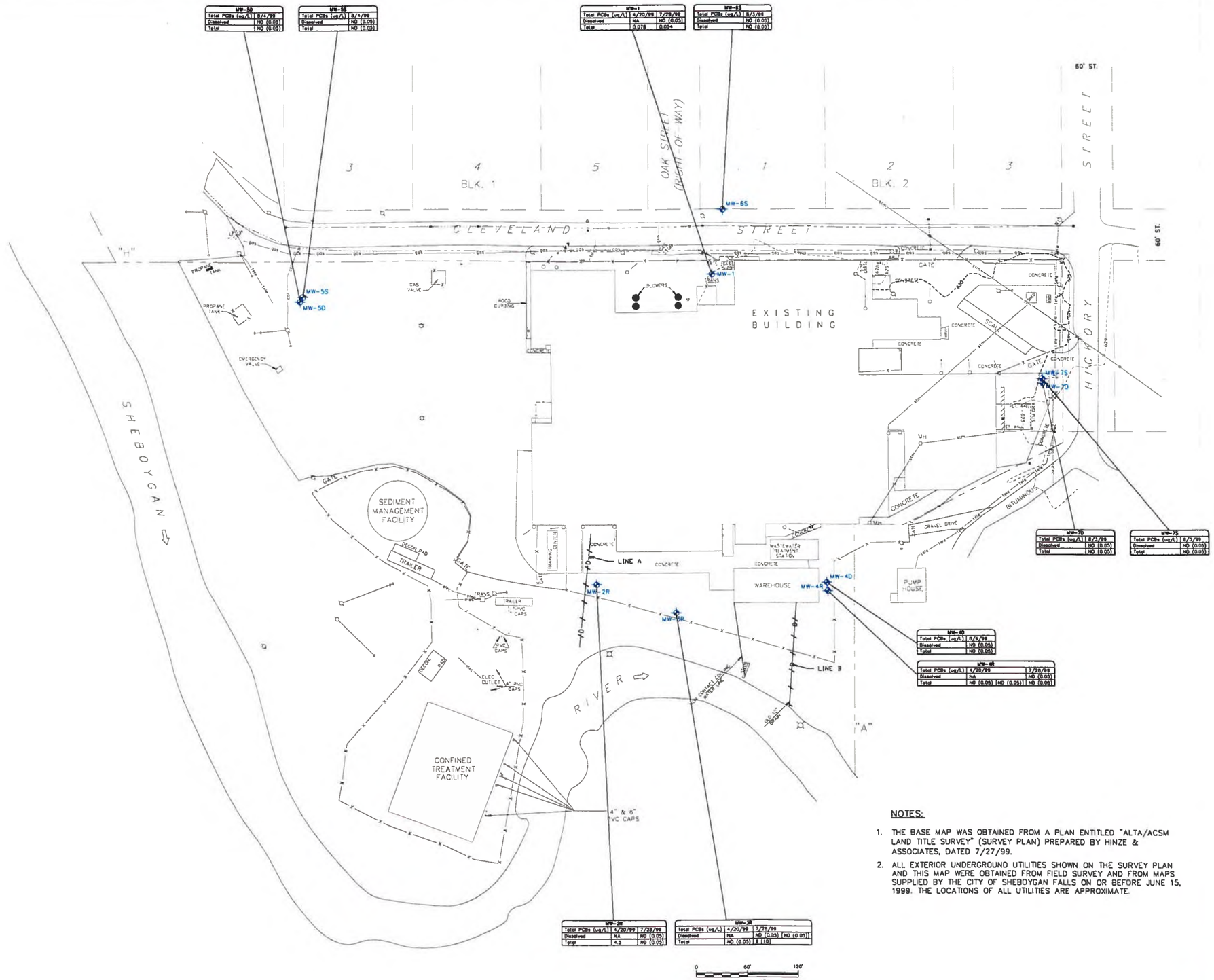
TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

EXTERNAL SOURCE ASSESSMENT

1999 GRID BORING LOCATION PLAN AND COMPOSITE SAMPLE ANALYTICAL RESULTS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 16



LEGEND:

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- AREA DRAIN(STORM)
- STORM CATCH BASIN-CURB TYPE
- WATER MANHOLE
- FIRE HYDRANT
- WATER SHUT-OFF VALVE
- UTILITY POLE & GUY WIRE
- LIGHT POLE
- WATER GAUGE
- GAS SHUT-OFF VALVE
- FLAG POLE
- NW — NON-CONTACT COOLING WATER
- D — DRAIN LINE
- ABANDONED
- gas — UNDERGROUND GAS
- elec — UNDERGROUND ELECTRIC
- tele — UNDERGROUND TELEPHONE
- cal — UNDERGROUND TELEPHONE
- san — SANITARY SEWER
- stm — STORM SEWER
- WATER MAIN
- WOOD FENCE
- CHAIN LINK FENCE
- MONITORING WELL
- ug/L = MICROGRAMS PER LITER
- NA = NOT ANALYZED
- ND (0.05) = NOT DETECTED (DETECTION LIMIT)
- [ ] = DUPLICATE SAMPLE

NOTES:

1. THE BASE MAP WAS OBTAINED FROM A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" (SURVEY PLAN) PREPARED BY HINZE & ASSOCIATES, DATED 7/27/99.
2. ALL EXTERIOR UNDERGROUND UTILITIES SHOWN ON THE SURVEY PLAN AND THIS MAP WERE OBTAINED FROM FIELD SURVEY AND FROM MAPS SUPPLIED BY THE CITY OF SHEBOYGAN FALLS ON OR BEFORE JUNE 15, 1999. THE LOCATIONS OF ALL UTILITIES ARE APPROXIMATE.

TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

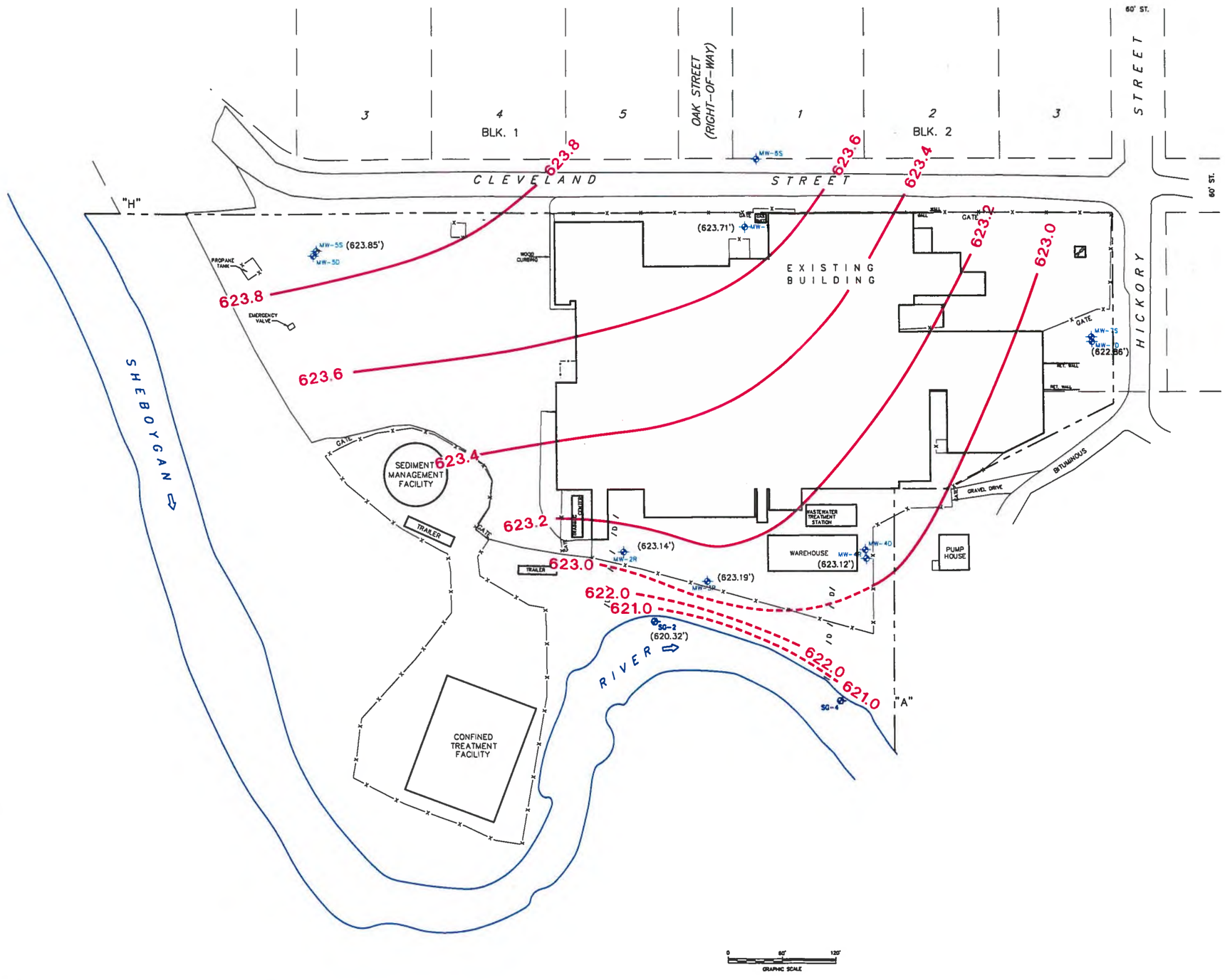
EXTERNAL SOURCE ASSESSMENT

GROUND-WATER ANALYTICAL RESULTS

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 21

X: 17606X01.DWG, 17606X03.DWG
LMAN: ANALYTIC
P: STD-PCP/DL
10/14/99 SYR-54=YCC GMS CBM
17606004/TEC/17606P02.DWG



LEGEND:

- MONITORING WELL
- STAFF GUAGE
- (622.86') WATER-TABLE ELEVATION (FEET NVGD)
- 623.0 WATER-TABLE ELEVATION CONTOUR (FEET NVGD)

NOTES:

1. THE BASE MAP WAS OBTAINED FROM A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" (SURVEY PLAN) PREPARED BY HINZE & ASSOCIATES, DATED 7/27/99.
2. STREAM GAUGE SG-4 WAS DAMAGED.

TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

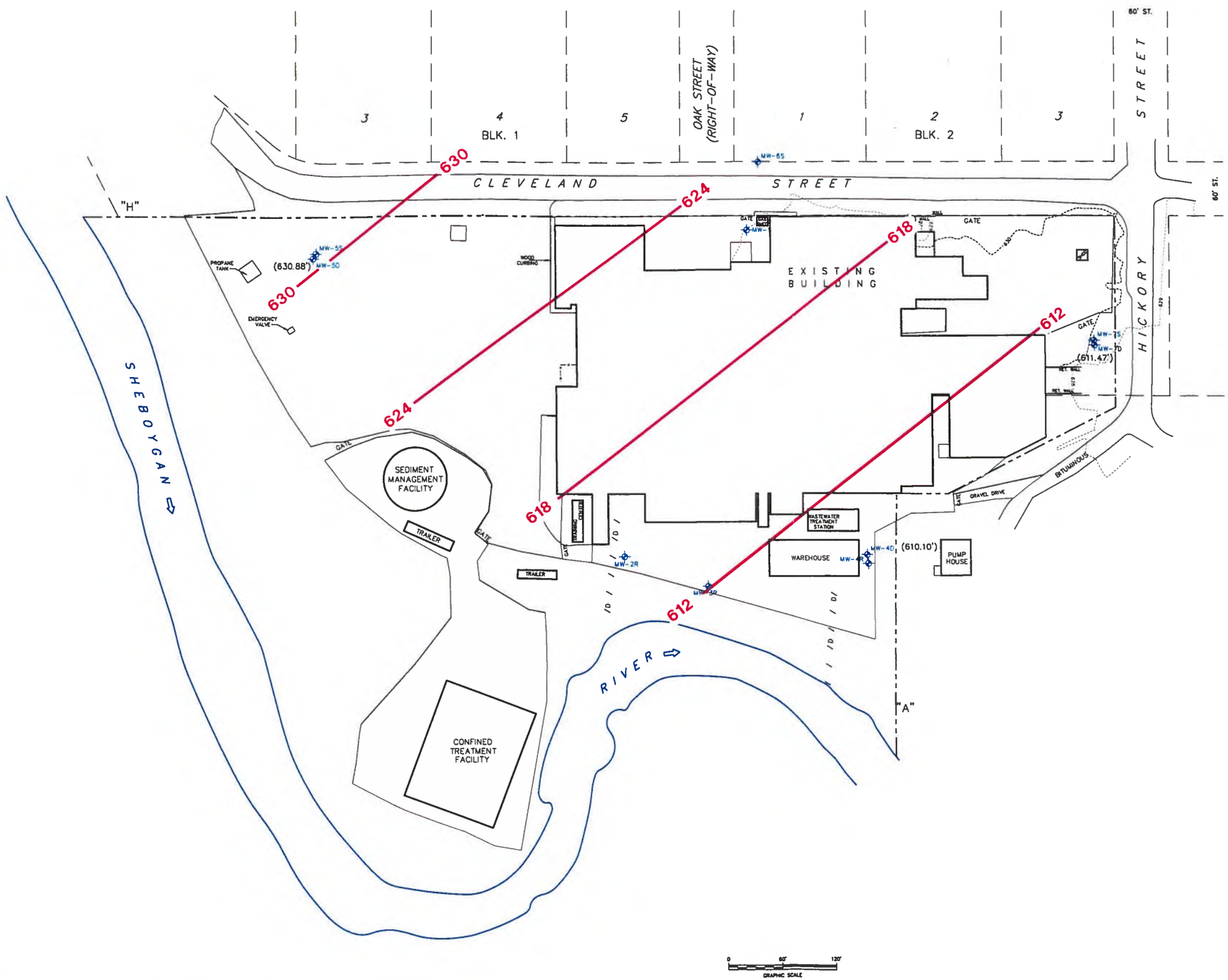
EXTERNAL SOURCE ASSESSMENT

WATER-TABLE ELEVATION CONTOUR MAP 9/20/99

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 22

X: 17606X01.DWG, 17606X03.DWG
LMAN: WATER-T
P: STD-PCP/DL
11/12/99 SYR-54-KMD GMS CBM
17606004/TEC/17606W03.DWG



LEGEND:

- MONITORING WELL
- (630.88') POTENTIOMETRIC ELEVATION (FEET NVGD)
- POTENTIOMETRIC ELEVATION CONTOUR (FEET NVGD)

NOTES:

1. THE BASE MAP WAS OBTAINED FROM A PLAN ENTITLED "ALTA/ACSM LAND TITLE SURVEY" (SURVEY PLAN) PREPARED BY HINZE & ASSOCIATES, DATED 7/27/99.

