

**State of Wisconsin**  
**DEPARTMENT OF NATURAL RESOURCES**  
101 S. Webster Street  
Box 7921  
Madison WI 53707-7921

**Tony Evers, Governor**  
**Preston D. Cole, Secretary**  
Telephone 608-266-2621  
Toll Free 1-888-936-7463  
TTY Access via relay - 711



August 17, 2020

Roselyn Henderson  
c/o Mitchell Braverman  
9782 N. Arrowwood Road  
Mequon, WI 53092

**KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS**

**SUBJECT:** Final Case Closure with Continuing Obligations  
Macks Service Corner, 1711 W. Center Street, Milwaukee, WI  
— DNR BRRTS Activity #: 03-41-208431  
FID #: 241143760

Dear Mr. Mitchell Braverman:

The Department of Natural Resources (DNR) considers the Macks Service Corner site closed, with continuing obligations. No further investigation or remediation is required at this time. However, you, future property owners, and occupants of the property must comply with the continuing obligations as explained in the conditions of closure in this letter. Please read over this letter closely to ensure that you comply with all conditions and other on-going requirements. Provide this letter and any attachments listed at the end of this letter to anyone who purchases, rents or leases this property from you.

This final closure decision is based on the correspondence and data provided, and is issued under chs. NR 726 and 727, Wis. Adm. Code. The DNR reviewed the request for closure on May 21, 2020. The DNR reviewed this environmental remediation case for compliance with state laws and standards to maintain consistency in the closure of these cases.

The Macks Service Corner site was investigated for a discharge of hazardous substances from 1-6,000-gallon gasoline UST; 1-5,000-gallon gasoline UST; 1-4,000-gallon gasoline UST; 1-1,000-gallon gasoline UST. and a 550-gallon fuel oil tank located about 10 feet northeast from the northeast corner of the current building on site. Case closure is granted for the PVOCs, Naphthalene, Lead, MtBE, sec-Butylbenzene, Isopropyltoluene, p-Isopropyl-toluene, n-Propyl-benzene contaminants analyzed during the site investigation, as documented in the case file. The site investigation and/or remedial action addressed the soil, groundwater, and vapor. No active remedial actions occurred as part of the investigation, and the building and pavement will be maintained over the residual soil contamination to prevent direct contact and infiltration to groundwater. The conditions of closure and continuing obligations required were based on the property being used for commercial purposes.

Continuing Obligations

The continuing obligations for this site are summarized below. Further details on actions required are found in the section Closure Conditions.

- Groundwater contamination is present at or above ch. NR 140, Wis. Adm. Code enforcement standards.
- Residual soil contamination exists that must be properly managed should it be excavated or removed.
- The building and pavement must be maintained over contaminated soil and the DNR must be notified and approve any changes to this barrier.

- Remaining contamination could result in vapor intrusion if future construction activities occur. Future construction includes expansion or partial removal of current buildings as well as construction of new buildings. Vapor control technologies will be required for occupied buildings, unless the property owner assesses the potential for vapor intrusion, and the DNR agrees that vapor control technologies are not needed. -

The DNR fact sheet “Continuing Obligations for Environmental Protection,” RR-819, helps to explain a property owner’s responsibility for continuing obligations on their property. The fact sheet may be obtained online at [dnr.wi.gov](http://dnr.wi.gov) and search “RR-819”.

#### DNR Database

This site will be included on the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web (BOTW) online at [dnr.wi.gov](http://dnr.wi.gov) and search “BOTW”, to provide public notice of residual contamination and of any continuing obligations. The site can also be viewed on the Remediation and Redevelopment Sites Map (RRSM), a map view, at [dnr.wi.gov](http://dnr.wi.gov) and search “RRSM”.

The DNR’s approval prior to well construction or reconstruction is required in accordance with s. NR 812.09 (4) (w), Wis. Adm. Code. This requirement applies to private drinking water wells and high capacity wells. To obtain approval, complete and submit Form 3300-254 to the DNR Drinking and Groundwater program’s regional water supply specialist. This form can be obtained on-line at [dnr.wi.gov](http://dnr.wi.gov) and search “3300-254”.

All site information is also on file at the Southeast Regional DNR office, at 2300 N Dr. Martin Luther King Jr. Drive, Milwaukee, WI 53212. This letter and information that was submitted with your closure request application, including any maintenance plan and maps, can be found as a Portable Document Format (PDF) in BOTW.

#### Prohibited Activities

Certain activities are prohibited at closed sites because maintenance of a barrier is intended to prevent contact with any remaining contamination. When a barrier is required, the condition of closure requires notification of the DNR before making a change, in order to determine if further action is needed to maintain the protectiveness of the remedy employed. The following activities are prohibited on any portion of the property where pavement and building is required, as shown on the **attached map** Location Map, Figure D.2, June 10, 2020, unless prior written approval has been obtained from the DNR:

- removal of the existing barrier or cover;
- replacement with another barrier or cover;
- excavating or grading of the land surface;
- filling on covered or paved areas;
- plowing for agricultural cultivation;
- construction or placement of a building or other structure;
- changing the use or occupancy of the property to a residential exposure setting, which may include certain uses, such as single or multiple family residences, a school, day care, senior center, hospital, or similar residential exposure settings.

#### Closure Conditions

Compliance with the requirements of this letter is a responsibility to which you, and any subsequent property owners must adhere. DNR staff will conduct periodic prearranged inspections to ensure that the conditions included in this letter and the attached maintenance plan are met. If these requirements are not followed, the DNR

may take enforcement action under s. 292.11, Wis. Stats. to ensure compliance with the specified requirements, limitations or other conditions related to the property.

Please send written notifications in accordance with the following requirements to:

Department of Natural Resources  
Attn: Remediation and Redevelopment Program Environmental Program Associate  
2300 N Dr. Martin Luther King Jr. Drive  
Milwaukee, WI 53212

Residual Groundwater Contamination (ch. NR 140, 812, Wis. Adm. Code)

Groundwater contamination greater than enforcement standards is present on this contaminated property, as shown on the **attached map** Groundwater Isoconcentration (3/3/2016), Figure B.3.b, July 23, 2020. If you intend to construct a new well, or reconstruct an existing well, you'll need prior DNR approval.

Residual Soil Contamination (ch. NR 718, chs. 500 to 536, Wis. Adm. Code or ch. 289, Wis. Stats.)

Soil contamination remains by SP-1, SP-2, SP-3, SP-4, SP-5, SP-6, SP-7, SP-8, SP-16, SP\_17, SP-18, MW-3, and MW-4 as indicated on the **attached map** Residual Soil Contamination, Figure B.2.b, July 23, 2020. If soil in the locations described above is excavated in the future, the property owner or right-of-way holder at the time of excavation must sample and analyze the excavated soil to determine if contamination remains. If sampling confirms that contamination is present, the property owner or right-of-way holder at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable standards and rules. Contaminated soil may be managed in accordance with ch. NR 718, Wis. Adm. Code, with prior DNR approval.

In addition, all current and future owners and occupants of the property and right-of-way holders need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken to prevent a direct contact health threat to humans.

Cover or Barrier (s. 292.12 (2) (a), Wis. Stats., s. NR 726.15, s. NR 727.07 Wis. Adm. Code)

The pavement and building that exist in the locations shown on the **attached map** Location Map, Figure D.2, June 10, 2020, shall be maintained in compliance with the **attached maintenance plan** in order to minimize the infiltration of water and prevent additional groundwater contamination that would violate the groundwater quality standards in ch. NR 140, Wis. Adm. Code, and to prevent direct contact with residual soil contamination that might otherwise pose a threat to human health.

The cover approved for this closure was designed to be protective for a commercial or industrial use setting. Before using the property for residential purposes, you must notify the DNR at least 45 days before taking an action, to determine if additional response actions are warranted.

A request may be made to modify or replace a cover or barrier. Before removing or replacing the cover, you must notify the DNR at least 45 days before taking an action. The replacement or modified cover or barrier must be protective of the revised use of the property, and must be approved in writing by the DNR prior to implementation. A cover or barrier for industrial land uses, or certain types of commercial land uses may not be protective if the use of the property were to change such that a residential exposure would apply. This may include, but is not limited to, single or multiple family residences, a school, day care, senior center, hospital or similar settings. In addition, a cover or barrier for multi-family residential housing use may not be appropriate for use at a single-family residence.

The **attached maintenance plan and inspection log (DNR form 4400-305)** are to be kept up-to-date and on-site. Inspections shall be conducted annually, in accordance with the attached maintenance plan. Submit the inspection log to the DNR only upon request.

Vapor Mitigation or Evaluation (s. 292.12 (2), Wis. Stats., s. NR 726.15, s. NR 727.07, Wis. Adm. Code)  
Vapor intrusion is the movement of vapors coming from volatile chemicals in the soil or groundwater, into buildings where people may breathe air contaminated by the vapors. Vapor mitigation systems are used to interrupt the pathway, thereby reducing or preventing vapors from moving into the building.

Future Concern: PVOCs, Naphthalene, Lead, and MtBE remain in soil and/or groundwater at the site, as shown on the **attached maps** Residual Soil Contamination, Figure B.2.b, July 23, 2020 and Groundwater Isoconcentration (3/3/2016), Figure B.3.b, July 23, 2020, at levels that may be of concern for vapor intrusion in the future, depending on construction and occupancy of a building. The current building on site is used as an automobile repair shop. Therefore, before a building is constructed and/or an existing building is modified, the property owner must notify the DNR at least 45 days before the change. Vapor control technologies are required for construction of occupied buildings unless the property owner assesses the vapor pathway and the DNR agrees that vapor control technologies are not needed.

#### In Closing

Please be aware that the case may be reopened pursuant to s. NR 727.13, Wis. Adm. Code, for any of the following situations:

- if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, or welfare or to the environment,
- if the property owner does not comply with the conditions of closure, with any deed restrictions applied to the property, or with a certificate of completion issued under s. 292.15, Wis. Stats., or
- a property owner fails to maintain or comply with a continuing obligation (imposed under this closure approval letter).

The DNR appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact DNR Project Manager Andy Alles at (608) 261-8509, or at [Andy.Alles@Wisconsin.gov](mailto:Andy.Alles@Wisconsin.gov).

Sincerely,

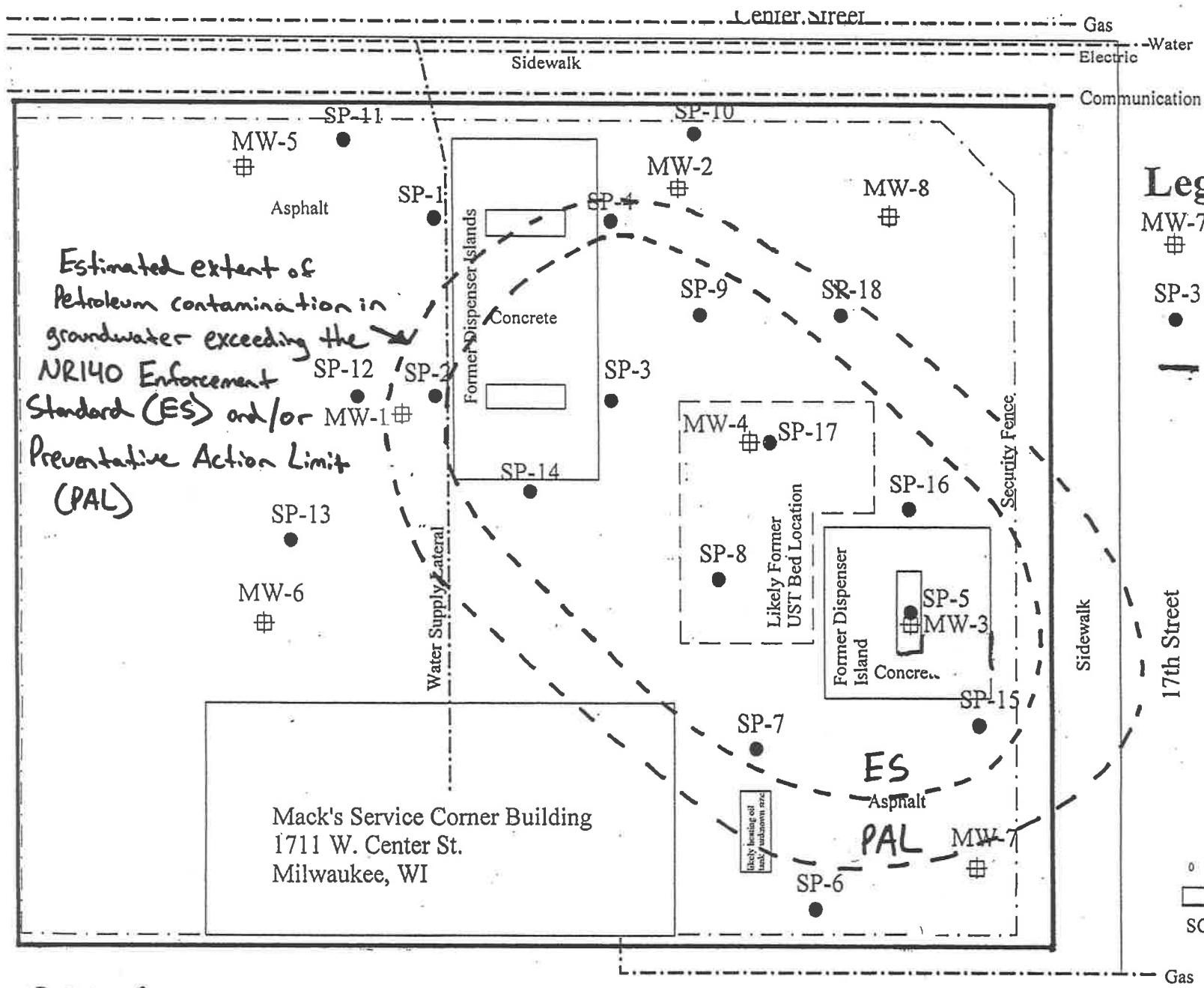


Pamela A. Mylotta  
Southeast Region Team Supervisor  
Remediation & Redevelopment Program

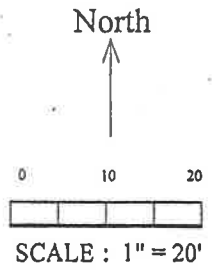
#### Attachments:

- Groundwater Isoconcentration (3/3/2016), Figure B.3.b, July 23, 2020
- Residual Soil Contamination, Figure B.2.b, July 23, 2020
- Location Map, Figure D.2, June 10, 2020
- Cap Maintenance Plan, April 2, 2020
- Continuing Obligations Inspection and Maintenance Log, DNR Form 4400-305

cc: Mr. Ron Anderson, METCO, 709 Gillette Street, Suite 3, La Crosse, WI 54603



- Legend**
- MW-7 Monitoring Well  
⊕ Location & I.D.
  - SP-3 Soil Probe  
● Location & I.D.
  - Property Boundary

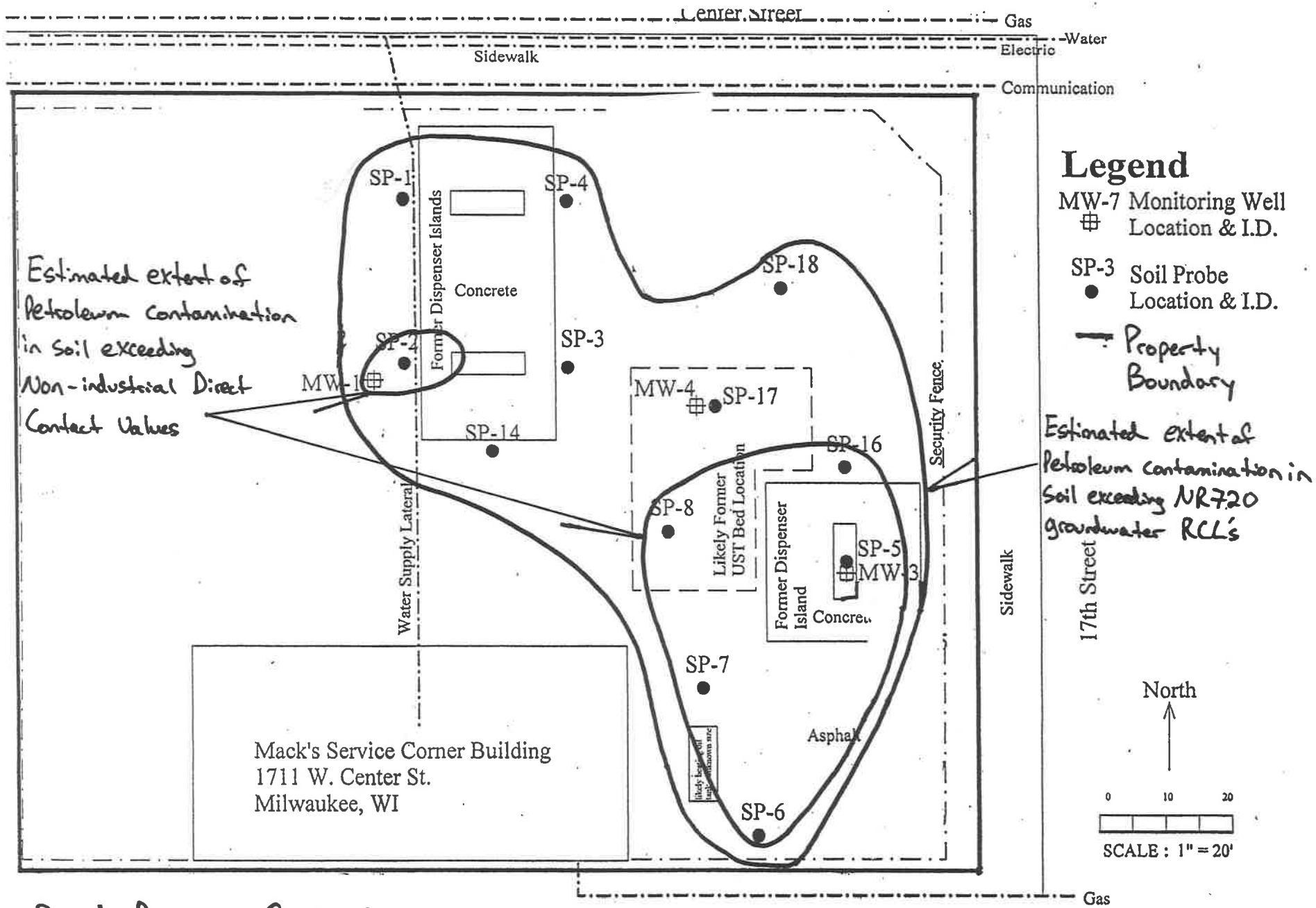


**B.3.b Groundwater Isoconcentration (3/3/2016)**

Mack's Service Corner  
1711 W. Center Street, Milwaukee, WI

SENTINEL ENVIRONMENTAL SERVICES, LLC  
PO Box 865, GRAFTON, WI 53024

Modified by METCO 7/23/20.



## B.2.b. Residual Soil Contamination

Mack's Service Corner  
1711 W. Center Street, Milwaukee, WI

Modified by METCO 7/23/20

SENTINEL ENVIRONMENTAL SERVICES, LLC  
PO Box 865, GRAFTON, WI 53024

## D.1 Description of Maintenance Action(s)

### CAP MAINTENANCE PLAN

4/2/2020

Property Located at:  
1711 W Center Street  
Milwaukee, Wisconsin 53206

WDNR BRRTS# 03-41-208431

Parcel ID # 32-40-839100

#### Introduction

This document is the Maintenance Plan for concrete/asphalt cap at the above-referenced property in accordance with the requirements of s. NR 724.13 (2), Wisconsin Administrative Code. The maintenance activities relate to the existing cap which addresses or occupies the area over the contaminated groundwater plume or soil.

More site-specific information about this property/site may be found in:

- The case file in the DNR Southeast regional office
- BRRTS on the Web (DNR's internet based data base of contaminated sites):  
<https://dnr.wi.gov/botw/SetUpBasicSearchForm.do?rtn=rb>
- GIS Registry PDF file for further information on the nature and extent of contamination
- The DNR project manager for Milwaukee County.

#### Description of Contamination

Unsaturated soil contaminated by Lead, Benzene, Ethylbenzene, MTBE, Naphthalene, Toluene, Trimethylbenzenes, Xylene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene, and Indeno (1,2,3-cd)pyrene exist in the area of the former dispenser islands and former UST bed. Groundwater contamination by Benzene, Ethylbenzene, Naphthalene, Toluene, Trimethylbenzenes, and Xylene was found in the area of the former dispenser islands and former UST bed.. The extent of the soil and groundwater contamination is shown on the attached map (Attachment D.2.).

#### Description of the Cap to be Maintained

The cap consists of 4-6 inches of concrete, 2-3 inches of asphalt, and the on site building constructed on an on-grade concrete slab (4-6 inches) thick, which covers the area of the former dispenser islands and former UST systems, as shown on the attached map (Attachment D.2.).

### Cover/Building/Slab/Barrier Purpose

The concrete, asphalt, and building cap over the contaminated soil serves as a barrier to prevent direct human contact with residual soil contamination that might otherwise pose a threat to human health. The cap will also act as a partial infiltration barrier to minimize future soil-to-groundwater contamination migration that would violate the groundwater standards in ch. NR140, Wisconsin Administrative Code. Based on the current and future use of the property, the barrier should function as intended unless disturbed.

### Annual Inspection

The concrete, asphalt, and building cap overlying the contaminated soil and as depicted in Attachment D.2 will be inspected once a year, normally in the spring after all snow and ice is gone, for deterioration, cracks and other potential problems that can cause exposure to underlying soils. The inspections will be performed by the property owner or their designated representative. The inspections will be performed to evaluate damage due to settling, exposure to the weather, wear from traffic, increasing age and other factors. Any area where soils have become or are likely to become exposed and where infiltration from the surface will not be effectively minimized will be documented.

A log of the inspections and any repairs will be maintained by the property owner and is included as D.4, Form 4400-305, Continuing Obligations Inspection and Maintenance Log. The log will include recommendations for necessary repair of any areas where underlying soils are exposed and where infiltration from the surface will not be effectively minimized. Once repairs are completed, they will be documented in the inspection log. A copy of the maintenance plan and inspection log will be kept at the site; or, if there is no acceptable place (for example, no building is present) to keep it at the site, at the address of the property owner and available for submittal or inspection by Wisconsin Department of Natural Resources (DNR) representatives upon their request.