X: 17606X01.DWG, 17606X03.DWG
LMAN: G-WATER
P: STD-PCP/DL
11/10/99 SYR-54-KMD RCA GMS
17606004/TEC/17606W04.DWG

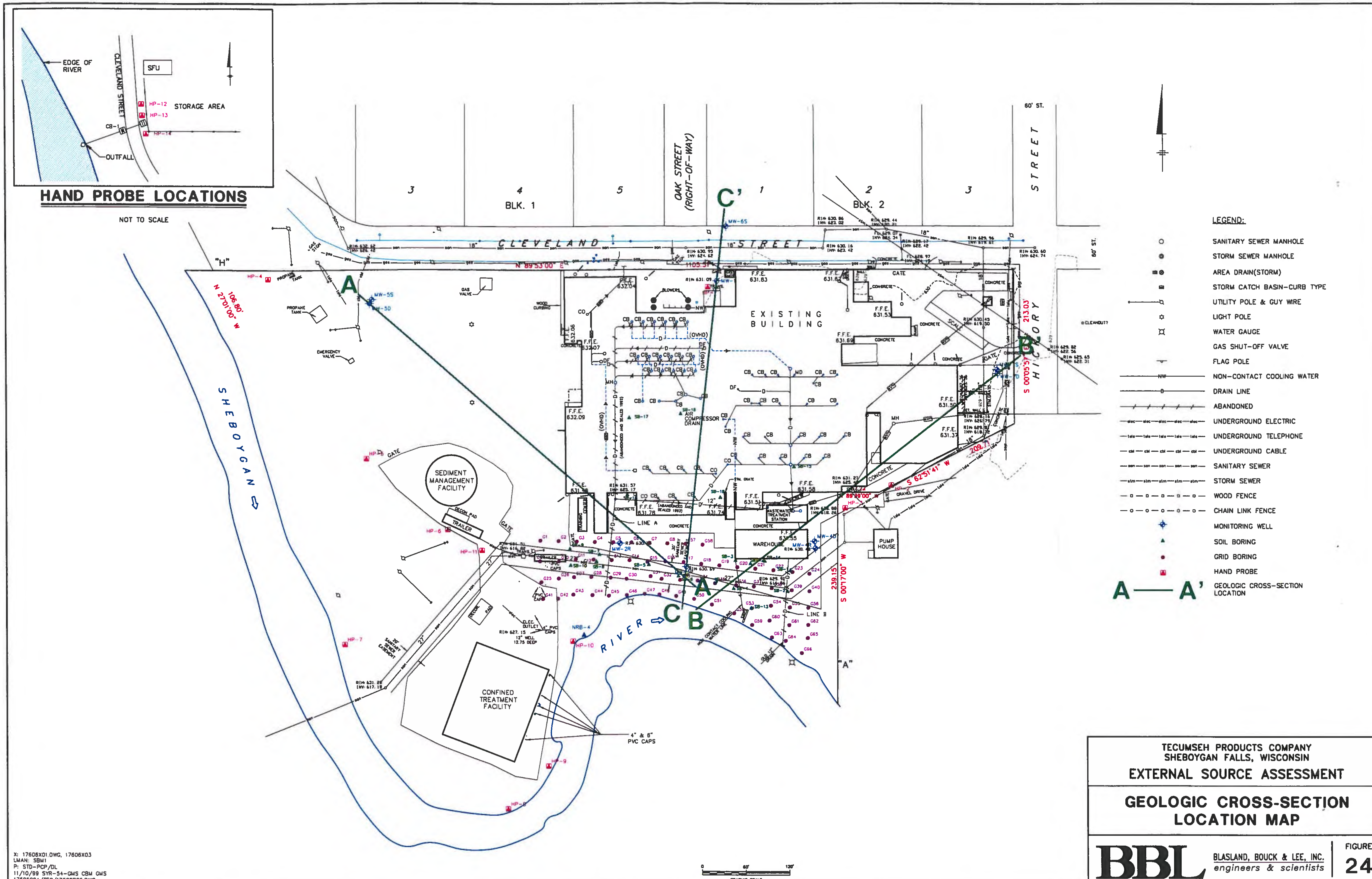
TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

EXTERNAL SOURCE ASSESSMENT

GROUND-WATER POTENTIOMETRIC SURFACE FOR DEEP OVERBURDEN SEPTEMBER 1999

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 23



TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

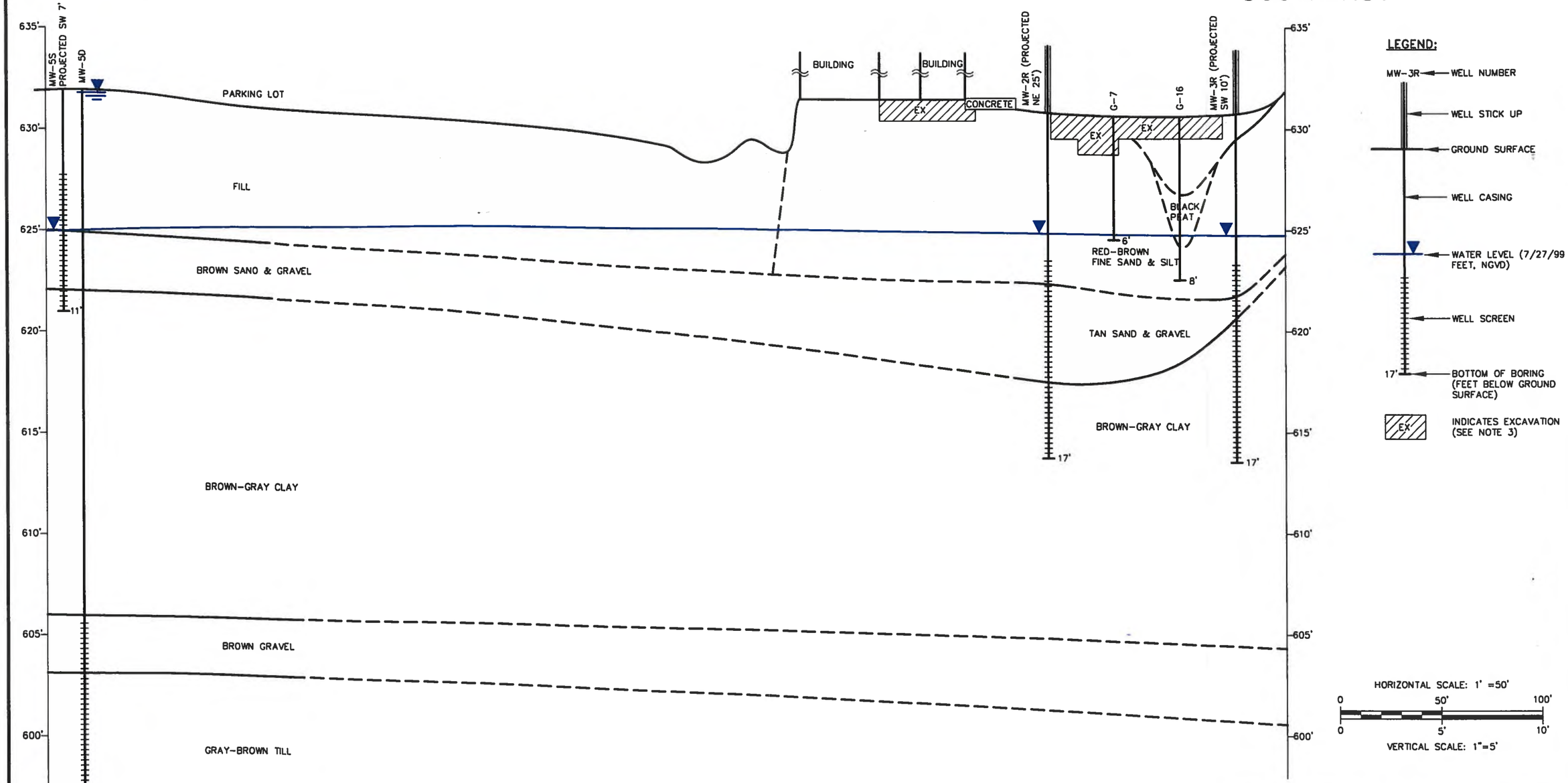
EXTERNAL SOURCE ASSESSMENT

GEOLOGIC CROSS-SECTION LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 24

A NORTHWEST — A' SOUTHEAST



NOTES:

1. RIVER WATER LEVEL MEASURED 5/17/99.
2. GROUND-WATER LEVELS MEASURED 7/27/99.
3. THE EXCAVATION LIMITS ARE APPROXIMATE AND ARE BASED ON THE HORIZONTAL AND VERTICAL LIMITS IN A SKETCH PROVIDED IN A LETTER FROM DONOHUE AND ASSOCIATES, INC. TO WISCONSIN DEPARTMENT OF NATURAL RESOURCES DATED NOVEMBER 27, 1979.