### Maintenance Activities

If problems are noted during the annual inspections or at any other time during the year, repairs will be scheduled as soon as practical. Repairs can include patching and filling or larger resurfacing or construction operations. In the event that necessary maintenance activities expose the underlying soil, the owner must inform maintenance workers of the direct contact exposure hazard and provide them with appropriate personal protection equipment (PPE). The owner must also sample any soil that is excavated from the site prior to disposal to ascertain if contamination remains. The soil must be treated, stored and disposed of by the owner in accordance with applicable local, state and federal law.

In the event the concrete, asphalt, and building cap overlying the contaminated soil and groundwater plume are removed or replaced, the replacement barrier must be equally impervious. Any replacement barrier will be subject to the same maintenance and inspection guidelines as outlined in this Maintenance Plan unless indicated otherwise by the DNR or its successor.

The property owner, in order to maintain the integrity of the cap, will maintain a copy of this Maintenance Plan on site and make it available to all interested parties (i.e. on-site employees, contractors, future property owners, etc.) for viewing.

### Prohibition of Activities and Notification of DNR Prior to Actions Affecting a Cover or Cap

The following activities are prohibited on any portion of the property where the concrete, asphalt, and building cap is required as shown on the attached map, unless prior written approval has been obtained from the Wisconsin Department of Natural Resources: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; 6) construction or placement of a building or other structure; 7) changing the use or occupancy of the property to a residential exposure setting, which may include certain uses, such as single or multiple family residences, a school, day care, senior center, hospital, or similar residential exposure settings.

If removal, replacement or other changes to a cover, or a building which is acting as a cover, are considered, the property owner will contact DNR at least 45 days before taking such an action, to determine whether further action may be necessary to protect human health, safety, or welfare or the environment, in accordance with s. NR 727.07, Wis. Adm. Code.

### Amendment or Withdrawal of Maintenance Plan

This Maintenance Plan can be amended or withdrawn by the property owner and its successors with the written approval of WDNR.

Contact Information

September 2020

**Current Site Contact:**

Roslyn Henderson  
9782 North Arrowwood Road  
Mequon, WI 53092  
(414) 213-3456

Signature: \_\_\_\_\_

*Roslyn L Henderson*

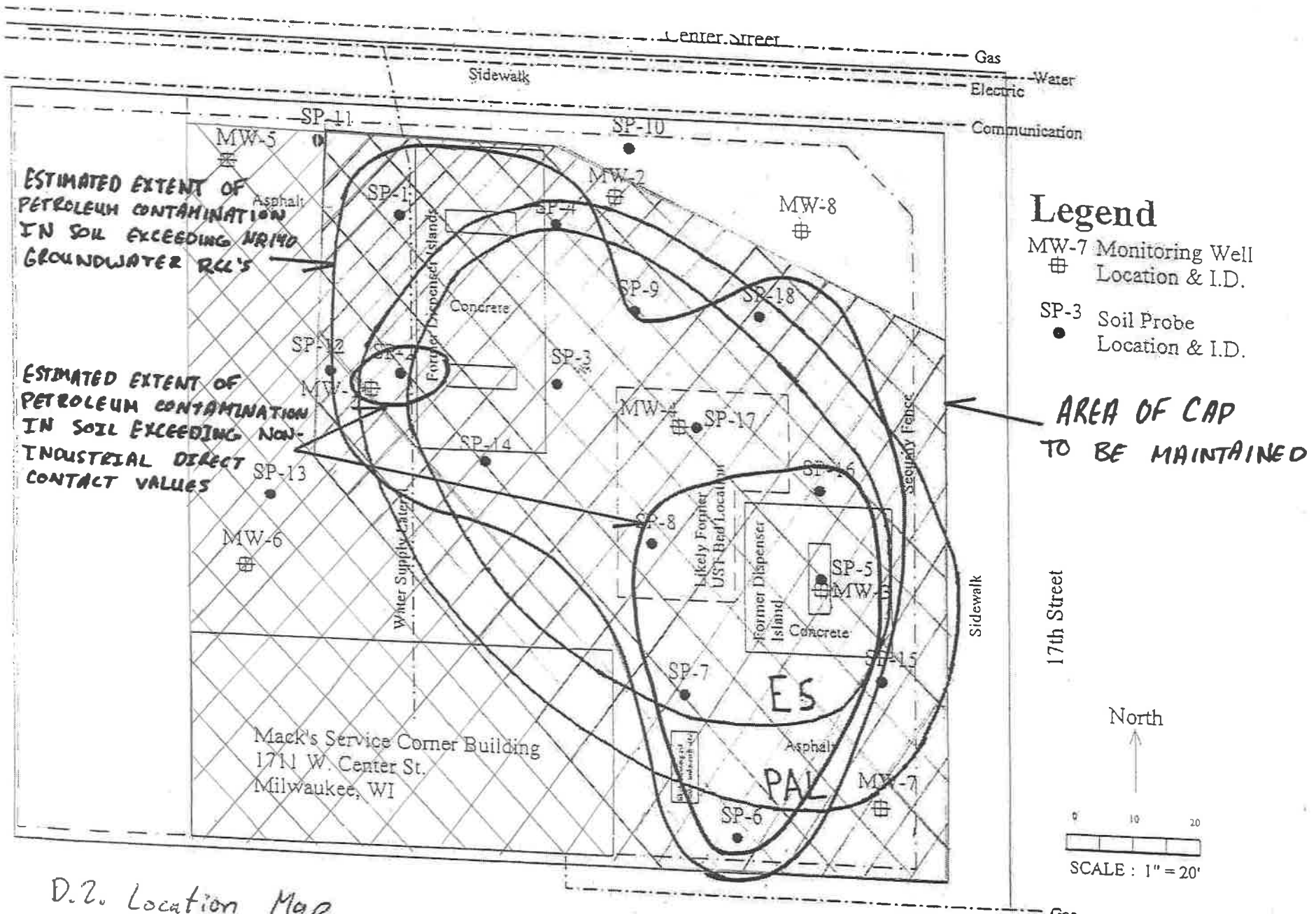
(DNR may request signature of affected property owners, on a case-by-case basis)

**Consultant:**

METCO  
Ron Anderson  
709 Gillette Street, Suite 3  
La Crosse, WI 54603  
(608) 781-8879

**WDNR:**

Andy Alles  
101 South Webster Street  
Madison WI, 53707



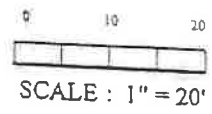
### Legend

- MW-7 Monitoring Well Location & I.D.
- SP-3 Soil Probe Location & I.D.

AREA OF CAP TO BE MAINTAINED

17th Street

North



D.2. Location Map  
 Mack's Service Corner  
 1711 W. Center Street, Milwaukee, WI  
 Modified by METCO on (6/10/20)

SENTINEL ENVIRONMENTAL SERVICES, LLC  
 PO Box 865, GRAFTON, WI 53024

# D.4 Inspection Log

**Directions:** In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at <http://dnr.wi.gov/botw/SetUpBasicSearchForm.do>, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name <b>Mack's Service Corner</b>	BRRTS No. <b>03-41-208431</b>
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Inspections are required to be conducted (see closure approval letter):

annually  
 semi-annually  
 other – specify \_\_\_\_\_

When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N

**SUBMIT AS UNBOUND PACKAGE IN THE ORDER SHOWN**

**Notice:** Pursuant to ch. 292, Wis. Stats., and chs. NR 726 and 746, Wis. Adm. Code, this form is required to be completed for case closure requests. The closure of a case means that the Department of Natural Resources (DNR) has determined that no further response is required at that time based on the information that has been submitted to the DNR. All sections of this form must be completed unless otherwise directed by the Department. DNR will consider your request administratively complete when the form and all sections are completed, all attachments are included, and the applicable fees required under ch. NR 749, Wis. Adm. Code, are included, and sent to the proper destinations. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.). Incomplete forms will be considered "administratively incomplete" and processing of the request will stop until required information is provided.

Site Information			
BRRTS No. 03-41-208431	VPLE No.		
Parcel ID No. 32-40-839100			
FID No. 241143760	WTM Coordinates		
	X 688209	Y 290386	
BRRTS Activity (Site) Name Macks Service Center	WTM Coordinates Represent: <input checked="" type="checkbox"/> Source Area <input type="checkbox"/> Parcel Center		
Site Address 1711 W. Center Street	City Milwaukee	State WI	ZIP Code 53206
Acres Ready For Use	0.41		

Responsible Party (RP) Name Roselyn Henderson c/o Mitchell Braverman
Company Name

Mailing Address 9782 North Arrowwood Rd	City Mequon	State WI	ZIP Code 53092
Phone Number (414) 213-3456	Email braverman44@gmail.com		

Check here if the RP is the owner of the source property.

Environmental Consultant Name Ron Anderson
Consulting Firm METCO

Mailing Address 709 Gillette Street, Suite 3	City La Crosse	State WI	ZIP Code 54603
Phone Number (608) 781-8879	Email rona@metcohq.com		

**Fees and Mailing of Closure Request**

1. Send a copy of page one of this form and the applicable ch. NR 749, Wis. Adm. Code, fee(s) to the DNR Regional EPA (Environmental Program Associate) at <http://dnr.wi.gov/topic/Brownfields/Contact.html#tabx3>. Check all fees that apply:

- \$1,050 Closure Fee
- \$300 Database Fee for Soil
- \$350 Database Fee for Groundwater or Monitoring Wells (Not Abandoned)
- Total Amount of Payment \$ \$1,700.00
- Resubmittal, Fees Previously Paid

2. Send one paper copy and one e-copy on compact disk of the entire closure package to the Regional Project Manager assigned to your site. Submit as *unbound, separate documents* in the order and with the titles prescribed by this form. For electronic document submittal requirements, see <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>.

### Site Summary

*If any portion of the Site Summary Section is not relevant to the case closure request, you must fully explain the reasons why in the relevant section of the form. All information submitted shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected.*

#### 1. General Site Information and Site History

- A. Site Location: Describe the physical location of the site, both generally and specific to its immediate surroundings.  
The Mack's Service Corner property is located in the Northwest 1/4 of the Southeast 1/4 of Section 18, Township 7 North, Range 33 East in the City of Milwaukee, Milwaukee County, Wisconsin. The address of the subject property is 1711 W Center Street. The property measures approximately 150 feet long and 120 feet wide and is bound by W Center Street along the north side, North 17th Street on the east, and residential properties to the south and west of the property.
- B. Prior and current site usage: Specifically describe the current and historic occupancy and types of use.  
The subject property operated as a gasoline service station from the 1960s until 1982. Mack Henderson obtained the property from the city of Milwaukee in 1982 through a business relocation program and has been used as an automobile repair shop since.
- C. Current zoning (e.g., industrial, commercial, residential) for the site and for neighboring properties, and how verified (Provide documentation in Attachment G).  
According to the zoning map for the City of Milwaukee WI, the Mack's Service Corner Property located at 1711 W Central Street is zoned "LB2 - Commercial - Local Business". Surrounding properties to the south and west of the source property are zoned "RT4 - Residential - Two Family".
- D. Describe how and when site contamination was discovered.  
In 1998, Axis Consulting completed one soil boring at the subject property. Petroleum contamination was found in the soil boring and subsequently reported to the WDNR who then required that a site investigation be completed.
- E. Describe the type(s) and source(s) or suspected source(s) of contamination.  
DPS Tanks Database indicates that four gasoline UST (1-6,000 gallon; 1-5,000 gallon; 1-4,000 gallon, and 1-1,000 gallon) and a 550 gallon fuel oil tank were removed in December 1982. The source of the contamination is the removed gasoline UST's and associated piping and dispensers.
- F. Other relevant site description information (or enter Not Applicable).  
Not applicable.
- G. List BRRTS activity/site name and number for BRRTS activities at this source property, including closed cases.  
No other BRRTS activities exist at the subject property.
- H. List BRRTS activity/site name(s) and number(s) for all properties immediately adjacent to (abutting) this source property.  
A closed ERP case (Vacant Property, BRRTS #02-41-544311) exists on the adjacent property to the west.

#### 2. General Site Conditions

- A. Soil/Geology
- i. Describe soil type(s) and relevant physical properties, thickness of soil column across the site, vertical and lateral variations in soil types.  
Local soils generally consist of silt/clay to sandy silt/clay to clayey sand from surface to at least 15 feet bgs.. A lens of sand to silty sand was encountered from approximately 6 to 8 feet bgs in the northwest portion of the subject property.
  - ii. Describe the composition, location and lateral extent, and depth of fill or waste deposits on the site.  
Fill material consisting of sand and gravel was encountered across most of the site overlying the native soil. Sand and gravel fill was also encountered in the former tank bed.
  - iii. Describe the depth to bedrock, bedrock type, competency and whether or not it was encountered during the investigation.  
Bedrock was not encountered during the site investigation, but limestone bedrock is expected to exist at approximately 50-150 feet bgs, based on local well construction reports.
  - iv. Describe the nature and locations of current surface cover(s) across the site (e.g., natural vegetation, landscaped areas, gravel, hard surfaces, and buildings).  
The majority of the property is covered in asphalt with the exception of the concrete pads that cover the two areas of former dispenser islands. The on-site building is located on the south western edge of the property.
- B. Groundwater

- i. Discuss depth to groundwater and piezometric elevations. Describe and explain depth variations, including high and low water table elevation and whether free product affects measurement of water table elevation. Describe the stratigraphic unit(s) where water table was found or which were measured for piezometric levels.  
Groundwater exists at approximately 4.59-15.40 feet below ground surface depending on well location and time of year. The stratigraphic unit where the water table is found consists of silty clay. Free product has not been encountered at this site. No piezometers are installed at this site.
- ii. Discuss groundwater flow direction(s), shallow and deep. Describe and explain flow variations, including fracture flow if present.  
Groundwater elevations measured in the monitoring wells indicate a local groundwater flow direction that radiates to the north, west, and south from the center of the property.
- iii. Discuss groundwater flow characteristics: hydraulic conductivity, flow rate and permeability, or state why this information was not obtained.  
Slug tests were not conducted during the site investigation. Book values for geologic material (silty clay) at the water table give an estimated hydraulic conductivity of  $10^{-4}$  to  $10^{-6}$  cm/s. Based on the average hydraulic gradient of 0.0057 for the last four rounds of groundwater monitoring, this yields an estimated flow velocity of 0.155 to 15.493 m/yr.
- iv. Identify and describe locations/distance of potable and/or municipal wells within 1200 feet of the site. Include general summary of well construction (geology, depth of casing, depth of screened or open interval).  
The subject property and surrounding properties are served by the City of Milwaukee municipal water supply, which draws its potable water from Lake Michigan. There are no known private water supply wells within 1200 feet of the subject property.

### 3. Site Investigation Summary

#### A. General

- i. Provide a brief summary of the site investigation history. Reference previous submittals by name and date. Describe site investigation activities undertaken since the last submittal for this project and attach the appropriate documentation in Attachment C, if not previously provided.  
On June, 16, 2010 Kitson Environmental Services, Inc. of Hellenville, Wisconsin completed eight soil borings (SP-1 thru SP-8) at the site under Sentinel supervision. Twenty-four soil samples were collected for field and/or laboratory analysis. After the sampling was completed, the boreholes were properly abandoned. (Site Investigation Report - June 2012)  
  
On August 17, 2010 Kitson Environmental Services, Inc. of Hellenville, Wisconsin completed ten soil borings (SP-9 thru SP-18) at the site under Sentinel supervision. Twenty-seven soil samples were collected for field and/or laboratory analysis. After the sampling was completed, the boreholes were properly abandoned. (Site Investigation Report - June 2012)  
  
On September 28, 2010, Badger State Drilling of Stoughton, Wisconsin conducted a Drilling Project at the site under sentinel supervision. Four monitoring wells (MW-1 through MW-4), were installed and properly developed upon completion. (Site Investigation Report - June 2012)  
  
On November 4, 2010, Sentinel Environmental Services LLC personnel collected groundwater samples from four monitoring wells (MW-1 thru MW-4) for VOC analysis. Water level measurement were collected from all of the monitoring wells during the groundwater sampling event. (Site Investigation Report - June 2012)  
  
On December 21, 2010, Badger State Drilling of Stoughton, Wisconsin conducted a Drilling Project at the site under sentinel supervision. Four soil borings were conducted and converted to monitoring wells (MW-5 through MW-8). Four soil samples were collected from the soil borings for field and/or laboratory analysis. The monitoring wells were properly developed upon completion. (Site Investigation Report - June 2012)  
  
On May 5, 2011 Sentinel Environmental Services LLC personnel collected groundwater samples from eight monitoring wells (MW-1 thru MW-8) for Lead and VOC analysis. Water level measurement were collected from all of the monitoring wells during the groundwater sampling event. (Site Investigation Report - June 2012)  
  
On September 14, 2011 Sentinel Environmental Services LLC personnel collected groundwater samples from eight monitoring wells (MW-1 thru MW-8) for PVOC and Naphthalene analysis. Water level measurement were collected from all of the monitoring wells during the groundwater sampling event. (Site Investigation Report - June 2012)  
  
On December 16, 2011 Sentinel Environmental Services LLC personnel collected groundwater samples from eight monitoring wells (MW-1 thru MW-8) for PVOC and Naphthalene analysis. Water level measurement were collected from all of the monitoring wells during the groundwater sampling event. (Site Investigation Report - June 2012)  
  
On March 27, 2012 Sentinel Environmental Services LLC personnel collected groundwater samples from eight monitoring wells (MW-1 thru MW-8) for PVOC and Naphthalene analysis. Water level measurement were collected

from all of the monitoring wells during the groundwater sampling event. (Site Investigation Report - June 2012)

On June 3, 2015, METCO personnel collected groundwater samples from eight monitoring wells (MW-1 through MW-8) for PVOC and Naphthalene analysis. Field measurements for water level, Dissolved Oxygen, pH, ORP, temperature, and specific conductivity were collected from all sampled wells. (Annual Groundwater Monitoring Report - May 2016)

On September 2, 2015, METCO personnel collected groundwater samples from eight monitoring wells (MW-1 through MW-8) for PVOC and Naphthalene analysis. Field measurements for water level, Dissolved Oxygen, pH, ORP, temperature, and specific conductivity were collected from all sampled wells. (Annual Groundwater Monitoring Report - May 2016)

On December 7, 2015, METCO personnel collected groundwater samples from eight monitoring wells (MW-1 through MW-8) for PVOC and Naphthalene analysis. Field measurements for water level, Dissolved Oxygen, pH, ORP, temperature, and specific conductivity were collected from all sampled wells. (Annual Groundwater Monitoring Report - May 2016)

On March 3, 2016, METCO personnel collected groundwater samples from eight monitoring wells (MW-1 through MW-8) for PVOC and Naphthalene analysis. Field measurements for water level, Dissolved Oxygen, pH, ORP, temperature, and specific conductivity were collected from all sampled wells. (Annual Groundwater Monitoring Report - May 2016)

- ii. Identify whether contamination extends beyond the source property boundary, and if so describe the media affected (e.g., soil, groundwater, vapors and/or sediment, etc.), and the vertical and horizontal extent of impacts. Petroleum contamination in soil and groundwater does not appear to extend beyond the property boundary.
- iii. Identify any structural impediments to the completion of site investigation and/or remediation and whether these impediments are on the source property or off the source property. Identify the type and location of any structural impediment (e.g., structure) that also serves as the performance standard barrier for protection of the direct contact or the groundwater pathway.  
No structural impediments interfered with the completion of the site investigation.

B. Soil

- i. Describe degree and extent of soil contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways.

An area of unsaturated soil contamination which exceeds the NR720 Groundwater RCL values and two areas of unsaturated soil contamination which exceed the non-industrial direct contact values exists in the area of the removed UST's and dispensers. The area of unsaturated soil contamination which exceeds the NR720 Groundwater RCL consists of an irregular shaped area that measures up to 120 feet long, up to 60 feet wide and extends to at least 10 feet bgs. Of the two areas of unsaturated soil contamination exceeding the non-industrial direct contact values, one measures up to 15 feet long, up to 10 feet wide, and up to 4 feet thick. The other area of unsaturated soil contamination exceeding the non-industrial direct contact values measures up to 55 feet long, up to 35 feet wide, and up to 4 feet thick.

Soil contamination exceeding NR720 Groundwater RCL's exists in the area of a water lateral. This is a privately owned utility and there is no documentation on how it was constructed but is likely backfilled with native material. Due to the water lateral existing at 5-6 feet bgs and being backfilled with native soil, it is unlikely that it is acting as a potential mitigation pathway.

- ii. Describe the concentration(s) and types of soil contaminants found in the upper four feet of the soil column. Soil samples collected within the upper four feet of the soil column exceeding the NR720 RCL's include:

SP-1 (0-4 feet bgs): Naphthalene (1.140 ppm), 1,2,4-Trimethylbenzene (5.19 ppm), 1,3,5-Trimethylbenzene (1.91 ppm).  
SP-2/MW-1 (0-4 feet bgs): Lead (43.1 ppm), Benzene (1.28 ppm), Ethylbenzene (55.5 ppm), Naphthalene (27.7 ppm), Toluene (123 ppm), 1,2,4-Trimethylbenzene (140 ppm), 1,3,5-Trimethylbenzene (43.2 ppm), Xylene (283 ppm).  
SP-3 (0-4 feet bgs): Lead (36.5 ppm), Ethylbenzene (4.96 ppm), Naphthalene (3.41 ppm), 1,2,4-Trimethylbenzene (15.2 ppm), 1,3,5-Trimethylbenzene (4.48 ppm), Xylene (25.56 ppm).  
SP-4/MW-2 (0-4 feet bgs): Lead (39.4 ppm), 1,2,4-Trimethylbenzene (3.28 ppm), 1,3,5-Trimethylbenzene (0.347 ppm).  
SP-5/MW-3 (0-4 feet bgs): Lead (128 ppm), Ethylbenzene (68 ppm), Naphthalene (27 ppm), Toluene (51.8 ppm), 1,2,4-Trimethylbenzene (191 ppm), 1,3,5-Trimethylbenzene (54.8 ppm), Xylene (275 ppm).  
SP-6 (0-4 feet bgs): Lead (113 ppm), Benzene (0.0737 ppm), 1,2,4-Trimethylbenzene (1 ppm), 1,3,5-Trimethylbenzene (0.988 ppm), Benzo(a)anthracene (0.377 ppm), Benzo(a)pyrene (0.0334 ppm), Benzo(b)fluoranthene (0.419 ppm), Dibenzo(a,h)anthracene (0.0687 ppm), Indeno(1,2,3-cd)pyrene (0.175 ppm).  
SP-7 (0-4 feet bgs): Lead (190 ppm), Benzene (0.0699 ppm), 1,2,4-Trimethylbenzene (1.46 ppm), 1,3,5-Trimethylbenzene (0.278 ppm), Benzo(a)pyrene (0.0663 ppm), Benzo(b)fluoranthene (0.672 ppm), Dibenzo(a,h)anthracene (0.0174 ppm).  
SP-8 (0-4 feet bgs): Benzo(a)anthracene (0.203 ppm), Benzo(a)pyrene (0.236 ppm), Benzo(b)fluoranthene (0.316 ppm),



Dibenzo(a,h)anthracene (0.0624 ppm), Indeno(1,2,3-cd)pyrene (0.177 ppm)

SP-14 (0-4 feet bgs): Benzene (0.153 ppm).

SP-16 (0-4 feet bgs): Ethylbenzene (15.5 ppm), MTBE (0.259 ppm), Naphthalene (6.33 ppm), 1,2,4-Trimethylbenzene (43.3 ppm), 1,3,5-Trimethylbenzene (14.1 ppm), Xylene (40.773 ppm).

- iii. Identify the ch. NR 720, Wis. Adm. Code, method used to establish the soil cleanup standards for this site. This includes a soil performance standard established in accordance with s. NR 720.08, a Residual Contaminant Level (RCL) established in accordance with s. NR 720.10 that is protective of groundwater quality, or an RCL established in accordance with s. NR 720.12 that is protective of human health from direct contact with contaminated soil. Identify the land use classification that was used to establish cleanup standards. Provide a copy of the supporting calculations/information in Attachment C.

The method used to establish the soil cleanup standards for this site were the NR720 RCL's. The property is zoned "LB2 - Commercial - Local Business", therefore, the non-industrial standards were used for this site.

#### C. Groundwater

- i. Describe degree and extent of groundwater contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways. Specifically address any potential or existing impacts to water supply wells or interception with building foundation drain systems.

A dissolved phase contaminant plume exceeding the NR140 ES and PAL has formed at the water table in the area of the removed USTs and dispensers.. This plume is approximately up to 100 feet long and up to 65 feet wide.

The groundwater contamination plume exceeding the NR140 ES and PAL intersects a water lateral. This is a privately owned utility and there is no documentation on how it was constructed but is likely backfilled with native material. Due to the watertable being 7.3 to 8.5 feet bgs and the water lateral being 5-6 feet bgs, it is unlikely that the lateral is acting as a potential contaminant migration pathway.

There does not appear to be any impact or risk to any water supply wells or interception with building foundation drain systems.

- ii. Describe the presence of free product at the site, including the thickness, depth, and locations. Identify the depth and location of the smear zone.

Free product was not encountered during the site investigation.

#### D. Vapor

- i. Describe how the vapor migration pathway was assessed, including locations where vapor, soil gas, or indoor air samples were collected. If the vapor pathway was not assessed, explain reasons why.  
The NR140 ES/PAL contaminant plume appears to extend underneath the very northeast corner of the on-site building. However, vapor intrusion does not appear to be a risk at this time for the following reasons: 1) Free product was not encountered in any of the monitoring wells. 2) Benzene concentrations in groundwater are less than 1,000 ppb.

Contaminated soil exceeding NR720 Groundwater RCLs and Groundwater contamination exceeding the NR140 PAL exists in the area of a water lateral at approximately 5-6 feet bgs that runs to the on site building. Because the water lateral is likely backfilled with native soil and is buried above the groundwater elevation, it is unlikely that it is acting as a migration pathway for vapor. However, because contamination still exists in the area, there is a risk of future vapor intrusion along the water lateral.

- ii. Identify the applicable DNR action levels and the land use classification used to establish them. Describe where the DNR action levels were reached or exceeded (e.g., sub slab, indoor air or both).

No indoor air/sub slab vapor samples were collected as part of the site investigation.

#### E. Surface Water and Sediment

- i. Identify whether surface water and/or sediment was assessed and describe the impacts found. If this pathway was not assessed, explain why.

The nearest surface water is the Milwaukee River, which exists approximately 2 miles to the east of the subject property. Based on the results of the investigation, the petroleum contamination does not appear to have impacted any surface waters.

- ii. Identify any surface water and/or sediment action levels used to assess the impacts for this pathway and how these were derived. Describe where the DNR action levels were reached or exceeded.

No surface waters or sediments were assessed as part of the site investigation.

#### 4. Remedial Actions Implemented and Residual Levels at Closure

- A. General: Provide a brief summary of the remedial action history. List previous remedial action report submittals by name and date. Identify remedial actions undertaken since the last submittal for this project and provide the appropriate documentation in Attachment C.

No remedial activities occurred as part of the site investigation.

- B. Describe any immediate or interim actions taken at the site under ch NR 708, Wis. Adm. Code.

No immediate or interim actions occurred at this site.

- C. Describe the active remedial actions taken at the source property, including: type of remedial system(s) used for each media affected; the size and location of any excavation or in-situ treatment; the effectiveness of the systems to address the contaminated media and substances; operational history of the systems; and summarize the performance of the active remedial actions. Provide any system performance documentation in Attachment A.7.

No active remedial actions occurred as part of the site investigation.

- D. Describe the alternatives considered during the Green and Sustainable Remediation evaluation in accordance with NR 722.09 and any practices implemented as a result of the evaluation.

No evaluation Green and Sustainable Remediation was conducted.

- E. Describe the nature, degree and extent of residual contamination that will remain at the source property or on other affected properties after case closure.

An area of unsaturated soil contamination which exceeds the NR720 Groundwater RCL values and two areas of unsaturated soil contamination which exceed the non-industrial direct contact values exists in the area of the removed UST's and dispensers. The area of unsaturated soil contamination which exceeds the NR720 Groundwater RCL consists of an irregular shaped area that measures up to 120 feet long, up to 60 feet wide and extends to at least 10 feet bgs. Of the two areas of unsaturated soil contamination exceeding the non-industrial direct contact values, one measures up to 15 feet long, up to 10 feet wide, and up to 4 feet thick. The other area of unsaturated soil contamination exceeding the non-industrial direct contact values measures up to 55 feet long, up to 35 feet wide, and up to 4 feet thick.

An area of unsaturated soil contamination, which exceeds the NR720 Groundwater and/or Direct Contact RCLs exists in the area of the removed USTs and dispensers and extends to the eastern and southern portions of the property boundary.

A dissolved phase contaminant plume exceeding the NR140 ES and/or PAL has formed at the watertable in the area of the removed UST and dispensers. This plume is approximately 100 feet long and 65 feet wide.

It does not appear that the petroleum contamination in soil or groundwater has migrated beyond the property boundary.

- F. Describe the residual soil contamination within four feet of ground surface (direct contact zone) that attains or exceeds RCLs established under s. NR 720.12, Wis. Adm. Code, for protection of human health from direct contact.

Remaining soil samples collected within the upper four feet of the soil column that exceed the NR720 Direct Contact RCL's include:

SP-2/MW-1 (0-4 feet bgs): Ethylbenzene (55.5 ppm), Naphthalene (27.7 ppm), 1,2,4-Trimethylbenzene (140 ppm) and Xylene (283 ppm).

SP-5/MW-3 (0-4 feet bgs): Ethylbenzene (68 ppm), Naphthalene (27 ppm), 1,2,4-Trimethylbenzene (191 ppm) and Xylene (275 ppm),

SP-6 (0-4 feet bgs): Benzo(a)anthracene (0.377 ppm), Benzo(a)pyrene (0.0334 ppm), Benzo(b)fluoranthene (0.419 ppm), Dibenzo(a,h)anthracene (0.0687 ppm), and Indeno(1,2,3-cd)pyrene (0.175 ppm).

SP-7 (0-4 feet bgs): Benzo(a)pyrene (0.0663 ppm), Benzo(b)fluoranthene (0.672 ppm) and Dibenzo(a,h)anthracene (0.0174 ppm).

SP-8 (0-4 feet bgs): Benzo(a)anthracene (0.203 ppm), Benzo(a)pyrene (0.236 ppm), Benzo(b)fluoranthene (0.316 ppm), Dibenzo(a,h)anthracene (0.0624 ppm) and Indeno(1,2,3-cd)pyrene (0.1770 ppm).

SP-16 (0-4 feet bgs): Ethylbenzene (15.5 ppm) and Naphthalene (6.33 ppm).

- G. Describe the residual soil contamination that is above the observed low water table that attains or exceeds the soil standard(s) for the groundwater pathway.

Residual soil contamination that is above the observed low water table that attains or exceeds the NR720 Groundwater RCLs include:

SP-1 (0-4 feet bgs): Naphthalene (1.140 ppm) and Trimethylbenzenes (7.1 ppm).

SP-1 (4-8 feet bgs): Benzene (0.423 ppm).

SP-2/MW-1 (0-4 feet bgs): Lead (43.1 ppm), Benzene (1.28 ppm), Ethylbenzene (55.5 ppm), Naphthalene (27.7 ppm), Toluene (123 ppm), Trimethylbenzenes (143.2 ppm), and Xylene (283 ppm).

SP-2 (4-8 feet bgs): Benzene (1.85 ppm), Ethylbenzene (21.7 ppm), Naphthalene (7.25 ppm), Toluene (51.5 ppm), Trimethylbenzenes (45.5 ppm), and Xylene (90.9 ppm).

SP-3 (0-4 feet bgs): Lead (36.5 ppm), Ethylbenzene (4.96 ppm), Naphthalene (3.41 ppm), Trimethylbenzenes (19.68 ppm), and Xylene (25.56 ppm).

SP-3 (4-8 feet bgs): Benzene (0.192 ppm), Ethylbenzene (2.15 ppm), and Trimethylbenzenes (4.594 ppm).  
SP-4/MW-2 (0-4 feet bgs): Lead (39.4 ppm) and Trimethylbenzenes (3.627 ppm).  
SP-4 (4-8 feet bgs): Benzene (0.0333 ppm).  
SP-5/MW-3 (0-4 feet bgs): Lead (128 ppm), Ethylbenzene (68 ppm), Naphthalene (27 ppm), Toluene (51.8 ppm), Trimethylbenzenes (245.8 ppm), and Xylene (275 ppm).  
SP-5/MW-3 (4-8 feet bgs): Benzene (0.100 ppm), Ethylbenzene (5.6 ppm), Naphthalene (2.24 ppm), Toluene (14.6 ppm), Trimethylbenzenes (4.22 ppm), and Xylene (21.14 ppm).  
SP-6 (0-4 feet bgs): Lead (113 ppm), Benzene (0.0737 ppm), and Trimethylbenzenes (1.988 ppm).  
SP-6 (4-8 feet bgs): Trimethylbenzenes (7.30 ppm) and Naphthalene (0.686 ppm).  
SP-7 (0-4 feet bgs): Lead (190 ppm), Benzene (0.0699 ppm), Trimethylbenzenes (1.738 ppm), and Benzo(b)fluoranthene (0.672 ppm).  
SP-7 (4-8 feet bgs): Lead (32.5 ppm), Naphthalene (0.678 ppm), and Trimethylbenzenes (8.075 ppm).  
SP-8 (4-8 feet bgs): Benzene (0.225 ppm), Ethylbenzene (2.99 ppm), Naphthalene (5.95 ppm), and Trimethylbenzenes (27.802 ppm).

SP-14 (0-4 feet bgs): Benzene (0.153 ppm).  
SP-14 (4-8 feet bgs): Benzene (0.364 ppm), Ethylbenzene (2.57 ppm), and Trimethylbenzenes (5.83 ppm).  
SP-16 (0-4 feet bgs): Ethylbenzene (15.5 ppm), MTBE (0.259 ppm), Naphthalene (6.33 ppm), Trimethylbenzenes (57.4 ppm), and Xylene (40.773 ppm).  
SP-16 (4-8 feet bgs): Ethylbenzene (23.4 ppm), MTBE (0.333 ppm), Naphthalene (7.35 ppm), Toluene (1.47 ppm), Trimethylbenzenes (53.7 ppm), and Xylene (85.7 ppm).  
SP-17 (4-8 feet bgs): Naphthalene (2.26 ppm) and Trimethylbenzenes (9.505 ppm).  
SP-18 (4-8 feet bgs): Benzene (0.0321 ppm), Trimethylbenzenes (1.638 ppm).

- H. Describe how the residual contamination will be addressed, including but not limited to details concerning: covers, engineering controls or other barrier features; use of natural attenuation of groundwater; and vapor mitigation systems or measures.  
Residual soil contamination will be addressed via a Cap Maintenance Plan and groundwater contamination will be addressed via natural attenuation.
- I. If using natural attenuation as a groundwater remedy, describe how the data collected supports the conclusion that natural attenuation is effective in reducing contaminant mass and concentration (e.g., stable or receding groundwater plume).  
Due to the overall decreasing groundwater contaminant trends, it appears that natural attenuation has and will continue to effectively reduce the contaminant mass.
- J. Identify how all exposure pathways (soil, groundwater, vapor) were removed and/or adequately addressed by immediate, interim and/or remedial action(s).  
Any remaining exposure pathways will be addressed via a Cap Maintenance Plan and natural attenuation.
- K. Identify any system hardware anticipated to be left in place after site closure, and explain the reasons why it will remain.  
No system hardware was installed as part of the site investigation.
- L. Identify the need for a ch. NR 140, Wis. Adm. Code, groundwater Preventive Action Limit (PAL) or Enforcement Standard (ES) exemption, and identify the affected monitoring points and applicable substances.  
From the March 3, 2016 groundwater sampling event:  
MW-1 showed a PAL exceedance for Benzene (0.50 ppb).  
MW-3 showed ES exceedances for Benzene (550 ppb), Ethylbenzene (3,700 ppb), Naphthalene (480 ppb), Toluene (970 ppb), Trimethylbenzenes (3,830 ppb), and Xylene (11,290 ppb).  
MW-4 showed ES exceedances for Benzene (470 ppb), Ethylbenzene (3,400 ppb), Naphthalene (640 ppb), and Trimethylbenzenes (3,559 ppb) and a PAL exceedance for Xylene (1,090 - 1,123 ppb).
- M. If a DNR action level for vapor intrusion was exceeded (for indoor air, sub slab, or both) describe where it was exceeded and how the pathway was addressed.  
No indoor air/sub slab vapor samples were collected.
- N. Describe the surface water and/or sediment contaminant concentrations and areas after remediation. If a DNR action level was exceeded, describe where it was exceeded and how the pathway was addressed.  
No surface water and/or sediment samples were collected.

**5. Continuing Obligations: Includes all affected properties and rights-of-way (ROWs). In certain situations, maintenance plans are also required, and must be included in Attachment D.**

Directions: For each of the 3 property types below, check all situations that apply to this closure request.

(NOTE: Monitoring wells to be transferred to another site are addressed in Attachment E.)

This situation applies to the following property or Right of Way (ROW):			Case Closure Situation - Continuing Obligation (database fees will apply, ii. - xiv.)	Maintenance Plan Required	
Property Type:					
Source Property	Affected Property (Off-Source)	ROW			
i.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None of the following situations apply to this case closure request.	NA
ii.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual groundwater contamination exceeds ch. NR 140 ESs.	NA
iii.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination exceeds ch. NR 720 RCLs.	NA
iv.				Monitoring Wells Remain:	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Not Abandoned (filled and sealed)	NA
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Continued Monitoring (requested or required)	Yes
v.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) direct contact pathways (includes vapor barriers)	Yes
vi.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) groundwater infiltration pathway	Yes
vii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural Impediment: impedes completion of investigation or remedial action (not as a performance standard cover)	NA
viii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination meets NR 720 industrial soil RCLs, land use is classified as industrial	NA
ix.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor Mitigation System (VMS) required due to exceedances of vapor risk screening levels or other health based concern	Yes
x.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Dewatering System needed for VMS to work effectively	Yes
xi.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Compounds of Concern in use: full vapor assessment could not be completed	NA
xii.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Commercial/industrial exposure assumptions used.	NA
xiii.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vapor: Residual volatile contamination poses future risk of vapor intrusion	NA
xiv.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Site-specific situation: (e. g., fencing, methane monitoring, other) ( <i>discuss with project manager before submitting the closure request</i> )	Site specific

**6. Underground Storage Tanks**

A. Were any tanks, piping or other associated tank system components removed as part of the investigation or remedial action?  Yes  No

B. Do any upgraded tanks meeting the requirements of ch. ATCP 93, Wis. Adm. Code, exist on the property?  Yes  No

C. If the answer to question 6.B. is yes, is the leak detection system currently being monitored?  Yes  No

### General Instructions

All information shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected. For each attachment (A-G), provide a Table of Contents page, listing all 'applicable' and 'not applicable' items by Closure Form titles (e.g., A.1. Groundwater Analytical Table, A.2. Soil Analytical Results Table, etc.). If any item is 'not applicable' to the case closure request, you must fully explain the reasons why.

### Data Tables (Attachment A)

#### Directions for Data Tables:

- Use **bold** and italics font for information of importance on tables and figures. Use **bold** font for ch. NR 140, Wis. Adm. Code ES attainments or exceedances, and *italicized font* for ch. NR 140, Wis. Adm. Code, PAL attainments or exceedances.
- Use **bold** font to identify individual ch. NR 720 Wis. Adm. Code RCL exceedances. Tables should also include the corresponding groundwater pathway and direct contact pathway RCLs for comparison purposes. Cumulative hazard index and cumulative cancer risk exceedances should also be tabulated and identified on Tables A.2 and A.3.
- Do not use shading or highlighting on the analytical tables.
- Include on Data Tables the level of detection for results which are below the detection level (i.e., do not just list as no detect (ND)).
- Include the units on data tables.
- Summaries of all data must include information collected by previous consultants.
- Do not submit lab data sheets unless these have not been submitted in a previous report. Tabulate all data required in s. NR 716.15 (3)(c), Wis. Adm. Code, in the format required in s. NR 716.15(4)(e), Wis. Adm. Code.
- Include in Attachment A all of the following tables, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: A.1. Groundwater Analytical Table; A.2. Soil Analytical Results Table, etc.).
- For required documents, each table (e.g., A.1., A.2., etc.) should be a separate Portable Document Format (PDF).

#### A. Data Tables

- A.1. Groundwater Analytical Table(s):** Table(s) showing the analytical results and collection dates for all groundwater sampling points (e.g., monitoring wells, temporary wells, sumps, extraction wells, potable wells) for which samples have been collected.
- A.2. Soil Analytical Results Table(s):** Table(s) showing all soil analytical results and collection dates. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated).
- A.3. Residual Soil Contamination Table(s):** Table(s) showing the analytical results of only the residual soil contamination at the time of closure. This table shall be a subset of table A.2 and should include only the soil sample locations that exceed an RCL. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated). Table A.3 is optional only if a total of fewer than 15 soil samples have been collected at the site.
- A.4. Vapor Analytical Table(s):** Table(s) showing type(s) of samples, sample collection methods, analytical method, sample results, date of sample collection, time period for sample collection, method and results of leak detection, and date, method and results of communication testing.
- A.5. Other Media of Concern (e.g., sediment or surface water):** Table(s) showing type(s) of sample, sample collection method, analytical method, sample results, date of sample collection, and time period for sample collection.
- A.6. Water Level Elevations:** Table(s) showing all water level elevation measurements and dates from all monitoring wells. If present, free product should be noted on the table.
- A.7. Other:** This attachment should include: 1) any available tabulated natural attenuation data; 2) data tables pertaining to engineered remedial systems that document operational history, demonstrate system performance and effectiveness, and display emissions data; and (3) any other data tables relevant to case closure not otherwise noted above. If this section is not applicable, please explain the reasons why.

### Maps, Figures and Photos (Attachment B)

#### Directions for Maps, Figures and Photos:

- Provide on paper no larger than 11 x 17 inches, unless otherwise directed by the Department. Maps and figures may be submitted in a larger electronic size than 11 x 17 inches, in a PDF readable by the Adobe Acrobat Reader. However, those larger-size documents must be legible when printed.
- Prepare visual aids, including maps, plans, drawings, fence diagrams, tables and photographs according to the applicable portions of ss. NR 716.15(4), 726.09(2) and 726.11(3), (5) and (6), Wis. Adm. Code.
- Include all sample locations.
- Contour lines should be clearly labeled and defined.
- Include in Attachment B all of the following maps and figures, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: B.1. Location Map; B.2. Detailed Site Map, etc).
- For the electronic copies that are required, each map (e.g., B.1.a., B.2.a, etc.,) should be a separate PDF.
- Maps, figures and photos should be dated to reflect the most recent revision.

#### B.1. Location Maps

- B.1.a. Location Map:** A map outlining all properties within the contaminated site boundaries on a United States Geological Survey (U.S.G.S.) topographic map or plat map in sufficient detail to permit easy location of all affected and/or adjacent parcels. If groundwater standards are exceeded, include the location of all potable wells, including municipal wells, within 1200 feet of the area of contamination.
- B.1.b. Detailed Site Map:** A map that shows all relevant features (buildings, roads, current ground surface cover, individual property boundaries for all affected properties, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination attaining or exceeding a ch. NR 140 ES, and/or in relation to the boundaries of soil contamination attaining or exceeding a RCL. Provide parcel identification numbers for all affected properties.
- B.1.c. RR Sites Map:** From RR Sites Map ([http://dnrm.wi.gov/si/?Viewer=RR Sites](http://dnrm.wi.gov/si/?Viewer=RR%20Sites)) attach a map depicting the source property, and all open and closed BRRTS sites within a half-mile radius or less of the property.

**B.2. Soil Figures**

**B.2.a. Soil Contamination:** Figure(s) showing the location of **all** identified unsaturated soil contamination. Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720.Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedances (0-4 foot depth).

**B.2.b. Residual Soil Contamination:** Figure(s) showing only the locations of soil samples where unsaturated soil contamination remains at the time of closure (locations represented in Table A.3). Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720 Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedance (0-4 foot depth).

**B.3. Groundwater Figures**

**B.3.a. Geologic Cross-Section Figure(s):** One or more cross-section diagrams showing soil types and correlations across the site, water table and piezometric elevations, and locations and elevations of geologic rock units, if encountered. Display on one or more figures all of the following:

- Source location(s) and vertical extent of residual soil contamination exceeding an RCL. Distinguish between direct contact and the groundwater pathway RCLs.
- Source location(s) and lateral and vertical extent if groundwater contamination exceeds ch. NR 140 ES.
- Surface features, including buildings and basements, and show surface elevation changes.
- Any areas of active remediation within the cross section path, such as excavations or treatment zones.
- Include a map displaying the cross-section location(s), if they are not displayed on the Detailed Site Map (Map B.1.b.)