L: ON=*, OFF=REF P: STD-PCP/BL
11/10/99 SYR-54-PGL CBM GMS
17606004/17606V03.DWG

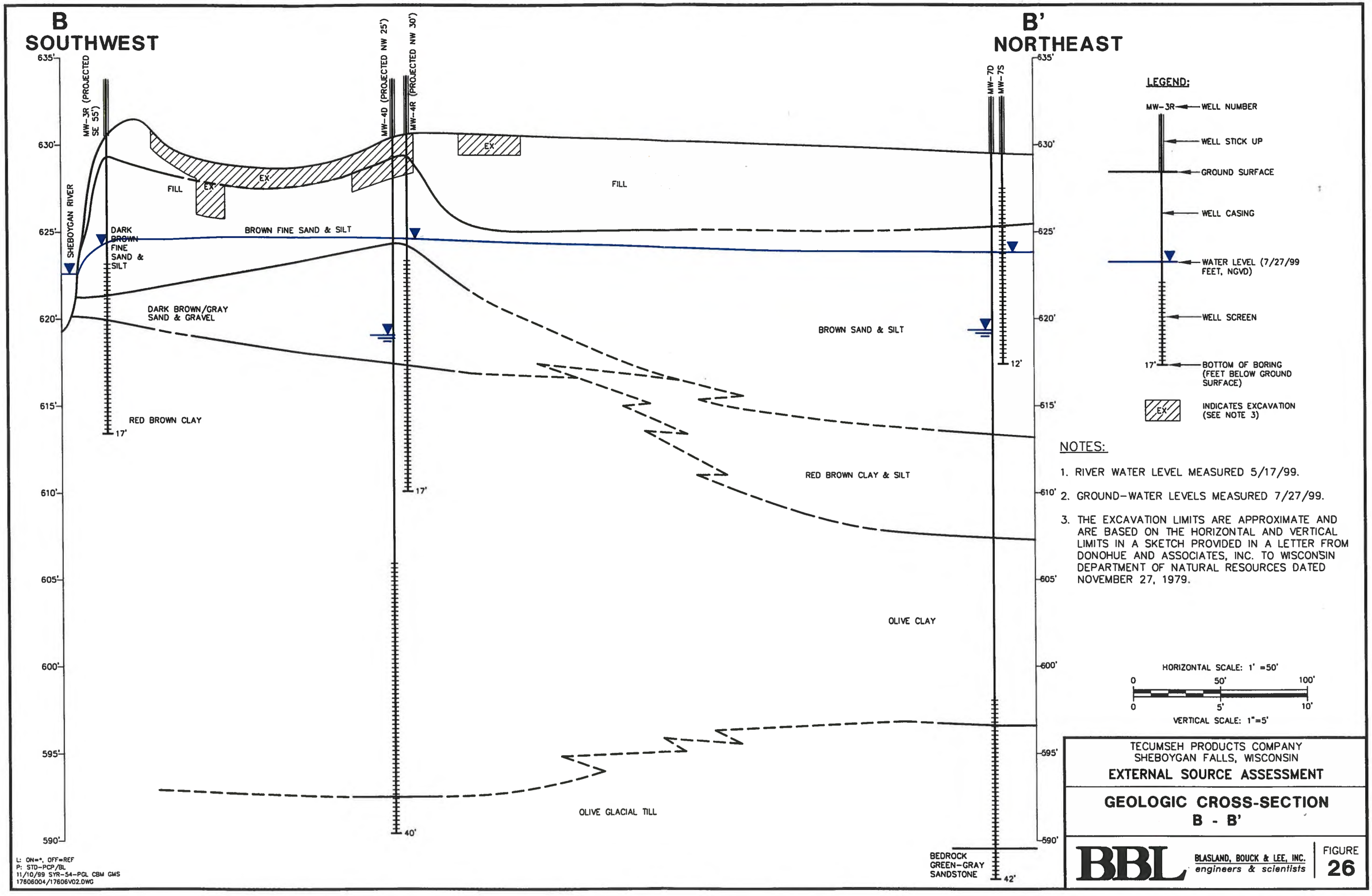
TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

EXTERNAL SOURCE ASSESSMENT

GEOLOGIC CROSS-SECTION
A - A'

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE **25**



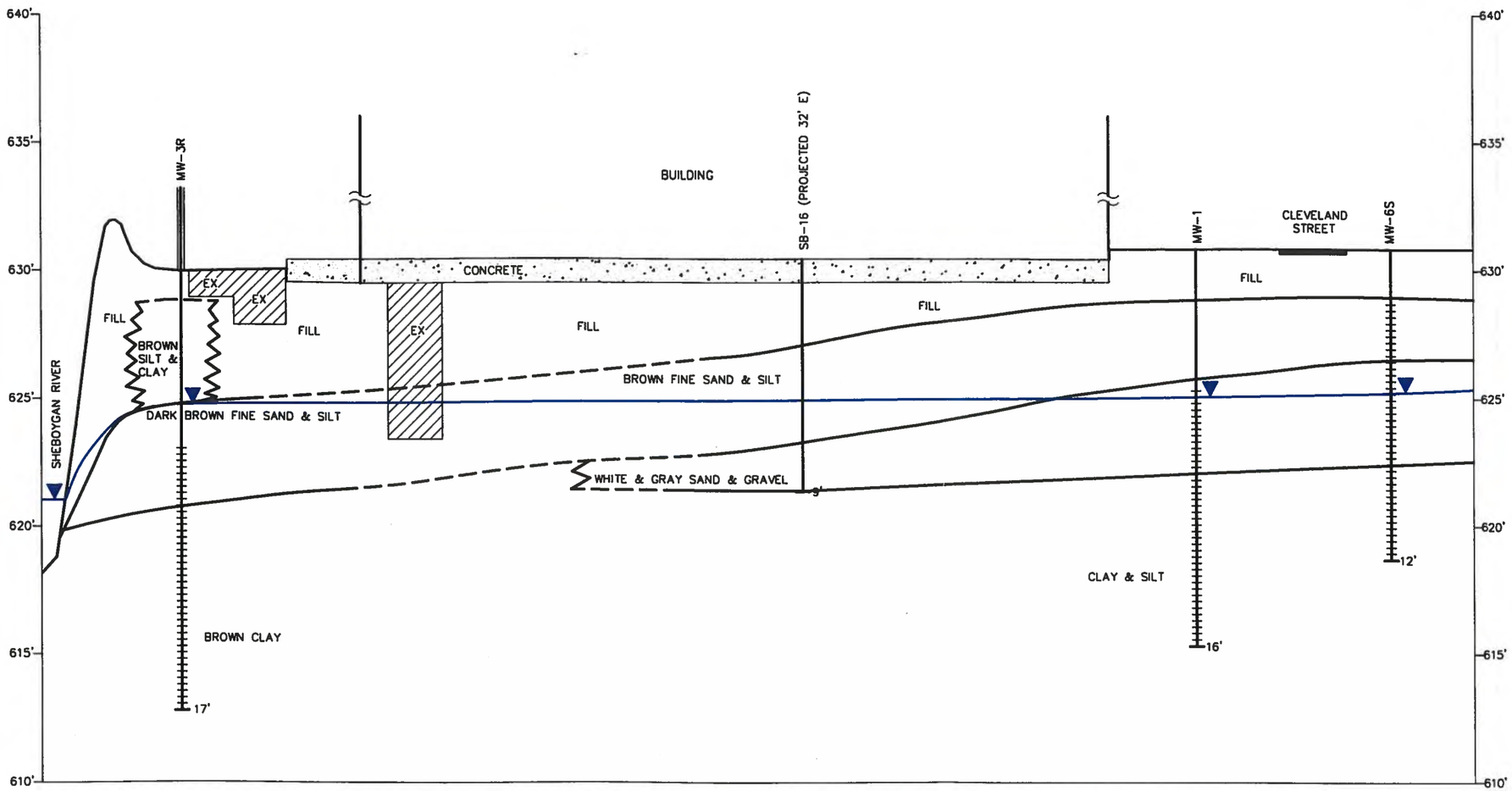
TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