**B.3.b. Groundwater Isoconcentration:** Figure(s) showing the horizontal extent of the post-remedial groundwater contamination exceeding a ch. NR 140, Wis. Adm. Code, PAL and/or an ES. Indicate the date and direction of groundwater flow based on the most recent sampling data.

**B.3.c. Groundwater Flow Direction:** Figure(s) representing groundwater movement at the site. If the flow direction varies by more than 20° over the history of the site, submit two groundwater flow maps showing the maximum variation in flow direction.

**B.3.d. Monitoring Wells:** Figure(s) showing all monitoring wells, with well identification number. Clearly designate any wells that: (1) are proposed to be abandoned; (2) cannot be located; (3) are being transferred; (4) will be retained for further sampling, or (5) have been abandoned.

**B.4. Vapor Maps and Other Media**

**B.4.a. Vapor Intrusion Map:** Map(s) showing all locations and results for samples taken to investigate the vapor intrusion pathway in relation to residual soil and groundwater contamination, including sub-slab, indoor air, soil vapor, soil gas, ambient air, and communication testing. Show locations and footprints of affected structures and utility corridors, and/or where residual contamination poses a future risk of vapor intrusion.

**B.4.b. Other media of concern (e.g., sediment or surface water):** Map(s) showing all sampling locations and results for other media investigation. Include the date of sample collection and identify where any standards are exceeded.

**B.4.c. Other:** Include any other relevant maps and figures not otherwise noted above. (This section may remain blank).

**B.5. Structural Impediment Photos:** One or more photographs documenting the structural impediment feature(s) which precluded a complete site investigation or remediation at the time of the closure request. The photographs should document the area that could not be investigated or remediated due to a structural impediment. The structural impediment should be indicated on Figures B.2.a and B.2.b.

**Documentation of Remedial Action (Attachment C)**

**Directions for Documentation of Remedial Action:**

- Include in Attachment C all of the following documentation, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: C.1. Site Investigation Documentation; C.2. Investigative Waste, etc.).
- If the documentation requested below has already been submitted to the DNR, please note the title and date of the report for that particular document requested.
  - C.1. **Site investigation documentation**, that has not otherwise been submitted with the Site Investigation Report.
  - C.2. **Investigative waste** disposal documentation.
  - C.3. Provide a **description of the methodology** used along with all supporting documentation if the RCLs are different than those contained in the Department's RCL Spreadsheet available at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html>.
  - C.4. **Construction documentation** or as-built report for any constructed remedial action or portion of, or interim action specified in s. NR 724.02(1), Wis. Adm. Code.
  - C.5. **Decommissioning of Remedial Systems.** Include plans to properly abandon any systems or equipment.
  - C.6. **Other.** Include any other relevant documentation not otherwise noted above (This section may remain blank).

**Maintenance Plan(s) and Photographs (Attachment D)**

**Directions for Maintenance Plans and Photographs:**

Attach a maintenance plan for each affected property (source property, each off-source affected property) with continuing obligations requiring future maintenance (e.g., direct contact, groundwater protection, vapor intrusion). See Site Summary section 5 for all affected property(s) requiring a maintenance plan. Maintenance plan guidance and/or templates for: 1) Cover/barrier systems; 2) Vapor intrusion; and 3) Monitoring wells, can be found at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html#tabx3>

**D.1. Descriptions of maintenance action(s) required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required:**

- Provide brief descriptions of the type, depth and location of residual contamination.

- Provide a description of the system/cover/barrier/monitoring well(s) to be maintained.
  - Provide a description of the maintenance actions required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required.
  - Provide contact information, including the name, address and phone number of the individual or facility who will be conducting the maintenance.
- D.2. **Location map(s) which show(s):** (1) the feature that requires maintenance; (2) the location of the feature(s) that require(s) maintenance - on and off the source property; (3) the extent of the structure or feature(s) to be maintained, in relation to other structures or features on the site; (4) the extent and type of residual contamination; and (5) all property boundaries.
- D.3. **Photographs** for site or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system, include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features shall be visible and discernible. Photographs shall be submitted with a title related to the site name and location, and the date on which it was taken.
- D.4. **Inspection log**, to be maintained on site, or at a location specified in the maintenance plan or approval letter. The inspection and maintenance log is found at: <http://dnr.wi.gov/files/PDF/forms/4400/4400-305.pdf>.

**Monitoring Well Information (Attachment E)**

**Directions for Monitoring Well Information:**

For all wells that will remain in use, be transferred to another party, or that could not be located; attach monitoring well construction and development forms (DNR Form 4400-113 A and B: [http://dnr.wi.gov/topic/groundwater/documents/forms/4400\\_113\\_1\\_2.pdf](http://dnr.wi.gov/topic/groundwater/documents/forms/4400_113_1_2.pdf))

**Select One:**

- No monitoring wells were installed as part of this response action.
- All monitoring wells have been located and will be properly abandoned upon the DNR granting conditional closure to the site
- Select One or More:**
  - Not all monitoring wells can be located, despite good faith efforts. Attachment E must include a description of efforts made to locate the wells.
  - One or more wells will remain in use at the site after this closure. Attachment E must include documentation as to the reason (s) the well(s) will remain in use. When one or more monitoring wells will remain in use this is considered a continuing obligation and a maintenance plan will be required and must be included in Attachment D.
  - One or more monitoring wells will be transferred to another owner upon case closure being granted. Attachment E should include documentation identifying the name, address and email for the new owner(s). Provide documentation from the party accepting future responsibility for monitoring well(s).

**Source Legal Documents (Attachment F)**

**Directions for Source Legal Documents:**

Label documents with the specific closure form titles (e.g., F.1. Deed, F.2. Certified Survey Map, etc.). Include all of the following documents, in the order listed:

- F.1. **Deed:** The most recent deed with legal description clearly listed.  
*Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*
- F.2. **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- F.3. **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- F.4. **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description(s) accurately describe(s) the correct contaminated property or properties. This section applies to the source property only. Signed statements for Other Affected Properties should be included in Attachment G.

**Notifications to Owners of Affected Properties (Attachment G)**

**Directions for Notifications to Owners of Affected Properties:**

Complete the table on the following page for sites which require notification to owners of affected properties pursuant to ch. 292, Wis. Stats. and ch. NR 725 and 726, Wis. Adm. Code. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31- 19.39, Wis. Stats.]. The DNR's "Guidance on Case Closure and the Requirements for Managing Continuing Obligations" (PUB-RR-606) lists specific notification requirements <http://dnr.wi.gov/files/PDF/pubs/rr/RR606.pdf>.

State law requires that the responsible party provide a 30-day, written advance notification to certain persons prior to applying for case closure. This requirement applies if: (1) the person conducting the response action does not own the source property; (2) the contamination has migrated onto another property; and/or (3) one or more monitoring wells will not be abandoned. Use form 4400-286, Notification of Continuing Obligations and Residual Contamination, at <http://dnr.wi.gov/files/PDF/forms/4400/4400-286.pdf>

Include a copy of each notification sent and accompanying proof of delivery, i.e., return receipt or signature confirmation.

Include the following documents for each property, keeping each property's documents grouped together and labeled with the letter G and the corresponding ID number from the table on the following page. (Source Property documents should only be included in Attachment F):

- **Deed:** The most recent deed with legal descriptions clearly listed for all affected properties.  
*Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*
- **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes the attached legal description(s) accurately describe(s) the correct contaminated property or properties.





**Signatures and Findings for Closure Determination**

This page has been updated as of February 2019 to comply with the requirements of Wis. Admin. Code ch. NR 712.

Check the correct box for this case closure request and complete the corresponding certification statement(s) listed below to demonstrate that the requirements of Wis. Admin. Code ch. NR 712 have been met. The responsibility for signing the certification may not be delegated per Wis. Admin. Code § NR 712.09 (1). Per Wis. Admin. Code § 712.05 (1), the work must be conducted or supervised by the person certifying.

- The investigation and/or response action(s) for this site evaluated and/or addressed groundwater (including natural attenuation remedies). Both a professional engineer and a hydrogeologist must sign this document per Wis. Admin. Code ch. NR 712.
- The investigation and the response action(s) for this site did not evaluate or address groundwater. A professional engineer must sign this document per Wis. Admin. Code ch. NR 712.

**Engineering Certification**

I, Thomas P. Pignet, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature Thomas Pignet (reviewed)



# 33227-006

Title Engineer

Stamp

**Hydrogeologist Certification**

I, Ronald J. Anderson, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature Ronald J. Anderson

Title Senior Hydrogeologist/Project Manager

Date 4/22/20

## **Attachment A/Data Tables**

**A.1 Groundwater Analytical Table(s)**

**A.2 Soil Analytical Results Table(s)**

**A.3 Residual Soil Contamination Table(s)**

A.4 Vapor Analytical Table(s) – No vapor samples were assessed as part of the site investigation.

A.5 Other Media of Concern (e.g., sediment or surface water) – No surface waters or sediments were assessed as part of the site investigation.

**A.6 Water Level Elevations**

**A.7 Other – Natural Attenuation Data and Hydraulic Conductivity Calculations**

A.1 Groundwater Analytical Table  
Mack's Service Center Site BRRT's# 03-41-208431

Well MW-1  
PVC Elevation =

679.56 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	GRO (ppm)	DRO (ppm)	Benzene (ppb)	1,2-Dichloroethane (1,2-DCA) (ppb)	Ethyl Benzene (ppb)	Isopropyl-Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	n-Propylbenzene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
11/04/10	666.64	12.92	NS	NS	NS	323	<1.8	587	22.1	<3.0	41.9	63.8	113	406.6	1432
05/05/11	673.00	6.56	<1.7	NS	NS	83.7	<0.36	3.9	<0.59	<0.61	<0.89	<0.81	<0.67	1.4	6.7
09/14/11	671.49	8.07	NS	NS	NS	3.8	NS	0.99	NS	0.42	<0.40	NS	<0.42	<0.40	<0.38
12/16/11	672.58	6.98	NS	NS	NS	10.9	NS	<0.41	NS	0.39	<0.40	NS	<0.42	<0.40	<0.38
03/27/12	672.72	6.84	NS	NS	NS	32.8	NS	<0.41	NS	<0.38	0.47	NS	<0.42	<0.40	1.6
06/03/15	672.75	6.81	NS	NS	NS	11.6	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06
09/02/15	672.57	6.99	NS	NS	NS	0.69	NS	<0.73	NS	<0.49	<2.6	NS	0.43	<1.51	<2.06
12/07/15	672.66	6.90	NS	NS	NS	0.52	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06
03/03/16	672.26	7.30	NS	NS	NS	0.50	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06
<b>ENFORCEMENT STANDARD ES = Bold</b>			15	-	-	5	5	700	-	60	100	-	800	480	2000
<b>PREVENTIVE ACTION LIMIT PAL = Italics</b>			1.5	-	-	0.5	0.5	140	-	12	10	-	160	96	400

(ppb) = parts per billion (ppm) = parts per million  
ns = not sampled nm = not measured  
Note: Elevations are presented in feet mean sea level (msl).

Well MW-2  
PVC Elevation =

679.50 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	GRO (ppm)	DRO (ppm)	Benzene (ppb)	1,2-Dichloroethane (1,2-DCA) (ppb)	Ethyl Benzene (ppb)	Isopropyl-Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	n-Propylbenzene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
11/04/10	665.90	13.60	NS	NS	NS	<0.41	0.37	<0.54	<0.59	1.7	<0.89	<0.81	<0.67	<0.83	<0.83
05/05/11	667.47	12.03	<1.7	NS	NS	<0.41	7.6	<0.54	<0.59	2.2	<0.89	<0.81	<0.67	<0.83	<0.83
09/14/11	665.52	13.98	NS	NS	NS	<0.39	NS	<0.41	NS	3.3	<0.40	NS	<0.42	<0.40	<0.38
12/16/11	665.75	13.75	NS	NS	NS	<0.39	NS	<0.41	NS	3.2	<0.40	NS	<0.42	<0.40	<0.38
03/27/12	666.86	12.64	NS	NS	NS	<0.39	NS	<0.41	NS	0.54	<0.40	NS	<0.42	<0.40	<0.38
06/03/15	666.79	12.71	NS	NS	NS	0.95	NS	<0.73	NS	1.65	<2.6	NS	<0.39	<1.51	<2.06
09/02/15	666.14	13.36	NS	NS	NS	0.92	NS	<0.73	NS	1.6	<2.6	NS	0.48	<1.51	<2.06
12/07/15	666.86	12.64	NS	NS	NS	<0.46	NS	<0.73	NS	0.98	<2.6	NS	<0.39	<1.51	<2.06
03/03/16	666.70	12.80	NS	NS	NS	<0.46	NS	<0.73	NS	0.91	<2.6	NS	<0.39	<1.51	<2.06
<b>ENFORCEMENT STANDARD ES = Bold</b>			15	-	-	5	5	700	-	60	100	-	800	480	2000
<b>PREVENTIVE ACTION LIMIT PAL = Italics</b>			1.5	-	-	0.5	0.5	140	-	12	10	-	160	96	400

(ppb) = parts per billion (ppm) = parts per million  
ns = not sampled nm = not measured  
Note: Elevations are presented in feet mean sea level (msl).

Well MW-3  
PVC Elevation =

679.56 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	GRO (ppm)	DRO (ppm)	Benzene (ppb)	1,2-Dichloroethane (1,2-DCA) (ppb)	Ethyl Benzene (ppb)	Isopropyl-Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	n-Propylbenzene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
11/04/10	672.79	6.77	NS	NS	NS	1950	<18.0	4190	120	<30.5	560	340	13800	3073	14680
05/05/11	675.02	4.54	2.0	NS	NS	3370	<180	5320	<295	<305	<445	<405	52000	2453	21770
09/14/11	671.79	7.77	NS	NS	NS	1750	NS	4620	NS	<47.6	642	NS	13600	3199	16090
12/16/11	673.23	6.33	NS	NS	NS	1490	NS	4400	NS	<38.1	594	NS	12600	3164	14990
03/27/12	673.39	6.17	NS	NS	NS	1290	NS	4470	NS	<47.6	571	NS	10600	3405	16470
06/03/15	675.47	4.09	NS	NS	NS	550	NS	2870	NS	<24.5	450	NS	2800	3400	10920
09/02/15	675.15	4.41	NS	NS	NS	590	NS	3900	NS	<49	550	NS	970	3730	13240
12/07/15	675.41	4.15	NS	NS	NS	510	NS	3200	NS	<24.5	460	NS	2520	4140	13120
03/03/16	673.59	5.97	NS	NS	NS	550	NS	3700	NS	<49	480	NS	970	3830	11290
<b>ENFORCEMENT STANDARD ES = Bold</b>			15	-	-	5	5	700	-	60	100	-	800	480	2000
<b>PREVENTIVE ACTION LIMIT PAL = Italics</b>			1.5	-	-	0.5	0.5	140	-	12	10	-	160	96	400

(ppb) = parts per billion (ppm) = parts per million  
ns = not sampled nm = not measured  
Note: Elevations are presented in feet mean sea level (msl).

A.1 Groundwater Analytical Table  
 Mack's Service Center Site BRRT's# 03-41-208431

Well MW-4  
 PVC Elevation =

679.94 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	GRO (ppm)	DRO (ppm)	Benzene (ppb)	1,2-Dichloroethane (1,2-DCA) (ppb)	Ethyl Benzene (ppb)	Isopropyl-Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	n-Propylbenzene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
11/04/10	672.44	7.50	NS	NS	NS	437	<7.2	5050	126	<12.2	741	368	27.4	3394.1	1850
05/05/11	674.07	5.87	3.4	NS	NS	858	<18	5630	160	<30.5	781	439	62.4	3767	4150
09/14/11	670.59	9.35	NS	NS	NS	676	NS	5550	NS	<9.5	884	NS	43	3292.4	3514.3
12/16/11	670.88	9.06	NS	NS	NS	503	NS	5610	NS	<9.5	911	NS	46.8	3604.9	3580.3
03/27/12	672.01	7.93	NS	NS	NS	507	NS	5180	NS	<15.2	864	NS	38.8	3511.2	2900
06/03/15	674.53	5.41	NS	NS	NS	480	NS	4700	NS	<24.5	830	NS	30.7	4501	2280-2313
09/02/15	674.09	5.85	NS	NS	NS	490	NS	4400	NS	<24.5	920	NS	52	5194	1630-1663
12/07/15	674.70	5.24	NS	NS	NS	430	NS	4100	NS	<24.5	760	NS	34	4058	1210-1243
03/03/16	673.08	6.86	NS	NS	NS	470	NS	3400	NS	<24.5	640	NS	30.2	3559	1090-1123
<b>ENFORCEMENT STANDARD ES = Bold</b>			15	-	-	5	5	700	-	60	100	-	800	480	2000
<b>PREVENTIVE ACTION LIMIT PAL = Italics</b>			1.5	-	-	0.5	0.5	140	-	12	10	-	160	96	400

(ppb) = parts per billion (ppm) = parts per million  
 ns = not sampled nm = not measured  
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-5  
 PVC Elevation =

679.52 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	GRO (ppm)	DRO (ppm)	Benzene (ppb)	1,2-Dichloroethane (1,2-DCA) (ppb)	Ethyl Benzene (ppb)	Isopropyl-Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	n-Propylbenzene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
11/04/10															
NOT INSTALLED															
05/05/11	668.13	11.39	<1.7	NS	NS	<0.41	<0.36	<0.54	<0.59	<0.61	<0.89	<0.81	<0.67	<0.83	<0.83
09/14/11	665.54	13.98	NS	NS	NS	<0.39	NS	<0.41	NS	0.74	<0.40	NS	<0.42	<0.40	<0.38
12/16/11	666.14	13.38	NS	NS	NS	<0.39	NS	<0.41	NS	<0.38	<0.40	NS	<0.42	<0.40	<0.38
03/27/12	667.37	12.15	NS	NS	NS	<0.39	NS	<0.41	NS	<0.38	<0.40	NS	<0.42	<0.40	<0.38
06/03/15	666.90	12.62	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06
09/02/15	666.34	13.18	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06
12/07/15	667.24	12.28	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06
03/03/16	666.91	12.61	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06
<b>ENFORCEMENT STANDARD ES = Bold</b>			15	-	-	5	5	700	-	60	100	-	800	480	2000
<b>PREVENTIVE ACTION LIMIT PAL = Italics</b>			1.5	-	-	0.5	0.5	140	-	12	10	-	160	96	400

(ppb) = parts per billion (ppm) = parts per million  
 ns = not sampled nm = not measured  
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-6  
 PVC Elevation =

680.44 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	GRO (ppm)	DRO (ppm)	Benzene (ppb)	1,2-Dichloroethane (1,2-DCA) (ppb)	Ethyl Benzene (ppb)	Isopropyl-Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	n-Propylbenzene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)
11/04/10															
NOT INSTALLED															
05/05/11	667.58	12.86	1.8	NS	NS	<0.41	<0.36	<0.54	<0.59	1.5	<0.89	<0.81	<0.67	<0.83	<0.83
09/14/11	665.81	14.63	NS	NS	NS	<0.39	NS	<0.41	NS	4.6	<0.40	NS	<0.42	<0.40	<0.38
12/16/11	665.54	14.90	NS	NS	NS	<0.39	NS	<0.41	NS	0.44	<0.40	NS	<0.42	<0.40	<0.38
03/27/12	666.74	13.70	NS	NS	NS	<0.39	NS	<0.41	NS	1.6	<0.40	NS	<0.42	<0.40	<0.38
06/03/15	666.63	13.81	NS	NS	NS	<0.46	NS	<0.73	NS	1.52	<2.6	NS	0.60	<1.51	<2.06
09/02/15	665.99	14.45	NS	NS	NS	<0.46	NS	<0.73	NS	3.4	<2.6	NS	<0.39	<1.51	<2.06
12/07/15	666.83	13.61	NS	NS	NS	<0.46	NS	<0.73	NS	1.83	<2.6	NS	<0.39	<1.51	<2.06
03/03/16	666.61	13.83	NS	NS	NS	<0.46	NS	<0.73	NS	1.98	<2.6	NS	<0.39	<1.51	<2.06
<b>ENFORCEMENT STANDARD ES = Bold</b>			15	-	-	5	5	700	-	60	100	-	800	480	2000
<b>PREVENTIVE ACTION LIMIT PAL = Italics</b>			1.5	-	-	0.5	0.5	140	-	12	10	-	160	96	400

(ppb) = parts per billion (ppm) = parts per million  
 ns = not sampled nm = not measured  
 Note: Elevations are presented in feet mean sea level (msl).

A.1 Groundwater Analytical Table  
Mack's Service Center Site BRRT's# 03-41-208431

Well MW-7  
PVC Elevation =

679.47 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	GRO (ppm)	DRO (ppm)	Benzene (ppb)	1,2-Dichloroethane (1,2-DCA) (ppb)	Ethyl Benzene (ppb)	Isopropyl-Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	n-Propylbenzene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)	
11/04/10							NOT INSTALLED									
05/05/11	667.67	11.80	<1.7	NS	NS	<0.41	<0.36	<0.54	<0.59	<0.61	<0.89	<0.81	<0.67	<0.83	<0.83	
09/14/11	665.15	14.32	NS	NS	NS	<0.39	NS	<0.41	NS	<0.38	<0.40	NS	<0.42	<0.40	<0.38	
12/16/11	665.64	13.83	NS	NS	NS	<0.39	NS	<0.41	NS	<0.38	<0.40	NS	<0.42	<0.40	<0.38	
03/27/12	666.67	12.80	NS	NS	NS	<0.39	NS	<0.41	NS	<0.38	<0.40	NS	<0.42	<0.40	<0.38	
06/03/15	666.82	12.65	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06	
09/02/15	666.21	13.26	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06	
12/07/15	666.93	12.54	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06	
03/03/16	666.68	12.79	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06	
<b>ENFORCEMENT STANDARD ES = Bold</b>			15	-	-	5	5	700	-	60	100	-	800	480	2000	
<b>PREVENTIVE ACTION LIMIT PAL = Italics</b>			1.5	-	-	0.5	0.5	140	-	12	10	-	160	96	400	

(ppb) = parts per billion (ppm) = parts per million  
ns = not sampled nm = not measured  
Note: Elevations are presented in feet mean sea level (msl).

Well MW-8  
PVC Elevation =

679.87 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	GRO (ppm)	DRO (ppm)	Benzene (ppb)	1,2-Dichloroethane (1,2-DCA) (ppb)	Ethyl Benzene (ppb)	Isopropyl-Benzene (ppb)	MTBE (ppb)	Naphthalene (ppb)	n-Propylbenzene (ppb)	Toluene (ppb)	Trimethylbenzenes (ppb)	Xylene (Total) (ppb)	
11/04/10							NOT INSTALLED									
05/05/11	671.17	8.70	<1.7	NS	NS	<0.41	<0.36	<0.54	<0.59	<0.61	<0.89	<0.81	<0.67	<0.83	<0.83	
09/14/11	665.76	14.11	NS	NS	NS	<0.39	NS	<0.41	NS	<0.38	<0.40	NS	<0.42	<0.40	<0.38	
12/16/11	666.51	13.36	NS	NS	NS	<0.39	NS	<0.41	NS	<0.38	<0.40	NS	<0.42	<0.40	<0.38	
03/27/12	667.91	11.96	NS	NS	NS	<0.39	NS	<0.41	NS	<0.38	<0.40	NS	<0.42	<0.40	<0.38	
06/03/15	668.77	11.10	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06	
09/02/15	667.70	12.17	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06	
12/07/15	668.67	11.20	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06	
03/03/16	668.70	11.17	NS	NS	NS	<0.46	NS	<0.73	NS	<0.49	<2.6	NS	<0.39	<1.51	<2.06	
<b>ENFORCEMENT STANDARD ES = Bold</b>			15	-	-	5	5	700	-	60	100	-	800	480	2000	
<b>PREVENTIVE ACTION LIMIT PAL = Italics</b>			1.5	-	-	0.5	0.5	140	-	12	10	-	160	96	400	

(ppb) = parts per billion (ppm) = parts per million  
ns = not sampled nm = not measured  
Note: Elevations are presented in feet mean sea level (msl).

A.2 Soil Analytical Results Table  
Mack's Service Center Site BRRT's# 03-41-208431

Sample ID	Depth (feet)	Saturation U/S	Date	PID	Lead (ppm)	DRO (ppm)	GRO (ppm)	Benzene (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	Naphthalene (ppm)	Toluene (ppm)	1,2,4-Trime-thylbenzene (ppm)	1,3,5-Trime-thylbenzene (ppm)	Xylene (Total) (ppm)	sec-Butylbenzene (ppm)	Isopropyl-toluene (ppm)	p-Isopropyl-toluene (ppm)	n-Propylbenzene (ppm)	Other VOC's (ppb)	DIRECT CONTACT			
																					Exceedance Count	Hazard Index	Cumulative Cancer Risk	
SP-1	0-4	U	06/16/10	458	23.9	NS	NS	<0.0625	0.398	<0.0625	<b>1.140</b>	0.257	<b>5.19</b>	<b>1.910</b>	1.313	0.296	0.279	0.350	1.210	NS	0	0.679	2.7E-07	
SP-1	4-8	U	06/16/10	62	16.5	NS	NS	<b>0.423</b>	0.680	<0.025	0.197	0.441	0.446	0.163	1.978	<0.025	0.0501	<0.025	0.0698	NS				
SP-2/MW-1	0-4	U	06/16/10	1349	<b>43.1</b>	NS	NS	<b>1.28</b>	<b>55.5</b>	<1	<b>27.7</b>	<b>123</b>	<b>140</b>	<b>43.2</b>	<b>283*</b>	3.55	9.34	1.73	28.2	NS	4	2.1318	1.4E-05	
SP-2/MW-1	4-8	U	06/16/10	971	18.8	NS	NS	<b>[1.85]</b>	<b>[21.7]</b>	<0.312	<b>[7.25]</b>	<b>51.5</b>	<b>34.5</b>	<b>11</b>	<b>90.9</b>	0.717	2.42	0.413	7.27	NS				
SP-3	0-4	U	06/16/10	553	<b>36.5</b>	NS	NS	<0.100	<b>4.96</b>	<0.100	<b>3.41</b>	0.149	<b>15.2</b>	<b>4.48</b>	<b>25.56</b>	0.320	0.854	0.227	2.52	NS	0	.2234	1.3E-06	
SP-3	4-8	U	06/16/10	130	7.1	NS	NS	<b>0.192</b>	<b>2.15</b>	<0.025	<b>1</b>	0.179	<b>4.03</b>	<b>0.564</b>	2.684	0.075	0.212	0.0544	0.758	NS				
SP-4/MW-2	0-4	U	06/16/10	620	<b>39.4</b>	NS	NS	<0.025	0.072	<0.025	0.521	<0.025	<b>3.28</b>	<b>0.347</b>	0.164	0.118	0.104	0.0847	0.519	NS	0	.0398	1.10E-07	
SP-4/MW-2	4-8	U	06/16/10	36	7.0	NS	NS	<b>0.0333</b>	0.0307	<0.025	0.133	<0.025	0.0927	<0.025	0.0574	0.152	0.254	<0.025	0.796	NS				
SP-5/MW-3	0-4	U	06/16/10	732	<b>128.0</b>	NS	NS	<1	<b>68</b>	<1	<b>27</b>	<b>51.8</b>	<b>191</b>	<b>54.8</b>	<b>275*</b>	4.03	8.89	2.49	32.8	NS	4	0.2064	1.30E-06	
SP-5/MW-3	4-8	U	06/16/10	493	10.0	NS	NS	<b>0.100</b>	<b>5.6</b>	<0.0625	<b>2.24</b>	0.873	<b>14.6</b>	<b>4.22</b>	<b>21.14</b>	0.288	0.787	0.187	3.01	NS				
SP-6	0-4	U	06/16/10	137	<b>113.0</b>	NS	NS	<b>0.0737</b>	0.237	<0.025	0.159	0.287	<b>1</b>	<b>0.988</b>	1.367	0.107	0.256	0.0529	0.901	NS	5	0.168	1.40E-05	
SP-6	4-8	U	06/16/10	286	8.7	NS	NS	<0.025	0.538	<0.025	0.612	0.0456	<b>5.31</b>	<b>1.99</b>	0.9068	0.289	0.375	1.99	1.72	NS				
SP-7	0-4	U	06/16/10	123	<b>190.0</b>	NS	NS	<b>0.0699</b>	0.0484	<0.025	0.114	<0.025	<b>1.46</b>	<b>0.278</b>	0.846	0.0422	0.0918	0.0351	0.305	NS	3	0.191	1.10E-05	
SP-7	4-8	U	06/16/10	220	<b>32.5</b>	NS	NS	<0.100	0.350	<0.100	<b>0.678</b>	<0.100	<b>7.31</b>	<b>0.765</b>	1.67	0.256	0.328	<0.100	1.36	NS				
SP-8	0-4	U	06/16/10	39	14.5	NS	NS	<0.025	0.0354	<0.025	0.106	<0.025	0.138	0.038	<0.025	<0.025	<0.025	<0.025	<0.025	NS	5	.0029	2.5E-05	
SP-8	4-8	U	06/16/10	89	15.3	NS	NS	<b>0.225</b>	<b>2.99</b>	<0.125	<b>[5.95]</b>	<0.125	<b>27.6</b>	<b>0.202</b>	0.885	0.478	0.481	0.428	1.63	NS				
SP-9	0-4	U	08/17/10	49	NS	NS	NS	<0.025	<0.025	<0.025	<0.034	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS	0			
SP-9	4-8	U	08/17/10	54	NS	NS	NS	<0.025	0.422	<0.025	0.422	<0.025	0.293	<0.025	0.091	NS	NS	NS	NS	NS				
SP-10	0-4	U	08/17/10	22	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS	0			
SP-10	4-8	U	08/17/10	38	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS				
SP-11	0-4	U	08/17/10	0	NS	NS	NS	<0.025	<0.025	<0.025	0.0364	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS	0	.0002	7.1E-09	
SP-11	4-8	U	08/17/10	0	NS	NS	NS	<0.025	0.0431	<0.025	0.0285	<0.025	<0.025	<0.025	0.075	NS	NS	NS	NS	NS				
SP-12	0-4	U	08/17/10	3	NS	NS	NS	<0.025	<0.025	<0.025	0.0548	<0.025	<0.025	0.138	<0.025	NS	NS	NS	NS	NS	0	.0018	1.1E-08	
SP-12	4-8	U	08/17/10	0	NS	NS	NS	<0.025	<0.025	<0.025	0.0343	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS				
SP-13	0-4	U	08/17/10	0	NS	NS	NS	<0.025	<0.025	<0.025	0.0926	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS	0	.0005	1.8E-08	
SP-13	4-8	U	08/17/10	0	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS				
SP-14	0-4	U	08/17/10	109	NS	NS	NS	<b>0.153</b>	0.827	<0.025	0.0563	0.0353	0.350	0.0768	0.446	NS	NS	NS	NS	NS	0	.0063	2.0E-07	
SP-14	4-8	U	08/17/10	300	NS	NS	NS	<b>0.364</b>	<b>2.57</b>	<0.025	0.589	0.210	<b>4.83</b>	<b>1</b>	3.309	NS	NS	NS	NS	NS				
SP-15	0-4	U	08/17/10	0	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS	0			
SP-15	4-8	U	08/17/10	0	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS				
SP-16	0-4	U	08/17/10	643	NS	NS	NS	<0.200	<b>15.5</b>	<b>0.259</b>	<b>6.33</b>	0.556	43.3	<b>14.1</b>	<b>40.773</b>	NS	NS	NS	NS	NS	2	.5840	3.3E-06	
SP-16	4-8	U	08/17/10	858	NS	NS	NS	<0.200	<b>[23.4]</b>	<b>0.333</b>	<b>[7.35]</b>	<b>1.47</b>	<b>41.3</b>	<b>12.4</b>	<b>85.7</b>	NS	NS	NS	NS	NS				
SP-17/MW-4	0-4	U	08/17/10	0	NS	NS	NS	<0.025	<0.025	<0.025	0.0296	<0.025	0.0366	<0.025	<0.025	NS	NS	NS	NS	NS	0	.0006	5.7E-09	
SP-17/MW-4	4-8	U	08/17/10	352	NS	NS	NS	<0.050	0.359	<0.050	<b>2.26</b>	0.0635	<b>8.98</b>	<b>0.525</b>	0.810	NS	NS	NS	NS	NS				
SP-18	0-4	U	08/17/10	23	NS	NS	NS	<0.025	0.0717	<0.025	0.0366	<0.025	0.104	0.166	0.109	NS	NS	NS	NS	NS	0	.0017	1.7E-08	
SP-18	4-8	U	08/17/10	11	NS	NS	NS	<b>0.0321</b>	0.916	<0.025	0.656	<0.025	<b>1.33</b>	<b>0.308</b>	1.04	NS	NS	NS	NS	NS				
MW-5	0-4	U	12/21/10	0	14.8	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS	NS	0	.0000		
MW-6	0-4	U	12/21/10	0	24.9	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	0.0343	<0.025	<0.025	NS	NS	NS	NS	NS	0	.0004		
MW-7	0-4	U	12/21/10	0	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS				
MW-8	0-4	U	12/21/10	0	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	NS	NS	NS	NS	NS				
<b>Groundwater RCL</b>					<b>27</b>	-	-	<b>0.0051</b>	<b>1.57</b>	<b>0.027</b>	<b>0.6582</b>	<b>1.1072</b>	<b>1.3787</b>			<b>3.96</b>	-	-	-	-	-			
<b>Non-Industrial Direct Contact RCL</b>					<b>400</b>	-	-	<b>1.6</b>	<b>8.02</b>	<b>63.8</b>	<b>5.52</b>	<b>818</b>	<b>219</b>	<b>182</b>	<b>260</b>	<b>145</b>	-	-	<b>162</b>	-	-			
<b>Industrial Direct Contact RCL</b>					<b>(800)</b>	-	-	<b>(7.07)</b>	<b>(35.4)</b>	<b>(282)</b>	<b>(24.1)</b>	<b>(818)</b>	<b>(219)</b>	<b>(182)</b>	<b>(260)</b>	<b>(145)</b>	-	-	<b>(162)</b>	-	-	1.00E+00	1.00E-05	
<b>Soil Saturation Concentration (C-sat)*</b>					-	-	-	<b>1820*</b>	<b>480*</b>	<b>8870*</b>	-	<b>818*</b>	<b>219*</b>	<b>182*</b>	<b>260*</b>	<b>145*</b>	-	-	<b>162*</b>	-	-			

Bold = Groundwater RCL Exceedance

Bold & Underline = Non Industrial Direct Contact RCL Exceedance

(Bold & Parentheses) = Industrial Direct Contact RCL Exceedance

Bold & Asteric \* = C-sat Exceedance

NS = Not Sampled

NM = Not Measured

(ppm) = parts per million

ND = No Detects

DRO = Diesel Range Organics

GRO = Gasoline Range Organics

PID = Photoionization Detector

PVOC's = Petroleum Volatile Organic Compounds

VOC's = Volatile Organic Compounds

Note: Non-Industrial RCLs apply to this site.

Note: [ ] Exceedances within brackets indicate Non-Industrial Direct Contact RCL exceedances that are greater than 4 feet below ground surface (bgs)

A.2 Soil Analytical Results Table  
(PAH)

Mack's Service Center Site BRRT's# 03-41-208431

Sample	Depth (feet)	Saturation U/S	Date	Acenaph-thene (ppm)	Acenaph-thylene (ppm)	Anthracene (ppm)	Benzo(a) anthracene (ppm)	Benzo(a) pyrene (ppm)	Benzo(b) fluoranthene (ppm)	Benzo(g,h,l) perylene (ppm)	Benzo(k) fluoranthene (ppm)	Chrysene (ppm)	Dibenzo(a,h) anthracene (ppm)	Fluoranthene (ppm)	Fluorene (ppm)	Indeno(1,2,3-cd) pyrene (ppm)	1-Methyl-naphthalene (ppm)	2-Methyl-naphthalene (ppm)	Naphthalene (ppm)	Phenan-threne (ppm)	Pyrene (ppm)	DIRECT CONTACT PVOC & PAH COMBINED		
																						Exceedance Count	Hazard Index	Cumulative Cancer Risk
SP-6	0-4	U	06/16/10	0.0274	0.0273	0.139	<b>0.377</b>	<b>0.0334</b>	<b>0.419</b>	0.187	0.291	0.4410	<b>0.0667</b>	0.887	0.0339	<b>0.175</b>	0.0690	0.0873	0.117	0.339	0.708	5	0.168	1.40E-05
SP-6	4-8	U	06/16/10	<0.0028	<0.0032	<0.0047	<0.0029	<0.0033	<0.0035	<0.0027	<0.0038	<0.0037	<0.0055	<0.0101	<0.0050	<0.0029	0.328	0.746	<b>0.686</b>	<0.0044	<0.0037			
SP-7	0-4	U	06/16/10	0.0028	0.0058	0.0120	0.0467	<b>0.0663</b>	<b>0.672</b>	0.0481	0.0640	0.0647	<b>0.0174</b>	0.0911	<0.0050	0.0419	0.0185	0.0301	0.0928	0.0304	0.0876	3	0.191	1.10E-05
SP-7	4-8	U	06/16/10	0.0062	0.0038	<0.0046	0.0034	<0.0033	<0.0035	<0.0026	<0.0037	0.0042	<0.0054	<0.010	0.0098	<0.0028	0.491	0.942	<b>0.765</b>	0.0162	0.0077			
SP-8	0-4	U	06/16/10	0.0143	0.0081	<0.0491	<b>0.203</b>	<b>0.236</b>	<b>0.316</b>	0.231	0.2310	0.285	<b>0.0624</b>	0.357	<0.0059	<b>0.1770</b>	0.0665	0.0956	0.0485	0.257	0.327	5	.0029	2.5E-05
SP-8	4-8	U	06/16/10	0.0075	0.0040	0.0058	0.0191	0.0276	0.0320	0.0261	0.0249	0.0289	0.0072	0.0309	0.0090	0.0198	0.797	0.455	<b>0.598</b>	0.0209	0.0324			
<b>Groundwater RCL</b>				---	---	<b>197</b>	---	<b>0.47</b>	<b>0.48</b>	---	---	---	---	<b>88.8</b>	<b>14.8</b>	---	---	---	<b>0.659</b>	---	<b>54.5</b>			
<b>Non-Industrial Direct Contact RCL</b>				<b>3440</b>	---	<b>17200</b>	<b>0.147</b>	<b>0.0148</b>	<b>0.148</b>	---	<b>1.48</b>	<b>14.8</b>	<b>0.0148</b>	<b>2290</b>	<b>2290</b>	<b>0.148</b>	<b>15.6</b>	<b>229</b>	<b>5.15</b>	---	<b>1720</b>		<b>1.00E+00</b>	<b>1.00E-05</b>
<b>Soil Saturation Concentration (C-sat)*</b>				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			

**Bold = Groundwater RCL Exceedance**

**Bold & Underline = Non Industrial Direct Contact RCL Exceedance**

**Bold & Asteric \* = C-sat Exceedance**

*Italics = Industrial Direct Contact RCL*

NS = Not Sampled

(ppm) = parts per million

PAH = Polynuclear Aromatic Hydrocarbons

PID = Photoionization Detector

VOC's = Volatile Organic Compounds

U=UNSATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

S=SATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

Note: [ ] Exceedances within brackets indicate Non-Industrial Direct Contact RCL exceedances that are greater than 4 feet below ground surface (bgs)





A.3 Residual Soil Contamination Table

(PAH)

Mack's Service Center Site BRR# 03-41-208431

Sample	Depth (feet)	Saturation U/S	Date	Acenaph-thene (ppm)	Acenaph-thylene (ppm)	Anthracene (ppm)	Benzo(a) anthracene (ppm)	Benzo(a) pyrene (ppm)	Benzo(b) fluoranthene (ppm)	Benzo(g,h,l) perylene (ppm)	Benzo(k) fluoranthene (ppm)	Chrysene (ppm)	Dibenzo(a,h) anthracene (ppm)	Fluoranthene (ppm)	Fluorene (ppm)	Indeno(1,2,3-cd) pyrene (ppm)	1-Methyl-naphthalene (ppm)	2-Methyl-naphthalene (ppm)	Naph-thalene (ppm)	Phenan-threne (ppm)	Pyrene (ppm)	DIRECT CONTACT PVOC & PAH COMBINED		
																						Exceedance Count	Hazard Index	Cumulative Cancer Risk
SP-6	0-4	U	06/16/10	0.0274	0.0273	0.139	<b>0.377</b>	<b>0.0334</b>	<b>0.419</b>	0.187	0.291	0.4410	<b>0.0687</b>	0.887	0.0339	<b>0.175</b>	0.0690	0.0873	0.117	0.339	0.708	5	0.168	1.40E-05
SP-6	4-8	U	06/16/10	<0.0028	<0.0032	<0.0047	<0.0029	<0.0033	<0.0035	<0.0027	<0.0038	<0.0037	<0.0055	<0.0101	<0.0050	<0.0029	0.328	0.746	<b>0.686</b>	<0.0044	<0.0037			
SP-7	0-4	U	06/16/10	0.0028	0.0058	0.0120	0.0467	<b>0.0663</b>	<b>0.672</b>	0.0481	0.0640	0.0647	<b>0.0174</b>	0.0911	<0.0050	0.0419	0.0185	0.0301	0.0928	0.0304	0.0876	3	0.191	1.10E-05
SP-7	4-8	U	06/16/10	0.0062	0.0038	<0.0046	0.0034	<0.0033	<0.0035	<0.0026	<0.0037	0.0042	<0.0054	<0.010	0.0098	<0.0028	0.491	0.942	<b>0.765</b>	0.0162	0.0077			
SP-8	0-4	U	06/16/10	0.0143	0.0081	<0.0491	<b>0.203</b>	<b>0.236</b>	<b>0.316</b>	0.231	0.2310	0.285	<b>0.0624</b>	0.357	<0.0059	<b>0.1770</b>	0.0665	0.0956	0.0485	0.257	0.327	5	.0029	2.5E-05
SP-8	4-8	U	06/16/10	0.0075	0.0040	0.0058	0.0191	0.0276	0.0320	0.0261	0.0249	0.0289	0.0072	0.0309	0.0090	0.0198	0.797	0.455	<b>0.598</b>	0.0209	0.0324			
Groundwater RCL				---	---	197	---	<b>0.47</b>	<b>0.48</b>	---	---	---	---	<b>88.8</b>	<b>14.8</b>	---	---	---	<b>0.659</b>	---	54.5			
Non-Industrial Direct Contact RCL				3440	---	17200	0.147	<b>0.0148</b>	<b>0.148</b>	---	<b>1.48</b>	14.8	<b>0.0148</b>	2290	2290	0.148	15.6	229	5.15	---	1720		1.00E+00	1.00E-05
Soil Saturation Concentration (C-sat)*				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			

**Bold = Groundwater RCL Exceedance**

**Bold & Underline = Non Industrial Direct Contact RCL Exceedance**

**Bold & Asteric \* = C-sat Exceedance**

*Italics = Industrial Direct Contact RCL*

NS = Not Sampled

(ppm) = parts per million

PAH = Polynuclear Aromatic Hydrocarbons

PID = Photoionization Detector

VOC's = Volatile Organic Compounds

U=UNSATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

S=SATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

Note: [ ] Exceedances within brackets indicate Non-Industrial Direct Contact RCL exceedances that are greater than 4 feet below ground surface (bgs)

**A.6 Water Level Elevations**  
**Mack's Service Center Site BRRT's# 03-41-208431**  
**Milwaukee, Wisconsin**

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
Ground Surface (feet msl)	680.06	680.00	680.06	680.44	680.02	680.94	679.97	680.37
PVC top (feet msl)	679.56	679.50	679.56	679.94	679.52	680.44	679.47	679.87
Well Depth (feet)	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Top of screen (feet msl)	675.06	675.00	675.06	675.44	675.02	675.94	674.97	670.37
Bottom of screen (feet msl)	665.06	665.00	665.06	665.44	665.02	665.94	664.97	665.37

**Depth to Water From Top of PVC (feet)**

11/04/10	12.92	13.60	6.77	7.50	NI	NI	NI	NI
05/05/11	6.56	12.03	4.54	5.87	11.39	12.86	11.80	8.70
09/14/11	8.07	13.98	7.77	9.35	13.98	14.63	14.32	14.11
12/16/11	6.98	13.75	6.33	9.06	13.38	14.90	13.83	13.36
03/27/12	6.84	12.64	6.17	7.93	12.15	13.70	12.80	11.96
06/03/15	6.81	12.71	4.09	5.41	12.62	13.81	12.65	11.10
09/02/15	6.99	13.36	4.41	5.85	13.18	14.45	13.26	12.17
12/07/15	6.90	12.64	4.15	5.24	12.28	13.61	12.54	11.20
03/03/16	7.30	12.80	5.97	6.86	12.61	13.83	12.79	11.17