EXTERNAL SOURCE ASSESSMENT

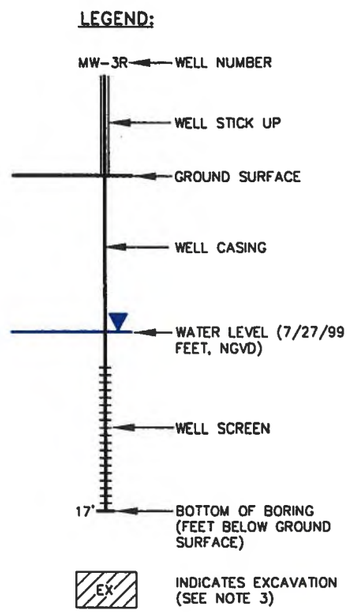
GEOLOGIC CROSS-SECTION
B - B'

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
26

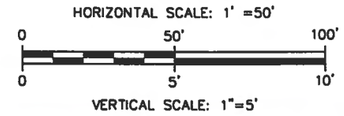


LEGEND:



NOTES:

1. RIVER WATER LEVEL MEASURED 5/17/99.
2. GROUND-WATER LEVELS MEASURED 7/27/99.
3. THE EXCAVATION LIMITS ARE APPROXIMATE AND ARE BASED ON THE HORIZONTAL AND VERTICAL LIMITS IN A SKETCH PROVIDED IN A LETTER FROM DONOHUE AND ASSOCIATES, INC. TO WISCONSIN DEPARTMENT OF NATURAL RESOURCES DATED NOVEMBER 27, 1979.



TECUMSEH PRODUCTS COMPANY
SHEBOYGAN FALLS, WISCONSIN

EXTERNAL SOURCE ASSESSMENT

GEOLOGIC CROSS-SECTION
C - C'

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE **27**

L: ON=*, OFF=REF
P: STD-PCP/BL
11/10/99 SYR-54-PGL CBM GMS
17606004/17606B01.DWG

Sheboygan River and Harbor Superfund Site

Phase I Completion Report

Prepared For
United States Environmental Protection Agency
Region 5

Prepared By
Pollution Risk Services, LLC

SEPTEMBER 2005

Table 1

PCB Impacted Soil Final Quantities

Sheboygan River and Harbor Superfund Site ~ Phase I

SOURCE AREA	NON-HAZARDOUS WASTE SHIPPED (TONS)	HAZARDOUS WASTE SHIPPED (TONS)
TRENCH EXCAVATION	2171.86	339.40
SOURCE SOILS	1221.55	303.36
RIVERBANK / PREFERENTIAL PATHWAYS	678.76	725.42
TOTALS	**4072.17**	**1368.18**

Table 2

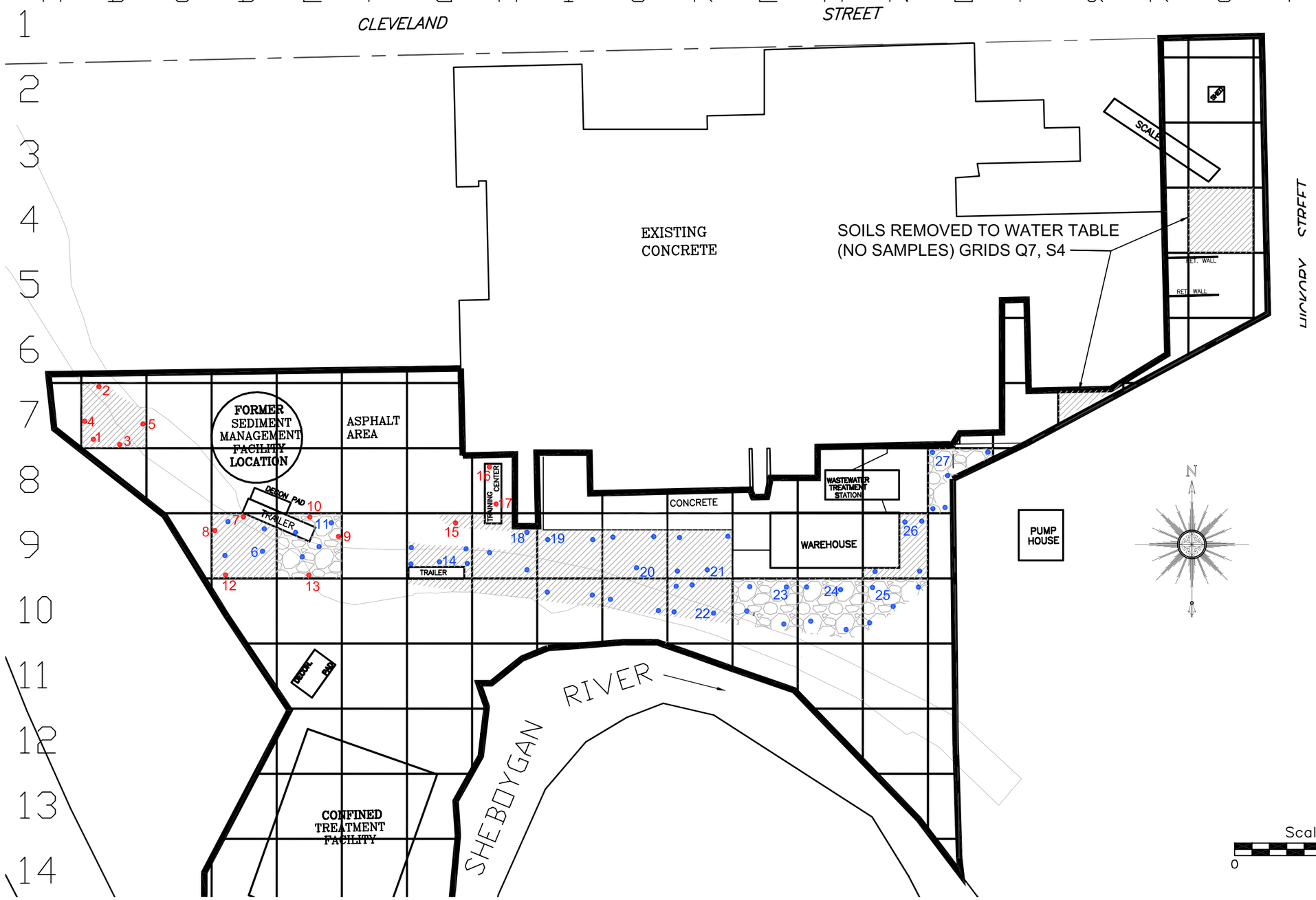
Source Soils PCB Confirmation Sample Results