**Depth to Water From Ground Surface (feet)**

11/04/10	13.42	14.10	7.27	8.00	NI	NI	NI	NI
05/05/11	7.06	12.53	5.04	6.37	11.89	13.36	12.30	9.20
09/14/11	8.57	14.48	8.27	9.85	14.48	15.13	14.82	14.61
12/16/11	7.48	14.25	6.83	9.56	13.88	15.40	14.33	13.86
03/27/12	7.34	13.14	6.67	8.43	12.65	14.20	13.30	12.46
06/03/15	7.31	13.21	4.59	5.91	13.12	14.31	13.15	11.60
09/02/15	7.49	13.86	4.91	6.35	13.68	14.95	13.76	12.67
12/07/15	7.40	13.14	4.65	5.74	12.78	14.11	13.04	11.70
03/03/16	7.80	13.30	6.47	7.36	13.11	14.33	13.29	11.67

**Groundwater Elevation (feet msl)**

11/04/10	666.64	665.90	672.79	672.44	NI	NI	NI	NI
05/05/11	673.00	667.47	675.02	674.07	668.13	667.58	667.67	671.17
09/14/11	671.49	665.52	671.79	670.59	665.54	665.81	665.15	665.76
12/16/11	672.58	665.75	673.23	670.88	666.14	665.54	665.64	666.51
03/27/12	672.72	666.86	673.39	672.01	667.37	666.74	666.67	667.91
06/03/15	672.75	666.85	675.47	674.15	666.94	665.75	666.91	668.46
09/02/15	672.57	666.20	675.15	673.71	666.38	665.11	666.30	667.39
12/07/15	672.66	666.86	675.41	674.70	667.24	666.83	666.93	668.67
03/03/16	672.26	666.70	673.59	673.08	666.91	666.61	666.68	668.70

NI = Not Installed

A.7 Other  
 Groundwater NA Indicator Results  
 Mack's Service Center Site BRRT's# 03-41-208431

Well MW-1

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
06/03/15	1.69	7.34	77	12.2	1710	NS	NS	NS	NS
09/02/15	1.28	7.43	-44	21.9	2363	NS	NS	NS	NS
12/07/15	2.17	7.19	112	10.9	957	NS	NS	NS	NS
03/03/16	1.84	4.9	245	7.4	1200	NS	NS	NS	NS
ENFORCE MENT STANDARD = <b>ES – Bold</b>						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						2	-	-	60

(ppb) = parts per billion (ppm) = parts per million  
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential  
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-2

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
06/03/15	1.92	7.19	144	11.1	1282	NS	NS	NS	NS
09/02/15	0.49	6.53	160	24.2	38	NS	NS	NS	NS
12/07/15	2.97	7.06	149	10.7	744	NS	NS	NS	NS
03/03/16	1.73	4.83	29	9.0	865	NS	NS	NS	NS
ENFORCE MENT STANDARD = <b>ES – Bold</b>						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						2	-	-	60

(ppb) = parts per billion (ppm) = parts per million  
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential  
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-3

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
06/03/15	1.47	7.25	61	12.9	943	NS	NS	NS	NS
09/02/15	1.48	7.4	-66	21.5	961	NS	NS	NS	NS
12/07/15	1.71	7.18	-111	11.3	872	NS	NS	NS	NS
03/03/16	1.65	4.64	-44	8.2	784	NS	NS	NS	NS
ENFORCE MENT STANDARD = <b>ES – Bold</b>						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						2	-	-	60

(ppb) = parts per billion (ppm) = parts per million  
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential  
 Note: Elevations are presented in feet mean sea level (msl).

Well MW-4

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
06/03/15	1.64	7.43	66	12.3	991	NS	NS	NS	NS
09/02/15	1.28	7.33	-84	22.7	1294	NS	NS	NS	NS
12/07/15	2.09	7.24	-138	11.4	690	NS	NS	NS	NS
03/03/16	1.73	4.68	-235	7.4	788	NS	NS	NS	NS
ENFORCE MENT STANDARD = <b>ES – Bold</b>						10	-	-	300
PREVENTIVE ACTION LIMIT = <i>PAL - Italics</i>						2	-	-	60

(ppb) = parts per billion (ppm) = parts per million  
 ns = not sampled nm = not measured ORP = Oxidation Reduction Potential  
 Note: Elevations are presented in feet mean sea level (msl).

**A.7 Other**  
**Groundwater NA Indicator Results**  
**Mack's Service Center Site BRRT's# 03-41-208431**

**Well MW-5**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp ( C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
06/03/15	2.26	7.56	-55	11.1	1588	NS	NS	NS	NS
09/02/15	1.77	7.62	144	19.0	1241	NS	NS	NS	NS
12/07/15	3.78	6.95	210	10.7	831	NS	NS	NS	NS
03/03/16	2.03	4.56	226	9.3	806	NS	NS	NS	NS
<b>ENFORCE MENT STANDARD = ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
<b>PREVENTIVE ACTION LIMIT = PAL - Italics</b>						<b>2</b>	-	-	<b>60</b>

(ppb) = parts per billion      (ppm) = parts per million  
 ns = not sampled                  nm = not measured                  ORP = Oxidation Reduction Potential  
 Note: Elevations are presented in feet mean sea level (msl).

**Well MW-6**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp ( C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
06/03/15	2.58	7.00	13	12.0	6	NS	NS	NS	NS
09/02/15	0.71	6.88	-100	29.0	34	NS	NS	NS	NS
12/07/15	2.91	6.98	112	10.5	864	NS	NS	NS	NS
03/03/16	2.03	5.25	61	8.0	145	NS	NS	NS	NS
<b>ENFORCE MENT STANDARD = ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
<b>PREVENTIVE ACTION LIMIT = PAL - Italics</b>						<b>2</b>	-	-	<b>60</b>

(ppb) = parts per billion      (ppm) = parts per million  
 ns = not sampled                  nm = not measured                  ORP = Oxidation Reduction Potential  
 Note: Elevations are presented in feet mean sea level (msl).

**Well MW-7**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp ( C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
06/03/15	4.54	7.44	32	11.2	1051	NS	NS	NS	NS
09/02/15	2.53	6.98	237	22.8	16	NS	NS	NS	NS
12/07/15	5.98	7.12	267	10.5	621	NS	NS	NS	NS
03/03/16	3.47	5.04	241	8.7	507	NS	NS	NS	NS
<b>ENFORCE MENT STANDARD = ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
<b>PREVENTIVE ACTION LIMIT = PAL - Italics</b>						<b>2</b>	-	-	<b>60</b>

(ppb) = parts per billion      (ppm) = parts per million  
 ns = not sampled                  nm = not measured                  ORP = Oxidation Reduction Potential  
 Note: Elevations are presented in feet mean sea level (msl).

**Well MW-8**

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp ( C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Manganese (ppb)
06/03/15	2.79	7.35	261	11.3	1186	NS	NS	NS	NS
09/02/15	4.90	7.4	218	17.8	1711	NS	NS	NS	NS
12/07/15	4.10	6.84	289	10.9	512	NS	NS	NS	NS
03/03/16	2.79	4.81	250	9.8	1101	NS	NS	NS	NS
<b>ENFORCE MENT STANDARD = ES – Bold</b>						<b>10</b>	-	-	<b>300</b>
<b>PREVENTIVE ACTION LIMIT = PAL - Italics</b>						<b>2</b>	-	-	<b>60</b>

(ppb) = parts per billion      (ppm) = parts per million  
 ns = not sampled                  nm = not measured                  ORP = Oxidation Reduction Potential  
 Note: Elevations are presented in feet mean sea level (msl).

A.7 Other  
Macks Service Corner  
Hydrogeologic Parameter Calculations

Hydraulic Conductivity High

	cm/s	m/yr
K	1.00E-04	3.15E+01

Hydraulic Conductivity Low

	cm/s	m/yr
K	1.00E-06	3.15E-01

Date	Elv. (High)	Elv. (Low)	Distance (ft)	Hyd Grad (I)
6/3/2015	672.75	665.75	33	0.2121212
9/2/2015	672.57	665.11	33	0.2260606
12/7/2015	672.66	666.83	33	0.1766667
3/3/2016	672.26	666.61	33	0.1712121
			<b>Average</b>	0.1965152

	K (m/yr)	I	n	Flow Velocity (m/yr)
Hydraulic Conductivity High	3.15E+01	0.1965152	0.4	15.49325
Hydraulic Conductivity Low	3.15E-001	0.1965152	0.4	0.15493

## **Attachment B/Maps and Figures**

### **B.1 Location Maps**

#### **B.1.a Location Map**

#### **B.1.b Detailed Site Map**

#### **B.1.c RR Sites Map**

### **B.2 Soil Figures**

#### **B.2.a Soil Contamination**

#### **B.2.b Residual Soil Contamination**

### **B.3 Groundwater Figures**

#### **B.3.a.1 Geologic Cross-Section Map**

#### **B.3.a.2 Geologic Cross-Section**

#### **B.3.b Groundwater Isoconcentration**

#### **B.3.c Groundwater Flow Direction**

#### **B.3.d Monitoring Wells**

### **B.4 Vapor Maps and Other Media**

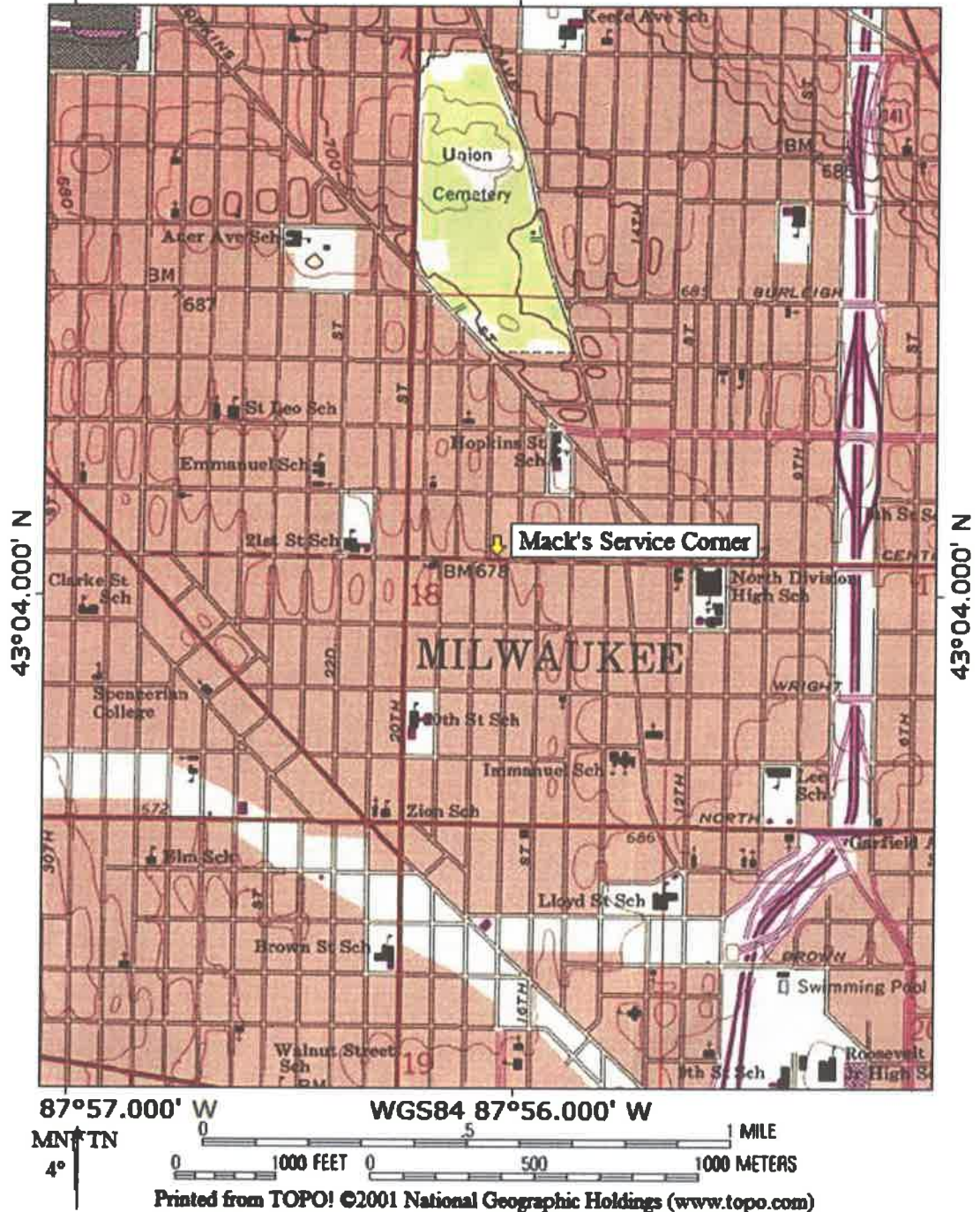
**B.4.a Vapor Intrusion Map** – No vapor samples were assessed as part of the site investigation.

**B.4.b Other media of concern** (e.g., sediment or surface water) – No surface waters or sediments were sampled as part of this site investigation.

**B.4.c Other** – No other relevant maps and/or figures are being included.

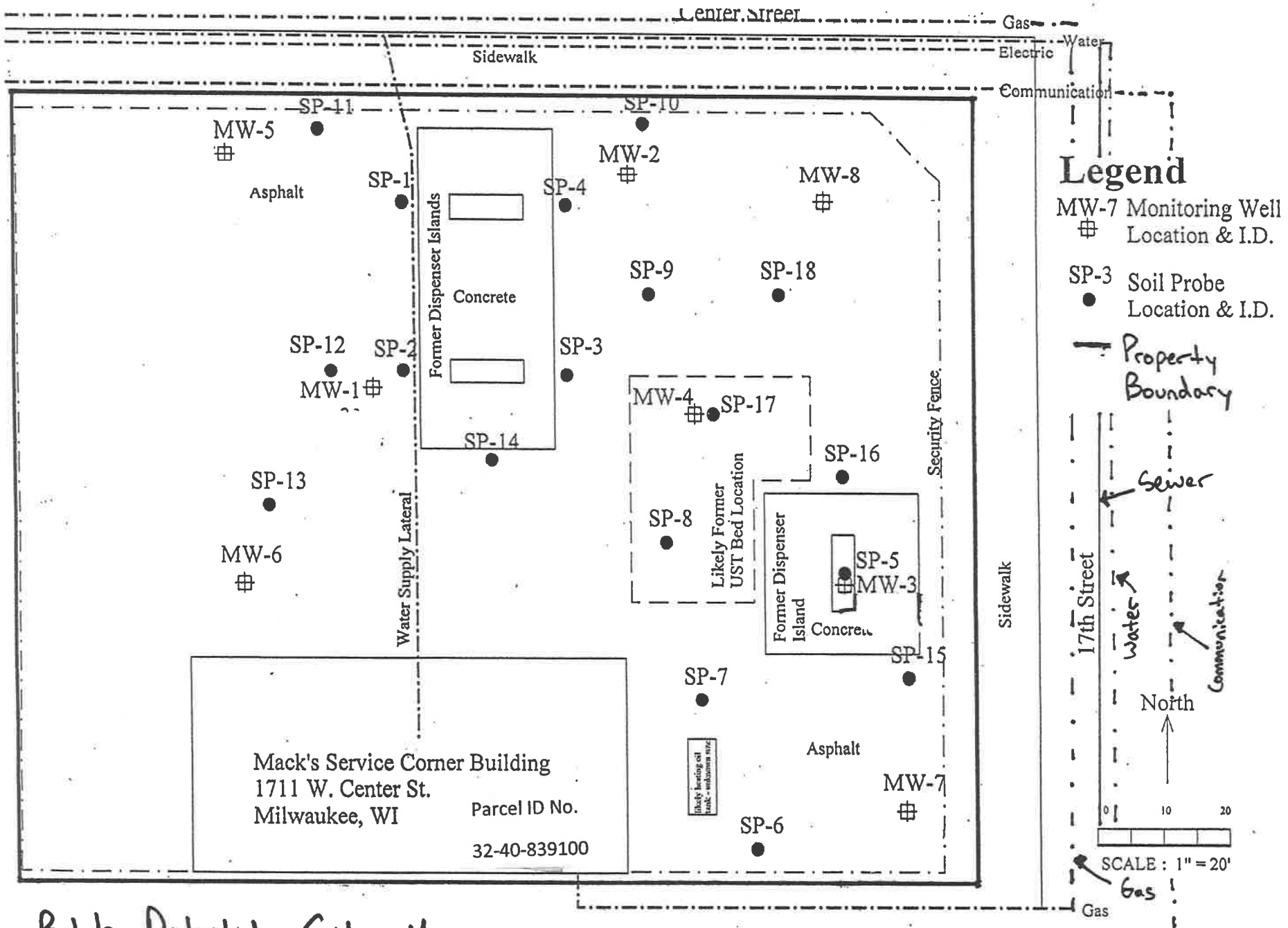
**B.5 Structural Impediment Photos** – No structural impediments interfered with the investigation, therefore no photos are being included.

TOPO! map printed on 10/06/16 from "Wisconsin.tpo" and "Untitled.tpg"  
87°57.000' W WGS84 87°56.000' W

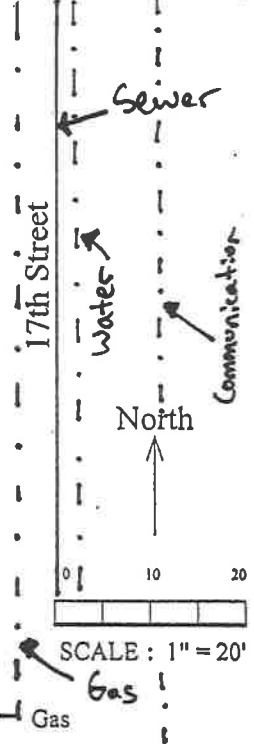


B.1.a LOCATION MAP
CONTOUR INTERVAL 10 FEET
MACK'S SERVICE CORNER – MILWAUKEE, WI
SEAMLESS USGS TOPOGRAPHIC MAPS ON CD-ROM





- ### Legend
- MW-7 Monitoring Well
  - ⊞ Location & I.D.
  - SP-3 Soil Probe
  - Location & I.D.
  - Property Boundary



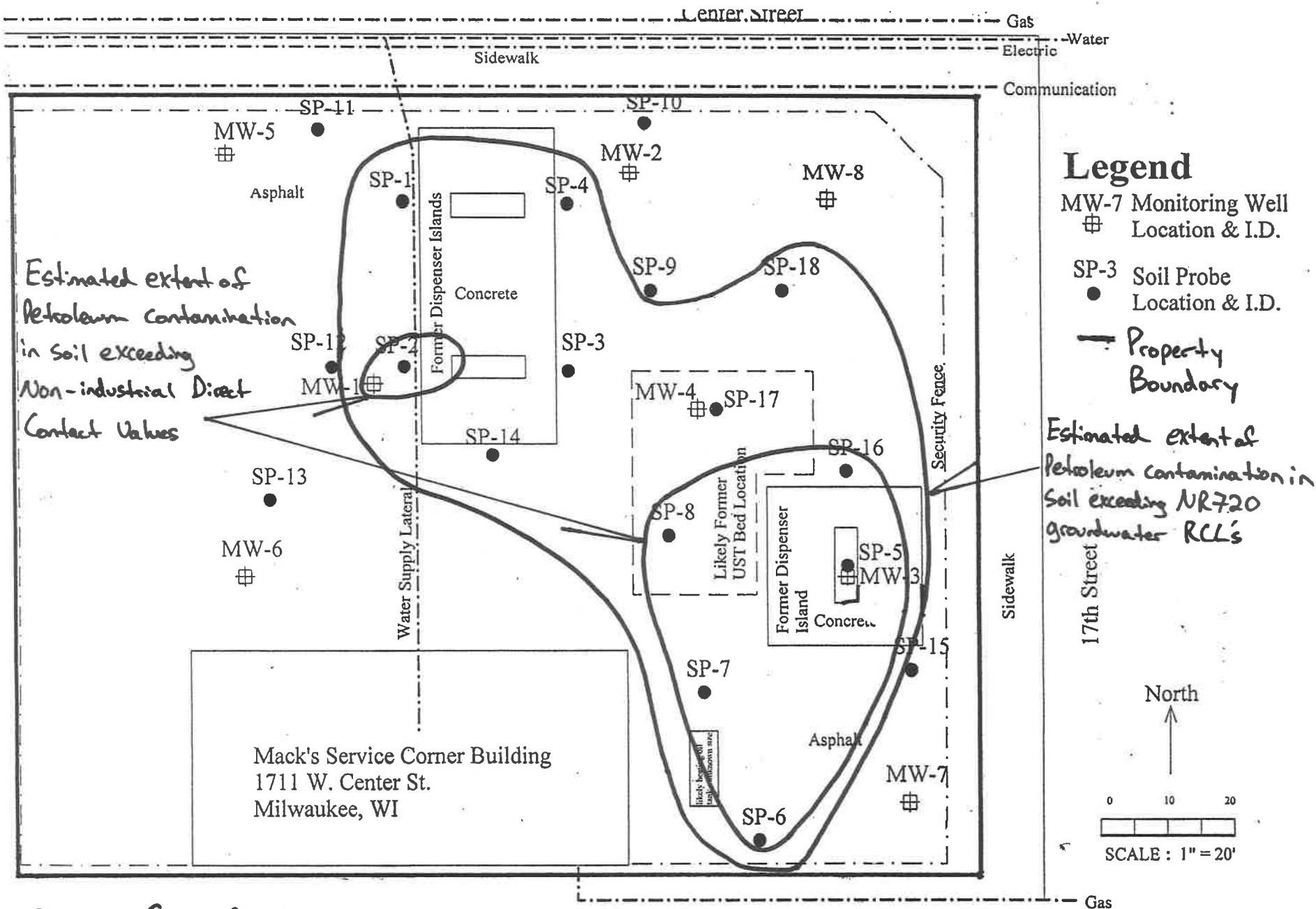
## B.1.b Detailed Site Map

Mack's Service Corner  
1711 W. Center Street, Milwaukee, WI

Modified by METCO 7/23/20

SENTINEL ENVIRONMENTAL SERVICES, LLC  
PO Box 865, GRAFTON, WI 53024



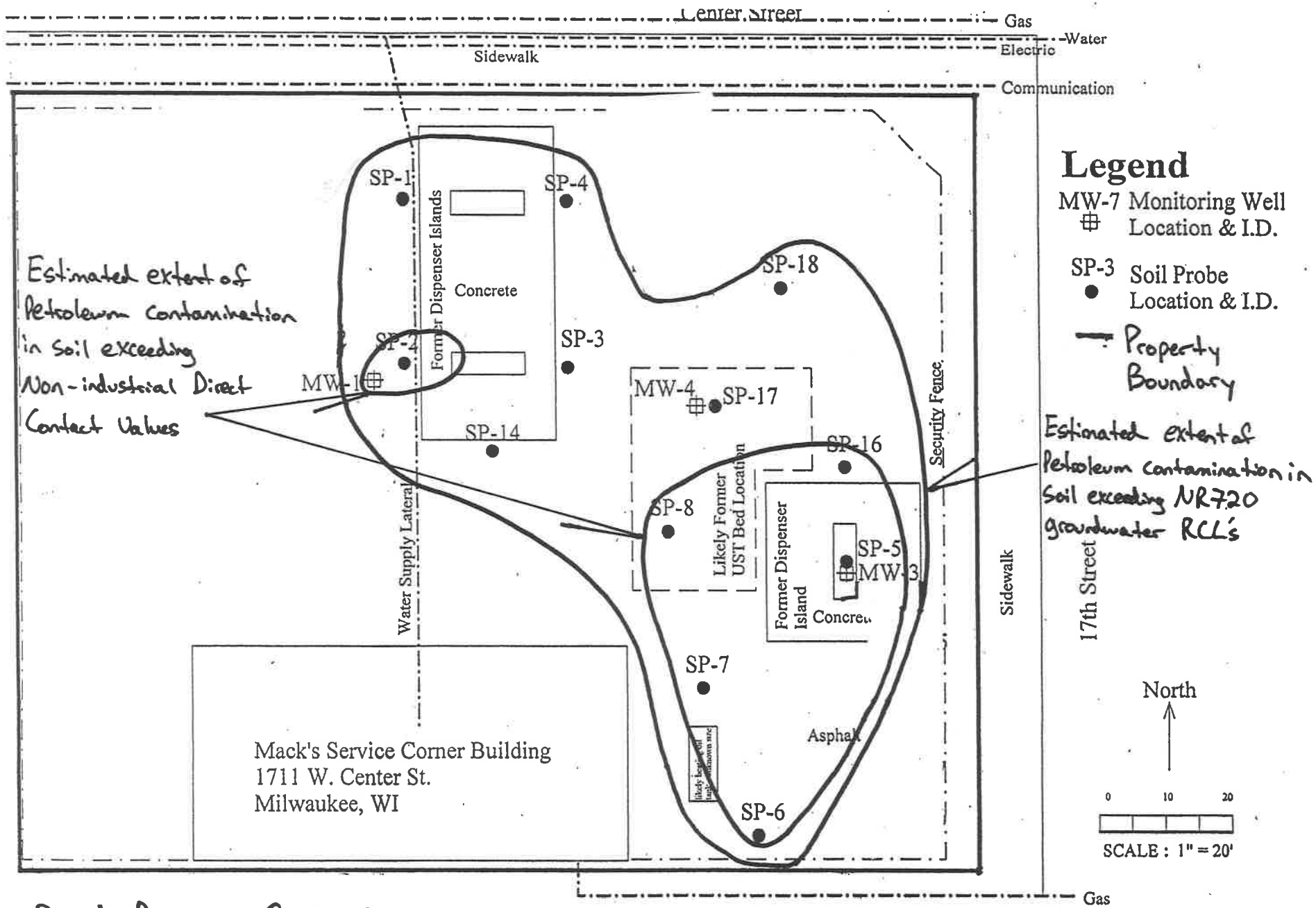


## B.2.a Soil Contamination

Mack's Service Corner  
 1711 W. Center Street, Milwaukee, WI

Modified by METCO 7/23/20

SENTINEL ENVIRONMENTAL SERVICES, LLC  
 PO Box 865, GRAFTON, WI 53024

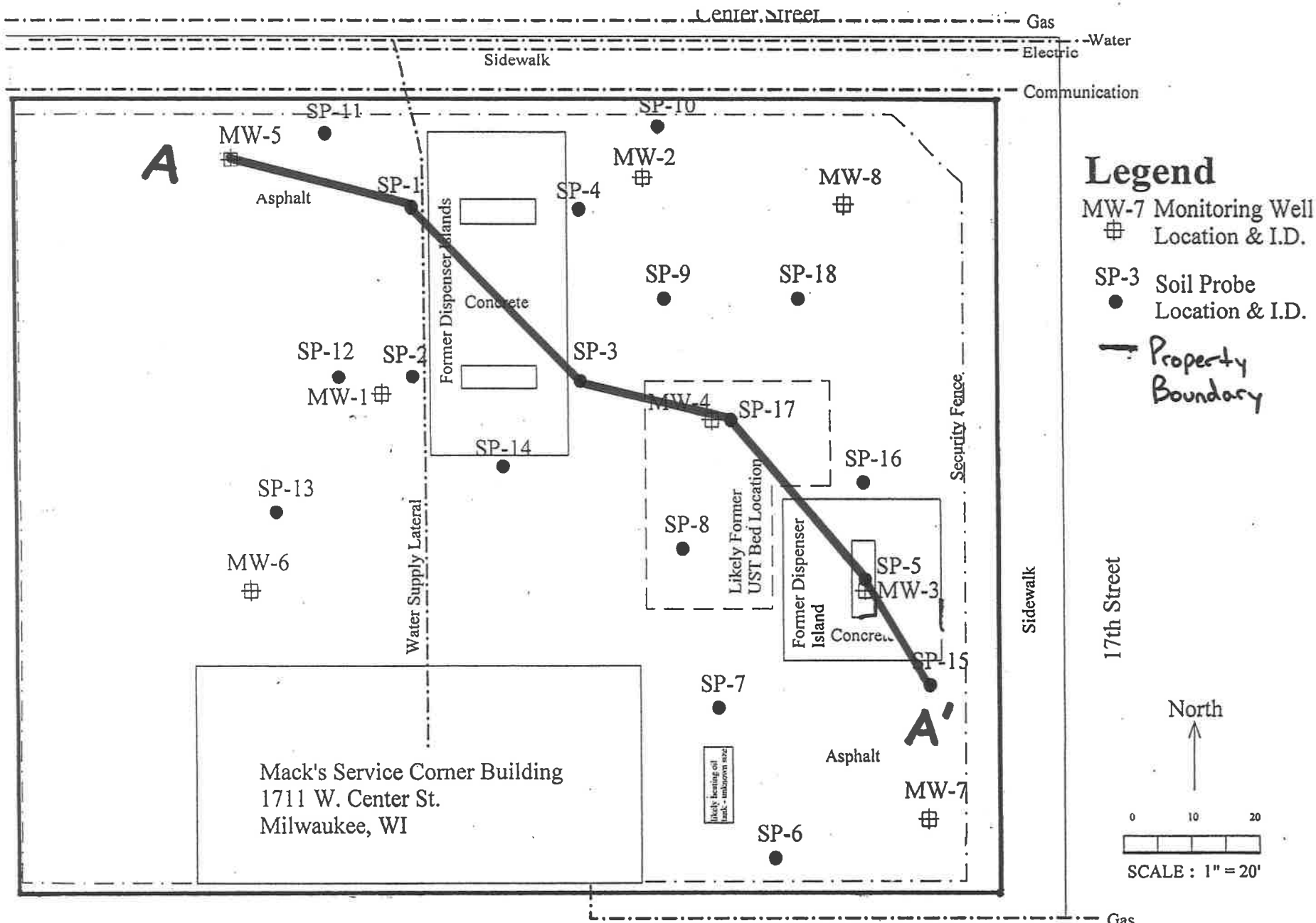


**B.2.b. Residual Soil Contamination**

Mack's Service Corner  
 1711 W. Center Street, Milwaukee, WI

Modified by METCO 7/23/20

SENTINEL ENVIRONMENTAL SERVICES, LLC  
 PO Box 865, GRAFTON, WI 53024

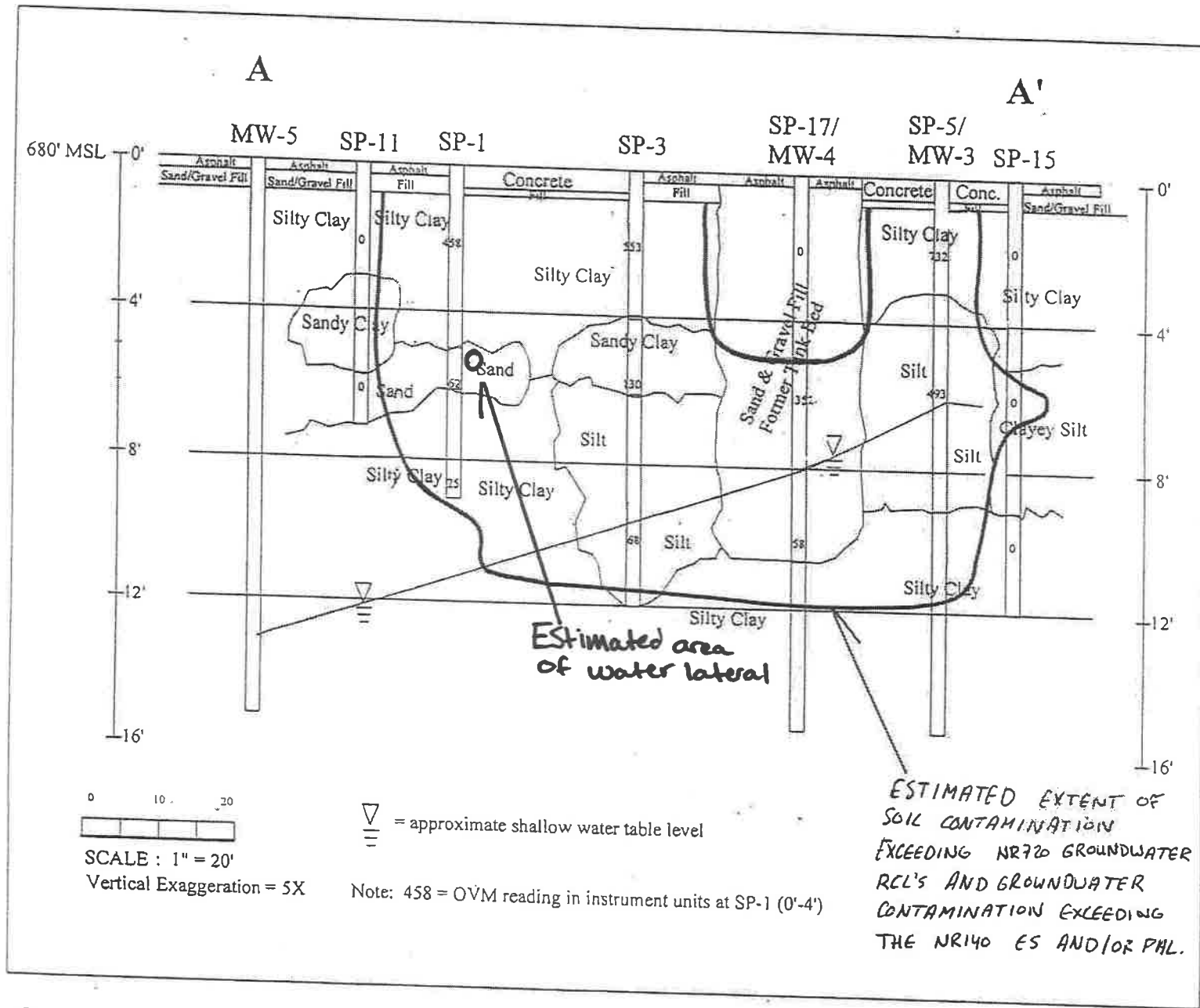


**B.3.a.1 Geologic Cross-Section Map**

Mack's Service Corner  
1711 W. Center Street, Milwaukee, WI

Modified by METCO 7/23/20

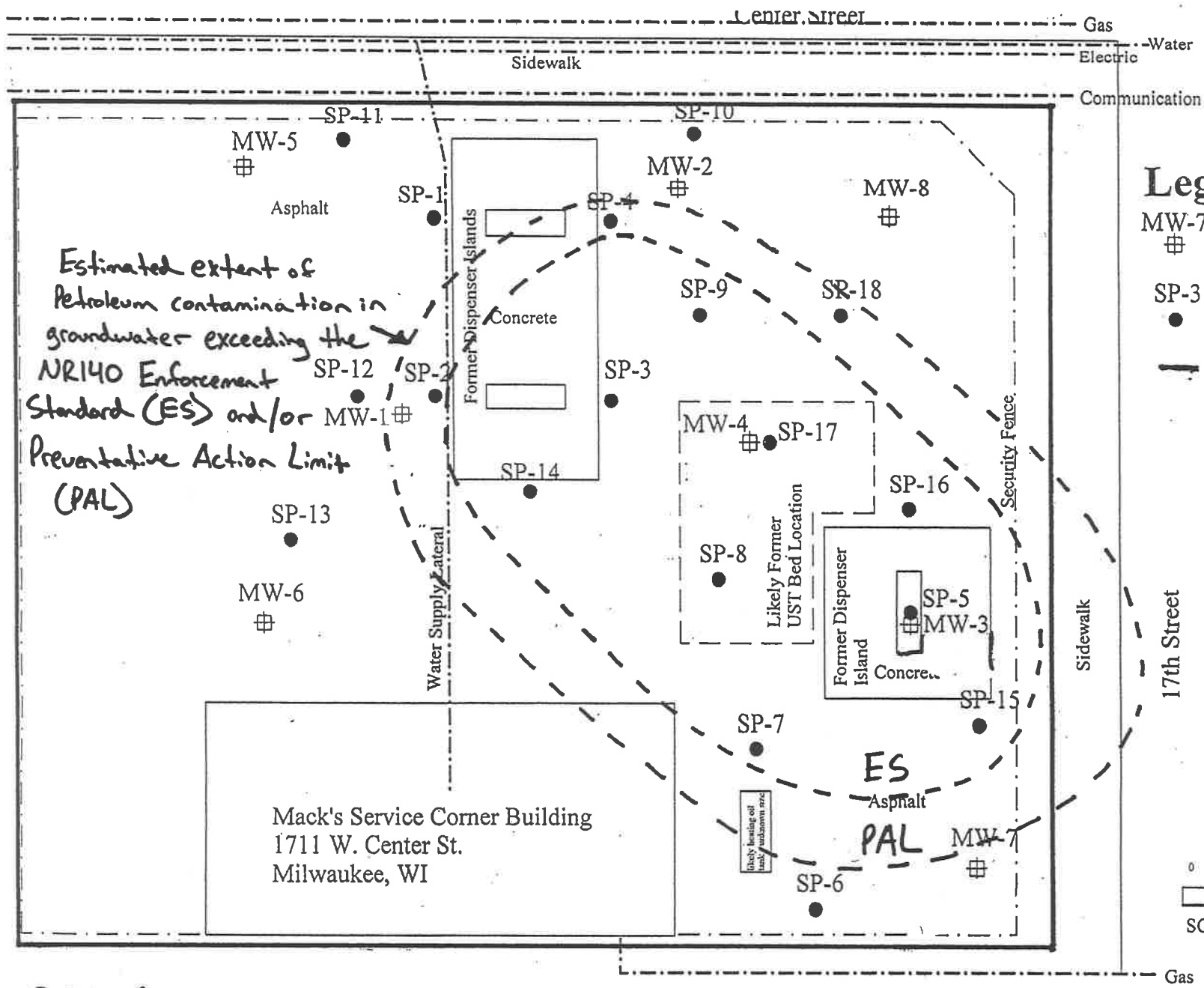
SENTINEL ENVIRONMENTAL SERVICES, LLC  
PO Box 865, GRAFTON, WI 53024



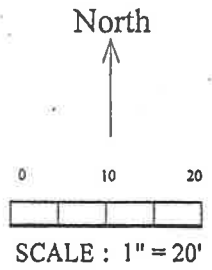
B.3.a.2 Geologic Cross-Section

Mack's Service Corner  
 1711 W. Center Street, Milwaukee, WI  
 Modified by METCO on (6/10/20)

SENTINEL ENVIRONMENTAL SERVICES, LLC  
 PO. Box 865, GRAFTON, WI 53024



- ### Legend
- MW-7 Monitoring Well  
⊕ Location & I.D.
  - SP-3 Soil Probe  
● Location & I.D.
  - Property Boundary

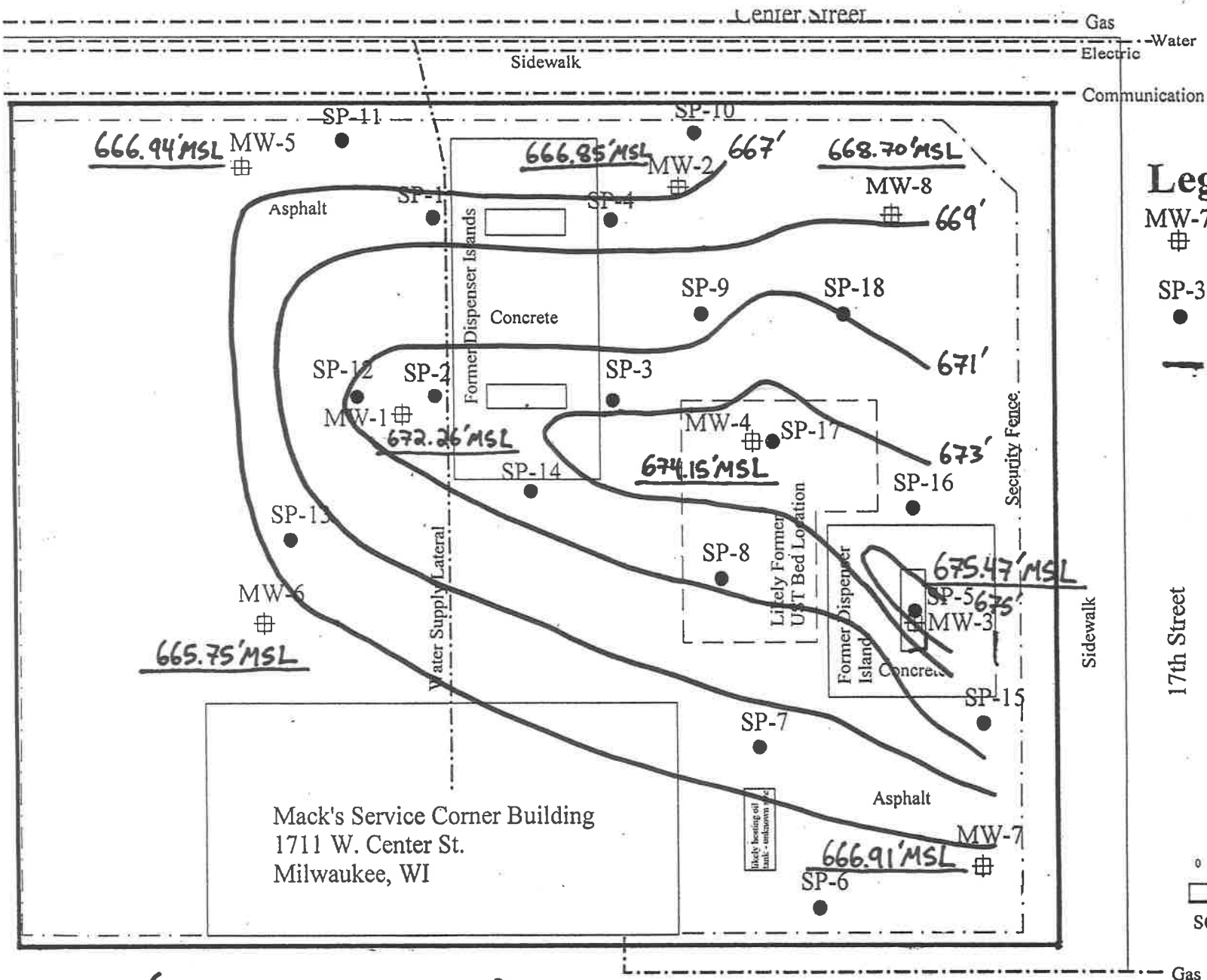


## B.3.b Groundwater Isoconcentration (3/3/2016)

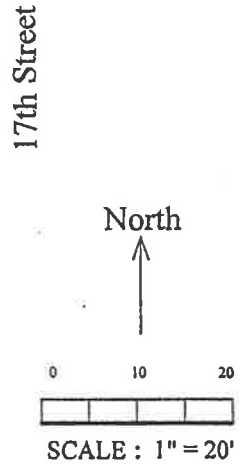
Mack's Service Corner  
1711 W. Center Street, Milwaukee, WI

SENTINEL ENVIRONMENTAL SERVICES, LLC  
PO Box 865, GRAFTON, WI 53024

Modified by METCO 7/23/20.