Sheboygan River and Harbor Superfund SIte ~ Phase I

Sample #	Sample ID #	Sample Depth Interval (ft)	PCB Concentration (ppm)
1	PS-SS2, B7, Floor	1	0.89 (1.1)
2	PS-SS2, B7, N(0-1)	0-1	0.69
3	PS-SS2, B7, S(0-1)	0-1	0.32
4	PS-SS2, B7, W(0-1)	0-1	*0.037 J*
5	PS-SS3, B7, E(0-1)	0-1	0.082
6	PS-SS1, D9, Floor	1	0.82
7	PS-SS1, D9, N(0-1)	0-1	*0.012 J*
8	PS-SS1, D9, W(0-1)	0-1	0.45
9	PS-SS1, E9, E(0-1)	0-1	*ND*
10	PS-SS1, E9, N(0-1)	0-1	0.05
11	PS-SS1, E9, Floor	1	0.82
12	PS-SS3, D9, (0-1)	0-1	*0.12 J*
13	PS-SS2, E9, S(0-1)	0-1	*0.3 J*
14	PS-SS1, G9	0-1	1.4
15	PS-SS1, G9, Floor	1	2.6
16	PS-SS1, H8, N Floor	1	2.3
17	PS-SS2, H8, S Floor	1	4.7
18	PS-SS2, H9	1	18
19	PS-SS1, I9	1	2.9 [1]
20	PS-SS1, J9/J10, Floor	1	3.3 (2.8) [2]
21	PS-SS1, K9, Floor	1	0.94 (0.83)
22	PS-SS1, K10, Floor	1	1.9
23	PS-SS1, L10, Floor	1	2.6
24	PS-SS1, M10, Floor	1	1.2
25	PS-SS1, N10, Floor	1	5.6
26	PS-SS1, N9, Floor	1	1.6
27	PS-SS1, O8, Floor	1	2.9

NOTES

1. Composite includes I10 grid
2. Composite includes J10 grid
3. Non-detect results are presented in italics



SOURCE MATERIAL PCB CLEAN-UP LEVELS

SURFACE (0 TO 1 FOOT) < 1 PPM
SUBSURFACE < 10 PPM

NOTES

1. SAMPLES COLLECTED FROM LOCATIONS AS SHOWN ON DRAWING IN ACCORDANCE WITH APPROVED WORK PLAN DESIGN DOCUMENTS (FSP, QAPP, SOPS, ETC.).

2. BASED ON SAMPLING RESULTS, PCBs > 1PPM, 1 FOOT OF IMPACTED MATERIAL IN LOCATION EXCAVATED. PCB > 10 PPM IN THE SUBSURFACE, IMPACTED MATERIAL EXCAVATED, AND SAMPLING REPEATED.

LEGEND

- APPROXIMATE REMEDIATION AREA LIMIT
- PCB > 1 PPM PRIOR TO REMEDIATION
- PCB > 50 PPM PRIOR TO REMEDIATION
- 15 — INDIVIDUAL SAMPLE
- 14 — COMPOSITE SAMPLE WITHIN GRID COMBINED WITH OTHERS IN GRID

N

Scale: 1"=80'

0 80 160 FEET

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
	AS-BUILT	KDA	PRK	NOV 2004

AS-BUILT

ENGINEER SEAL

PRS Pollution Risk Services
100 E-Business Way, Suite 210
Cincinnati, Ohio 45241
Phone: 513-489-2793
Fax: 513-489-2794

PREPARED FOR:

SHEBOYGAN RIVER PROJECT
SHEBOYGAN FALLS, WISCONSIN

SOURCE SOILS EXCAVATION AND CONFIRMATION SAMPLES

SCALE: AS SHOWN
PROJECT NUMBER: 02-010
SHEET NO: AB-4

Table 3

Riverbank Soils PCB Confirmation Sample Results

Sheboygan River and Harbor Superfund Site ~ Phase I

Sample #	Sample ID #	Sample Depth Interval (ft)	PCB Concentration (ppm)
1	RB-SS2, G10, 0-1	0-1	0.12 (0.097) [1]
2	RB-SS3, G10, W Floor	1	0.228 [1]
3	RB-SS4, G10, E Floor	1	0.79 [1]
4	RB-SS5, G10, 0-1	0-1	0.057 [1]
5	RB-SS3, G9, Floor	1	1.9
6	RB-SS4, H9, Floor	1	0.7
7	RB-SS3, H10, 0-1	0-1	0.65
8	RB-SS6, H10, Floor	1	7.7
9	RB-SS12, H10, 0-1	0-1	0.84
10	RB-SS8, H10, 0-1 South	0-1	*0.51 J*
11	RB-SS2, H10, 0-1	0-1	0.53
12	RB-SS13, H10, N Floor	1	1.5
13	RB-SS14, H10, Floor	1	5.1
14	RB-SS5, I10, 0-1	0-1	0.22
15	RB-SS10, I10, Floor	1	3.3
16	RB-SS15, I10, Floor	1	*0.33 J*
17	RB-SS17, I10, S(0-1)	0-1	0.67
18	RB-SS19, I10, Floor	1	2
19	RB-SS2, I9, Floor	1	0.021 (0.017) J
20	RB-SS2, J10, 0-1	0-1	0.21
21	RB-SS4, J10, 0-1	0-1	0.18
22	RB-SS9, J10, N(0-1)	0-1	0.8
23	RB-SS10, J10, Floor	1	*0.0085 J*
24	RB-SS2, K10, 0-1	0-1	0.18 (0.19)
25	RB-SS5, K10, Floor	1	0.84
26	RB-SS7, K10, 0-1 North	0-1	0.044 (0.28 J)
27	RB-SS5, M11, Floor	1	1.1
28	RB-SS7, M11, E(0-1)	0-1	0.16
29	RB-SS8, M11, Floor	1	2.3 (2.5)
30	RB-SS1, N11, 0-1	0-1	0.048
31	RB-SS5, N11, Floor	1	0.44
32	RB-SS4, N11, 0-1	0-1	*0.24 J*
33	RB-SS1, O11, 0-1	0-1	0.31
34	RB-SS1, O12, 0-1	0-1	*0.018 J*
35	RB-SS1, N12, 0-1	0-1	0.27

NOTES

1. North and south boundaries defined by preferential pathway #1

2. Non-detect results are presented in italics

A B C D E F G H I J K L M N O P Q R S T

3 4 5 6 7 8 9 10 11 12 13 14 15

EXISTING CONCRETE

HICKORY STREET

SCALE

RET. WALL

RET. WALL

FORMER SEDIMENT MANAGEMENT FACILITY LOCATION

DECON PAD

TRAILER

TRAINING CENTER

WASTEWATER TREATMENT STATION

WAREHOUSE

PUMP HOUSE

TRAILER

5 6 19 13 12 16 22 2 7 8 11 9 18 21 23 26 4 15 20 1 3 10 14 17 25 24 29 27 28 31 30 33 32 34 35

DECON PAD

CONFINED TREATMENT FACILITY

SHEBOYGAN RIVER

① RIVERBANK RESTORATION DETAIL (TYPICAL)

APPROXIMATE EXCAVATION OUTLINE

FLOOD CONTROL BERM

N

RIVERBANK MATERIAL PCB CLEAN-UP LEVELS

SURFACE (0 TO 1 FOOT) < 1 PPM
SUBSURFACE < 10 PPM

NOTES

1. SAMPLES COLLECTED FROM LOCATIONS SHOWN ON DRAWINGS IN ACCORDANCE WITH APPROVED WORK PLAN DESIGN DOCUMENTS (VERIFICATION SAMPLING PLAN, FSP, QAPP, SOPS, ETC.).

2. BASED ON SAMPLING RESULTS, PCBs > 1 PPM AT SURFACE, 1 FOOT OF IMPACTED MATERIAL IN LOCATION EXCAVATED. PCB > 10 PPM IN THE RIVERBANK SUBSURFACE, IMPACTED MATERIAL EXCAVATED.

LEGEND

APPROXIMATE REMEDIATION AREA LIMIT

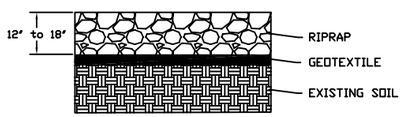
•27 SOIL SAMPLE LOCATION

AREAS CONTAINING PCB > 1 PPM REMOVED (0 TO 1 FOOT). VERIFICATION SAMPLES COLLECTED IN ACCORDANCE WITH NOTE 2 AND THE VSP.

Scale: 1"=80'

0 80 160 FEET

① TYPICAL DETAIL



REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
	AS-BUILT	KDA	PRK	NOV 2004

AS-BUILT

ENGINEER SEAL

PRS Pollution Risk Services
100 E-Business Way, Suite 210
Cincinnati, Ohio 45241
Phone: 513-489-2793
Fax: 513-489-2794

PREPARED FOR:

SHEBOYGAN RIVER PROJECT

SHEBOYGAN FALLS, WISCONSIN

RIVERBANK SOILS EXCAVATION AND CONFIRMATION SAMPLES

SCALE: AS SHOWN

PROJECT NUMBER: 02-010

SHEET NO: AB-5

Table 4

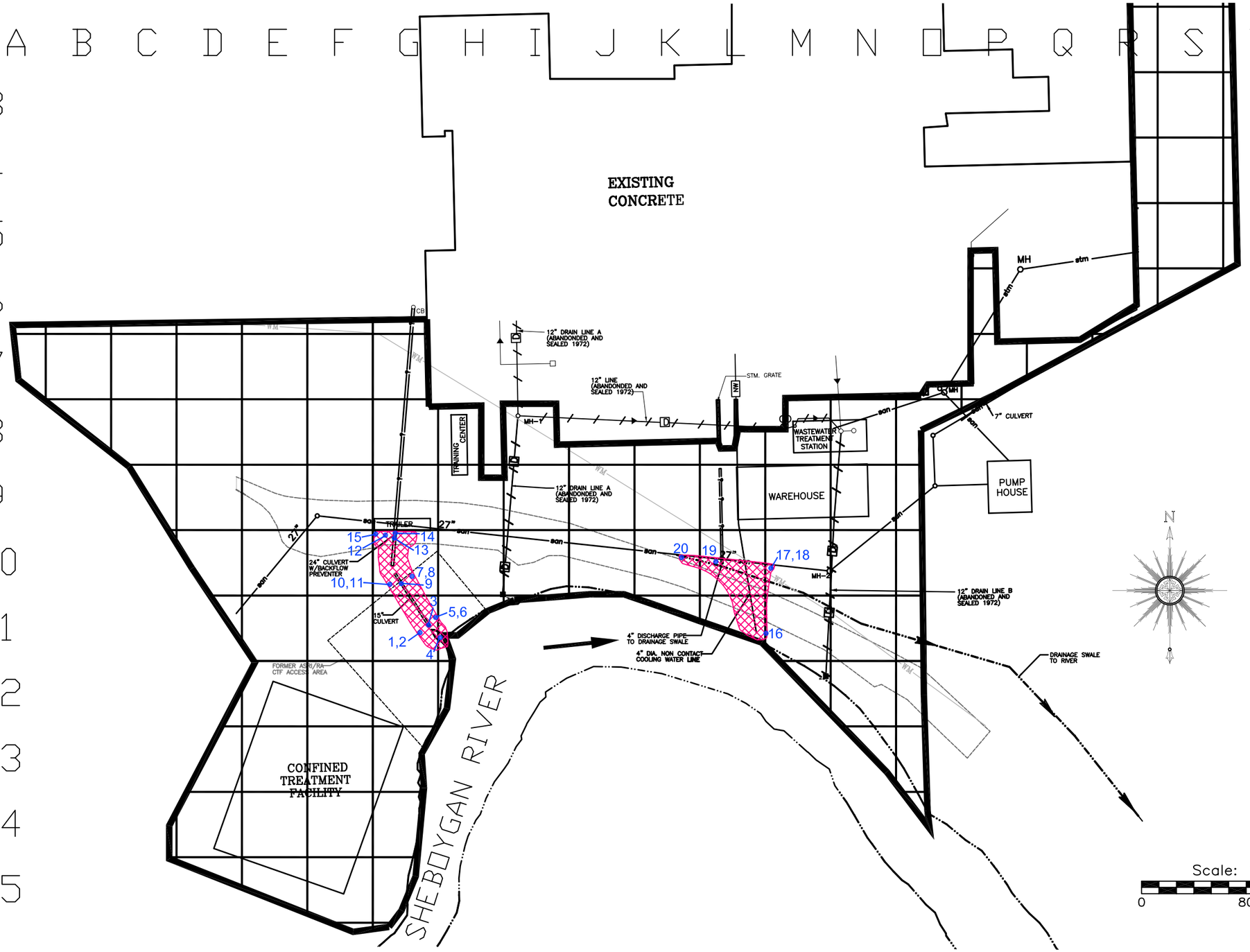
Preferential Pathways PCB Confirmation Sample Results

Sheboygan River and Harbor Superfund Site ~ Phase I

Sample #	Sample ID #	Sample Depth Interval (ft)	PCB Concentration (ppm)
1	PPI-SS1-W (1-3)	1-3	0.58
2	PPI-SS2-W (0-1)	0-1	0.27
3	PPI-SS3-Floor	3	4.3 (6.8) [1]
4	PPI-SS4-S (1-3)	1-3	3.8
5	PPI-SS6-E (1-3)	1-3	*0.53 J*
6	PPI-SS7-E (0-1)	0-1	*0.14 J*
7	PPI-SS8-E (1-3)	1-3	3.5
8	PPI-SS9-E (0-1)	0-1	0.32
9	PPI-SS10-Floor	3	0.41
10	PPI-SS11-W (1-3)	1-3	6.9 (7.2)
11	PPI-SS12-W (0-1)	0-1	1.95 [2]
12	PPI-SS13-W (1-3)	1-3	3.1
13	PPI-SS15-Floor	7	0.48
14	PPI-SS17-N (1-3)	1-3	*1.4 J*
15	PPI-SS24-W (0-1)	0-1	*0.014 J*
16	PP2-SS3-E (0-1)	0-1	0.37
17	PP2-SS23-E (0-1)	0-1	0.17
18	PP2-SS24-E (5-7)	5-7	0.072
19	PP2-SS26-W (0-1)	0-1	0.028
20	PP2-SS29-W (5-7)	5-7	27 [3]

NOTES

1. Sample at water table
2. Soils further removed by grid restoration
3. Onsite lab result = 5.8 ppm
4. Non-detect results are presented in italics



PREFERENTIAL PATHWAY PCB CLEAN-UP LEVELS

SURFACE (0 TO 1 FOOT) < 1 PPM
SUBSURFACE = RIVERBANK < 10 PPM
SOURCE AREA NOT APPLICABLE

NOTES

1. SOIL EXCAVATED 10' RADIALLY FROM THE OUTFALL OF EACH PREFERENTIAL PATHWAY.
2. SAMPLES COLLECTED FROM LOCATIONS IN ACCORDANCE WITH APPROVED WORK PLAN DECISION DOCUMENTS (FSP, QAPP, SOPS, ETC.).
3. BASED ON SAMPLING RESULTS, PCBS > 1 PPM AT SURFACE, 1 FOOT OF IMPACTED MATERIAL IN LOCATION EXCAVATED AND SAMPLING PROCEDURE REPEATED. PCB > 10 PPM IN THE SUBSURFACE, IMPACTED MATERIAL EXCAVATED AND SAMPLING PROCEDURE REPEATED.
4. SEE SHEET AB-7 FOR PROFILES.

LEGEND

- EXISTING DRAINAGE
- EXISTING STORM WATER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN LINE
- EXISTING NON-CONTACT COOLING WATER LINE
- EXISTING DRAIN LINE
- ABANDONED DRAIN LINE
- EXISTING WELL
- EXISTING CULVERT
- APPROXIMATE REMEDIATION AREA LIMIT
- 20 CONFIRMATION SAMPLE
- APPROXIMATE BOUNDARY OF EXCAVATION

N

Scale: 1"=80'

0 80 160 FEET

REVISION	DESCRIPTION	DRAWN BY	CHECKED BY	DATE
	AS-BUILT	KDA	PRK	NOV 2004

AS-BUILT

ENGINEER SEAL

PRS Pollution Risk Services
100 E-Business Way, Suite 210
Cincinnati, Ohio 45241
Phone: 513-489-2793
Fax: 513-489-2794

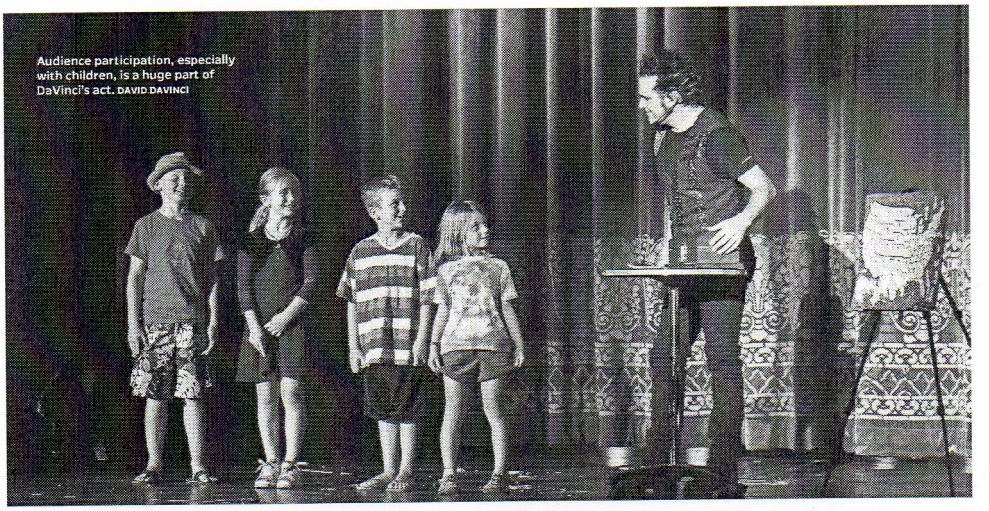
PREPARED FOR:

SHEBOYGAN RIVER PROJECT
SHEBOYGAN FALLS, WISCONSIN

PREFERENTIAL PATHWAYS EXCAVATION AND CONFIRMATION SAMPLES

SCALE: AS SHOWN
PROJECT NUMBER: 02-010
SHEET NO: AB-6

APPENDIX G



Audience participation, especially with children, is a huge part of DaVinci's act. DAVID DAVINCI

Magic

Continued from Page 1B

ed to incorporate it into his show. By age 17, DaVinci won first place at the PCAM (Pacific Coast Association of Magicians) convention as a junior with his newly-worked dove act and then won a gold medal the following year, becoming the youngest magician to win gold at that competition.

"I thought I could up my game, so I wanted to add a parrot to the show," DaVinci said. "My parents had always had a couple of pet parrots, so my brother, who just came home from college, suggested we train the bird and maybe start a business. Then, we started a company called Birdtricks.com, and that business has always been basically tied in with my magic. Every bird we trained, we put them into my show."

Connecting with LARRS

"As my magic career developed, so did the bird business," DaVinci said. "And we've been able to help hundreds of thousands of parrot owners over the last 20 years. I put out a memo to say we're looking to use our magic show to help raise funds for any nonprofit or just good cause, and LARRS was one of the first people to respond and said, 'Hey, have you heard of Sheboygan? Come on up and do the show.' So, we're coming up there to do the fundraiser and hopefully raise them tons of money."

Keeping the audience engaged

"We take people on a journey," DaVinci said. "We like to try and engage in as many emotions as we can, from really powerful, mind-boggling magic that's shocking, to slower, emotional pieces that are easier to follow but have an emotional hook. I have a lot of different story pieces in the show where people will get to know who I am. At the end of the day, we end up having a better connection with the audience because of those more intimate moments. We involve the audience, and it's typically in comedy pieces. But it's done in a way where they get to support the humor and not in a way where they are the butt of the joke."

Big act, small stage crew

"We're one of the only touring magic shows of this type and size," DaVinci said. "We travel with our own sound and lighting, and that ensures that we can give the audience the best experience as possible without consuming a ton of time to create a light show on the spot. We spend a week with rehearsals in the studio pre-programming all the lighting, so I can go in and simply hire a spotlight operator and then we have a full light show that's synchronized with the magic and the music. What that does essentially allows my wife and I to run a two-person show that's on par with any of the other touring shows that's out there because of all of this lighting automation that's possible these days. What we're doing now takes a crew of 14 people on a cruise ship and it takes just two or three of us now."

Singing karaoke with David Copperfield

Like most young and aspiring magicians, David Copperfield was a huge influence on DaVinci. Copperfield showed everyone just how big you can take magic.

"This bird training caught the attention of David Copperfield, who a few years back hired us to fly out to Las Vegas to train him in his warehouse," DaVinci said. "So, we trained some Macaws for him and those birds got relocated to his island in the Bahamas. He flew us out to his private island and spent 10 days out there

One of DaVinci's most memorable moments was hanging out with veteran magician David Copperfield (right) and singing karaoke with him. DAVID DAVINCI

training birds and singing karaoke with David Copperfield. It was an incredible experience. Most magicians don't get the chance to say that they were hired to consult for David Copperfield. People like Bill Gates, Oprah and all these other famous people have been there. And here we are, here comes Copperfield with his own karaoke machine. I don't do karaoke, but I did that week!"

The family-friendly parrot formula

In addition to his Weill performance, DaVinci and his wife will also stick around in Sheboygan for two more days for demonstration classes through their business birdtricks.com.

The first session is a family-friendly class from 6 to 8 p.m. Nov. 9 at the UW-Green Bay, Sheboygan Campus, main building, classroom 2223. The second session is a masters class from 10 a.m. to 2 p.m. and again from 4 to 8 p.m. Nov. 10 at Wesley United Methodist Church, 823 Union Ave. All proceeds benefit LARRS.

Things

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in the third-floor Children's Library.

2. Go see a local artist display his work

"Plein Air Travels" by local plein air artist Keary Kautzer can be viewed from Thursday to Nov. 30, with an opportunity to meet Kautzer at the opening reception from 6 to 8 p.m. this Friday.

The exhibit will feature a collection of 40 paintings from the artist's travels throughout the United States and Europe. Kautzer has completed at least one painting every day since Jan. 1, totaling more than 300 so far. His goal is to complete a painting every day this year. Complimentary refreshments will be served at the opening reception.

The gallery is in the Fine Arts Building at 1 University Drive in Sheboygan and is open 7:30 a.m. to 6 p.m. Monday through Friday. Admission is free.

3. Go to a spirit fair

The Sheboygan Spirit Fair is this weekend. Go and indulge in a day of love and light as you shop area vendors that sell products that promote wellness of mind, body and spirit. This will include gemstones, jewelry, Tarot and oracle decks, handmade art, henna tattoos, herbs, tinctures and much more!

The fair will be from 10 a.m. to 5 p.m. on Saturday at Lakeshore Lanes, 2519 S. Business Drive, in Sheboygan.

4. Go to a comedy show at the American Club

Destination Kohler will be welcoming nationally touring comedians who have been featured on NBC's Last Comic Standing, Conan, Comedy Central's Live at Gotham, CBS's The Late Late Show and Last Call with Carson Daly this weekend! The headliner is Don Friesen, but there will also be others, including Mary Mack and Tom Clark. Geoff LaFleur will emcee the event.

The show will be from 5 to 8 p.m. on Saturday at the American Club, 419 Highland Drive, Kohler.

5. Go to a craft fair

Go visit this shopping event filled with great artists, crafters and vendors. It's perfect for fulfilling your holiday shopping needs!

A bake sale, concessions and a kids' "make-and-take" will also be available.

The fair will be from 9:30 a.m. to 2:30 p.m. on Saturday at the Pigeon River Elementary School, 3508 N. 21st St., Sheboygan.