- ### Legend
- MW-7 Monitoring Well
  - ⊕ Location & I.D.
  - SP-3 Soil Probe
  - Location & I.D.
  - Property Boundary



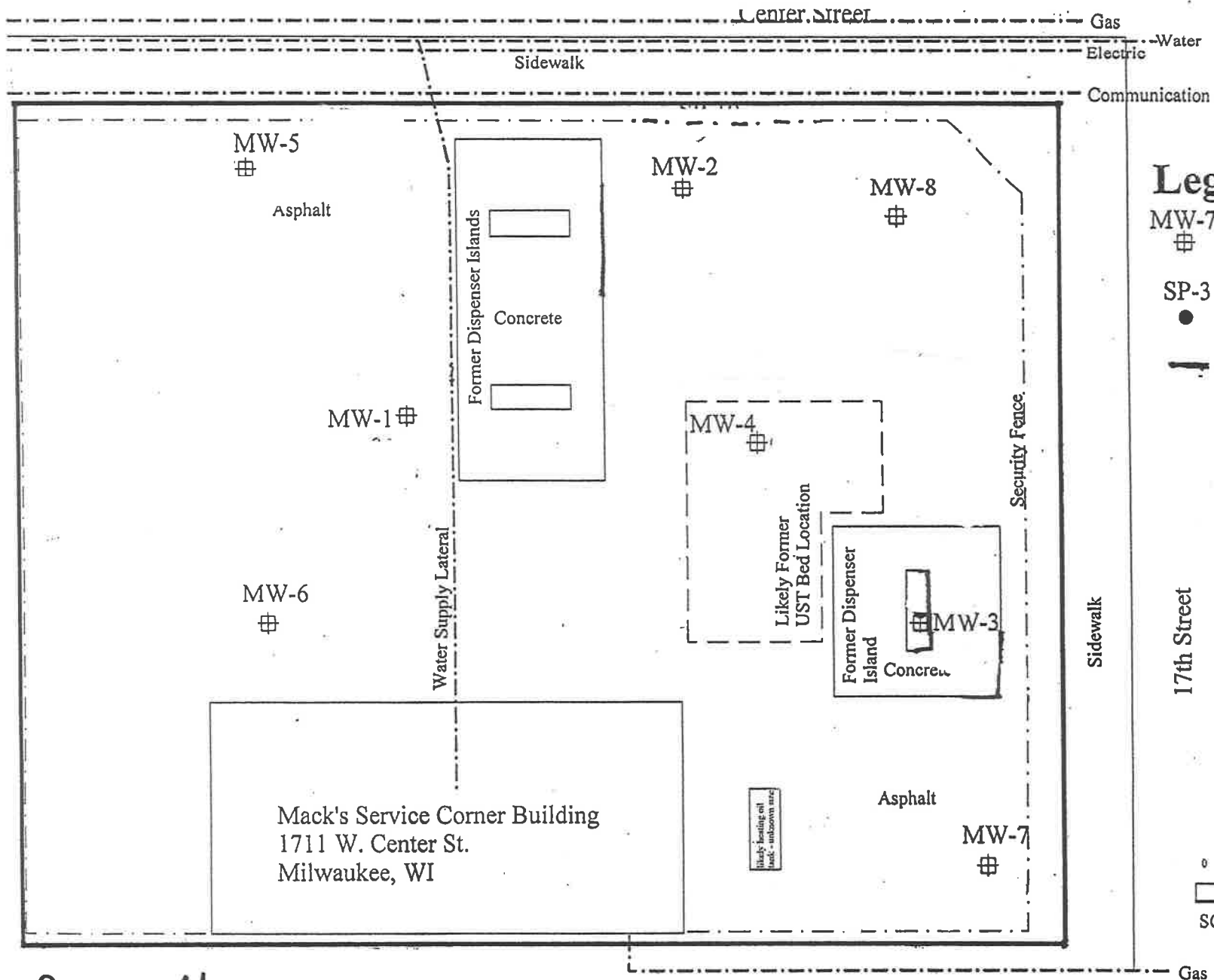
## B.3.c Groundwater Flow Direction (3/3/2016)

Mack's Service Corner  
1711 W. Center Street, Milwaukee, WI


Modified by METCO 7/23/20

SENTINEL ENVIRONMENTAL SERVICES, LLC  
PO Box 865, GRAFTON, WI 53024






## Legend

MW-7 Monitoring Well  
 Location & I.D.

SP-3 Soil Probe  
 Location & I.D.

 Property Boundary

## B.3.d Monitoring Wells

Mack's Service Corner  
 1711 W. Center Street, Milwaukee, WI

Modified by METCO 7/23/20.

SENTINEL ENVIRONMENTAL SERVICES, LLC  
 PO Box 865, GRAFTON, WI 53024

## Attachment C/Documentation of Remedial Action

### C.1 Site Investigation documentation

All site investigation Activities are documented in the following reports:

- Site Investigation Report – June 11, 2012
- Annual Groundwater Monitoring Report – May 13, 2016

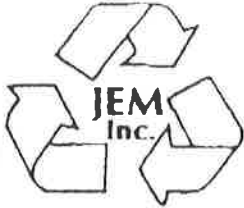
### C.2 Investigative waste

C.3 Provide a description of the methodology used along with all supporting documentation if the Residual Contaminant Levels are different than those contained in the Department's RCL Spreadsheet available at: <http://dnr.wi.gov/topic/brownfields.Professionals.html> - Residual Contaminant Levels (RCLs) were established in accordance with NR 720.10 and NR 720.12. Soil RCL for the protection of the groundwater pathway and for non-industrial direct contact were taken from the RR programs RCL spreadsheet.

C.4 Construction documentation – No remedial systems were installed.

C.5 Decommissioning of Remedial Systems – No remedial systems were installed.

C.6 Other – Not Applicable



Jensen Environmental Management, Inc.

C. Z. Investigative Waste

Mack's Service

W144 S6347 College Court  
Muskego, Wisconsin 53150  
Phone: (414) 422-9169  
Fax: (414) 422-9656

PROFILE SHEET FOR UST/AST DISPOSAL PROGRAM

(Completed by JEM, Inc.) Acceptance Date: \_\_\_\_\_ Project ID# \_\_\_\_\_

A. -

GENERAL INFORMATION: EPA Site ID#: \*(see below) \_\_\_\_\_

BUSINESS/RESIDENCE NAME (OWNER) Mack's Service; Mack Henderson  
SITE ADDRESS 1711 W. Center St.  
CITY, STATE, ZIP Milwaukee, WI 53206  
SITE CONTACT Dave Lennon PHONE 262-844-6220 cell  
262-375-8410 office

CONTRACTOR: Sanford Env. Services  
ADDRESS P.O. Box 865 CITY, STATE, ZIP Grafton, WI 53024  
CONTACT NAME Dave Lennon PHONE 262-844-6220 cell  
262-375-8110 office

B. UST/AST TANK SIZE(S) CAPACITY (GALS.) 1<sup>K</sup>, 4<sup>K</sup>, 5<sup>K</sup>, 6<sup>K</sup> Unleaded Gas; 550gal Fuel Oil  
DATE REMOVED FROM SERVICE 12/6/82

	Est. Gals.	Profile ID# (Assigned by JEM)
LAST CONTAINED: Unleaded Gasoline*	<u>1<sup>K</sup>, 4<sup>K</sup>, 5<sup>K</sup>, 6<sup>K</sup></u>	_____
Loaded Gasoline*	_____	_____
Diesel Fuel	_____	_____
Fuel Oil #	<u>550</u>	_____
Used Oil	_____	_____
Other *	_____	_____

\* - May Require EPA Generator ID # if over 220#.

Physical Description of Material(s) Soil from Drill Cuttings  
(To be confirmed by JEM)

Material to be Shipped: Drums  Size 55 Quantity 9 or Bulk \_\_\_\_\_ \* → + 3-4 Drums after 12/21/10

Location of Drums/Tank at Site: \_\_\_\_\_

C. CERTIFICATION: Does waste contain PCB's > 1ppm Yes \_\_\_ No

I (We) the undersigned ( generator or an employee/contractor of the generator and having the authority granted by the generator), hereby certify the above information is true. I (We) have examined and am familiar with the information submitted in this form. To the best of my knowledge it is true and correct, and that all known and suspected hazards have been disclosed.

SIGNATURE Dave Lennon DATE 12-6-10  
Sanford Env. Services

FAX RETURN TO (414)422-9656 OR MAIL TO: JEM, INC., W144 S6347 College Ct., Muskego, WI 53150  
USTW87M/JEM



**Jensen Environmental Management, Inc.**

W144 S6347 College Court  
Muskego, WI 53150  
Phone (414) 422-9169  
Fax (414) 422-9656

*C. Z. Investigative Waste*

**Manifest**

<b>Uniform Waste Manifest</b>		1. Generator's US EPA ID No. Exempt	Manifest Document No. <b>41350</b>	2. Page 1 of 1	3. Service Representative <i>[Signature]</i>	
4. Generator's Name and Mailing Address Mack's Service 1711 W. Center Street Milwaukee WI 53208		Site Location If Different		A. State Generator's ID		
5. Generator's Phone (262) 375-8110		7. US EPA ID Number WMD988635447		B. State Transporter's ID W113070		
6. Transporter 1 Company Name Jensen Environmental Management, Inc.		9. US EPA ID Number		C. Transporter's Phone (800) 529-5758		
8. Transporter 2 Company Name		11. US EPA ID Number		D. State Transporter's ID		
10. Designated Facility Name and Site Address Veolia ES Emerald Park Landfill, LLC W124 S10829 S. 124th Street Muskego, WI 53150				E. Transporter's Phone		
				F. State Facility's ID		
				G. Facility's Phone (414) 529-1360		
12. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		13. Containers No.	Type	14. Total Quantity	15. Unit Wt/Vol	H. Waste No.
a. Non-Hazardous Special Waste, N.O.S. (Petroleum Contaminated Soil)		11	DM	8,500	P	NREG
b.						
c.						
d.						
e.						
I. Additional Descriptions for Materials Listed Above				J. Handling Code for Wastes Listed Above		
a. BIOEPL2010-257				c.		
b.				d.		
16. Special Handling Instructions and Additional Information 24 Hour Emergency Contact (414) 313-1834						
K. Generator Status EXEMPT <input checked="" type="checkbox"/> VSQG _____ SQG _____ LQG _____						
17. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations and according to the requirements of the WDNR/MIDEQ/ILBPA.						
Printed/Typed Name & Position Title <i>90 MACKS SERVICE - SENTINEL ENV.</i>				Signature <i>[Signature]</i>		Date 13   25   11
18. TRANSPORTER 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name & Position Title <i>J. P. [Name]</i>				Signature <i>[Signature]</i>		Date 13   25   11
19. TRANSPORTER 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name & Position Title				Signature		Date
20. Discrepancy Indication Space						
21. Facility Owner or Operator: Certification of receipt of materials covered by this manifest except as noted in Item 20.						Date
Printed/Typed Name & Position Title				Signature		Date

VEOLIA ES Emerald Park Landfill, LLC F1  
W124 S10629 S. 124th Street  
muskego WI 53150

*C. Z. Investigative  
Waste*

WO # 0 Route # 0 Seq # 0.00 Cell #  
In Time 5/5/11 5/5/11  
Out Time 11:44 am 11:44 am

000104  
Jensen Environmental Management,  
Inc.

Contract: BIOEPL2010-257  
INVOICE INBOUND  
Container: MUS-200RO

GROSS WEIGHT 43,540.00  
TARE WEIGHT 35,240.00  
NET WEIGHT 8,300.00

Ticket # 1009625

Vehicle: C606048\_MU

Reference:

Origin:

Qty	UOM	Material	Rate	Mat Total	Tax	Total
4.15	TN	EX-33@ C- SOIL-PETRO USTs				

*Dumped  
April 13*

Driver Signature

*[Signature]*

Veolia Copy

Scale Master

46127

Total

Paid

Change Due

Inv Total

**SPECIAL WASTE MANIFEST DISPOSAL TICKET**

*1009625*

**VEOLIA ES EMERALD PARK LANDFILL, LLC**



BILL TO: Jensen Env. Mgmt

TRANSPORTER: Veolia Muskego

GENERATOR: Mucke Service

GENERATOR'S SIGNATURE: [Signature] Date 4/8/11

WASTE DESCRIPTION: Uncontaminated soil

PROFILE #: BIOEPL 2010-257

ACCEPTED BY: [Signature] Date 4/8/11

DRIVER'S SIGNATURE: [Signature] Date 4/8/11

TRUCK NO. 6048 4.15 TONS/YARDS

**Attachment D/Maintenance Plan(s)**

**D.1 Descriptions of maintenance action(s) required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required via cap maintenance plan.**

**D.2 Location map(s) which show(s)**

**D.3 Photographs**

**D.4 Inspection log**

## D.1 Description of Maintenance Action(s)

### CAP MAINTENANCE PLAN

4/2/2020

Property Located at:  
1711 W Center Street  
Milwaukee, Wisconsin 53206

WDNR BRRTS# 03-41-208431

Parcel ID # 32-40-839100

### Introduction

This document is the Maintenance Plan for concrete/asphalt cap at the above-referenced property in accordance with the requirements of s. NR 724.13 (2), Wisconsin Administrative Code. The maintenance activities relate to the existing cap which addresses or occupies the area over the contaminated groundwater plume or soil.

More site-specific information about this property/site may be found in:

- The case file in the DNR Southeast regional office
- BRRTS on the Web (DNR's internet based data base of contaminated sites):  
<https://dnr.wi.gov/botw/SetUpBasicSearchForm.do?rtn=rb>
- GIS Registry PDF file for further information on the nature and extent of contamination
- The DNR project manager for Milwaukee County.

### Description of Contamination

Unsaturated soil contaminated by Lead, Benzene, Ethylbenzene, MTBE, Naphthalene, Toluene, Trimethylbenzenes, Xylene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene, and Indeno (1,2,3-cd)pyrene exist in the area of the former dispenser islands and former UST bed. Groundwater contamination by Benzene, Ethylbenzene, Naphthalene, Toluene, Trimethylbenzenes, and Xylene was found in the area of the former dispenser islands and former UST bed.. The extent of the soil and groundwater contamination is shown on the attached map (Attachment D.2.).

### Description of the Cap to be Maintained

The cap consists of 4-6 inches of concrete, 2-3 inches of asphalt, and the on site building constructed on an on-grade concrete slab (4-6 inches) thick, which covers the area of the former dispenser islands and former UST systems, as shown on the attached map (Attachment D.2.).

### Cover/Building/Slab/Barrier Purpose

The concrete, asphalt, and building cap over the contaminated soil serves as a barrier to prevent direct human contact with residual soil contamination that might otherwise pose a threat to human health. The cap will also act as a partial infiltration barrier to minimize future soil-to-groundwater contamination migration that would violate the groundwater standards in ch. NR140, Wisconsin Administrative Code. Based on the current and future use of the property, the barrier should function as intended unless disturbed.

### Annual Inspection

The concrete, asphalt, and building cap overlying the contaminated soil and as depicted in Attachment D.2 will be inspected once a year, normally in the spring after all snow and ice is gone, for deterioration, cracks and other potential problems that can cause exposure to underlying soils. The inspections will be performed by the property owner or their designated representative. The inspections will be performed to evaluate damage due to settling, exposure to the weather, wear from traffic, increasing age and other factors. Any area where soils have become or are likely to become exposed and where infiltration from the surface will not be effectively minimized will be documented.

A log of the inspections and any repairs will be maintained by the property owner and is included as D.4, Form 4400-305, Continuing Obligations Inspection and Maintenance Log. The log will include recommendations for necessary repair of any areas where underlying soils are exposed and where infiltration from the surface will not be effectively minimized. Once repairs are completed, they will be documented in the inspection log. A copy of the maintenance plan and inspection log will be kept at the site; or, if there is no acceptable place (for example, no building is present) to keep it at the site, at the address of the property owner and available for submittal or inspection by Wisconsin Department of Natural Resources (DNR) representatives upon their request.



### Maintenance Activities

If problems are noted during the annual inspections or at any other time during the year, repairs will be scheduled as soon as practical. Repairs can include patching and filling or larger resurfacing or construction operations. In the event that necessary maintenance activities expose the underlying soil, the owner must inform maintenance workers of the direct contact exposure hazard and provide them with appropriate personal protection equipment (PPE). The owner must also sample any soil that is excavated from the site prior to disposal to ascertain if contamination remains. The soil must be treated, stored and disposed of by the owner in accordance with applicable local, state and federal law.

In the event the concrete, asphalt, and building cap overlying the contaminated soil and groundwater plume are removed or replaced, the replacement barrier must be equally impervious. Any replacement barrier will be subject to the same maintenance and inspection guidelines as outlined in this Maintenance Plan unless indicated otherwise by the DNR or its successor.

The property owner, in order to maintain the integrity of the cap, will maintain a copy of this Maintenance Plan on site and make it available to all interested parties (i.e. on-site employees, contractors, future property owners, etc.) for viewing.

### Prohibition of Activities and Notification of DNR Prior to Actions Affecting a Cover or Cap

The following activities are prohibited on any portion of the property where the concrete, asphalt, and building cap is required as shown on the attached map, unless prior written approval has been obtained from the Wisconsin Department of Natural Resources: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; 6) construction or placement of a building or other structure; 7) changing the use or occupancy of the property to a residential exposure setting, which may include certain uses, such as single or multiple family residences, a school, day care, senior center, hospital, or similar residential exposure settings.

If removal, replacement or other changes to a cover, or a building which is acting as a cover, are considered, the property owner will contact DNR at least 45 days before taking such an action, to determine whether further action may be necessary to protect human health, safety, or welfare or the environment, in accordance with s. NR 727.07, Wis. Adm. Code.

### Amendment or Withdrawal of Maintenance Plan

This Maintenance Plan can be amended or withdrawn by the property owner and its successors with the written approval of WDNR.

Contact Information

September 2020

**Current Site Contact:**

Roslyn Henderson  
9782 North Arrowwood Road  
Mequon, WI 53092  
(414) 213-3456

Signature: \_\_\_\_\_

*Roslyn L Henderson*

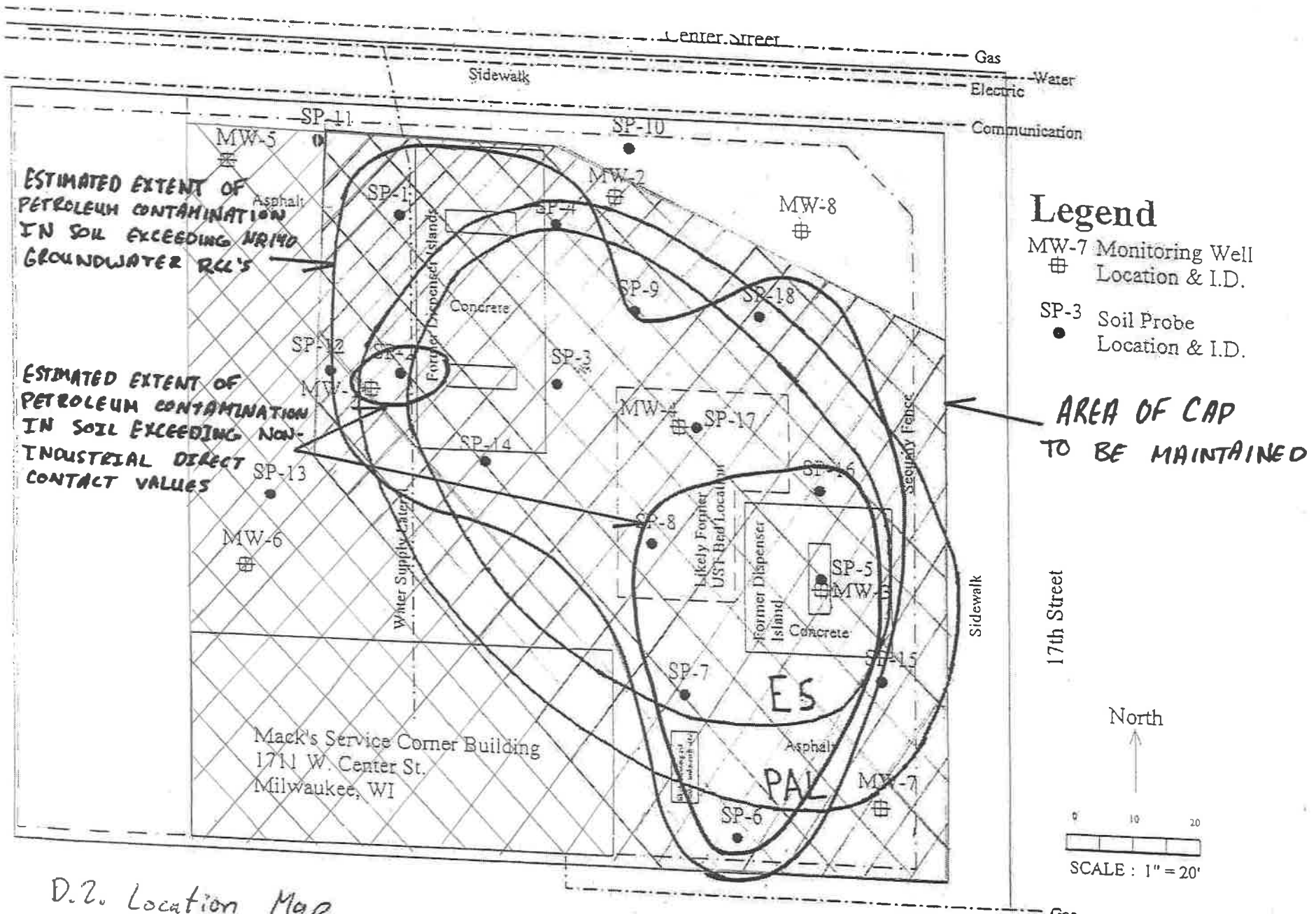
(DNR may request signature of affected property owners, on a case-by-case basis)

**Consultant:**

METCO  
Ron Anderson  
709 Gillette Street, Suite 3  
La Crosse, WI 54603  
(608) 781-8879

**WDNR:**

Andy Alles  
101 South Webster Street  
Madison WI, 53707



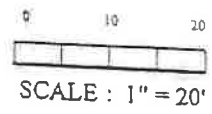
### Legend

- MW-7 Monitoring Well Location & I.D.
- SP-3 Soil Probe Location & I.D.

AREA OF CAP TO BE MAINTAINED

17th Street

North



D.2. Location Map  
 Mack's Service Corner  
 1711 W. Center Street, Milwaukee, WI  
 Modified by METCO on (6/10/20)

SENTINEL ENVIRONMENTAL SERVICES, LLC  
 PO Box 865, GRAFTON, WI 53024

### D.3 Photographs



Looking south at the asphalt parking lot.



Looking south at the Mack's Service Corner Building.

### D.3 Photographs



Looking east towards 17st Street.



Looking east at the asphalt parking lot.

# D.4 Inspection Log

**Directions:** In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at <http://dnr.wi.gov/botw/SetUpBasicSearchForm.do>, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name <b>Mack's Service Corner</b>	BRRTS No. <b>03-41-208431</b>
--	----------------------------------

Inspections are required to be conducted (see closure approval letter):

annually  
 semi-annually  
 other – specify \_\_\_\_\_

When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N
		<input type="checkbox"/> monitoring well <input type="checkbox"/> cover/barrier <input type="checkbox"/> vapor mitigation system <input type="checkbox"/> other:			<input type="radio"/> Y <input type="radio"/> N	<input type="radio"/> Y <input type="radio"/> N

## Attachment E/Monitoring Well Information

All wells have been located and will be properly abandoned upon WDNR granting closure to the site.

## **Attachment F/Source Legal Documents**

**F.1 Deeds – Source Property**

**F.2 Certified Survey Map**

**F.3 Verification of Zoning Map**

**F.4 Signed Statement**

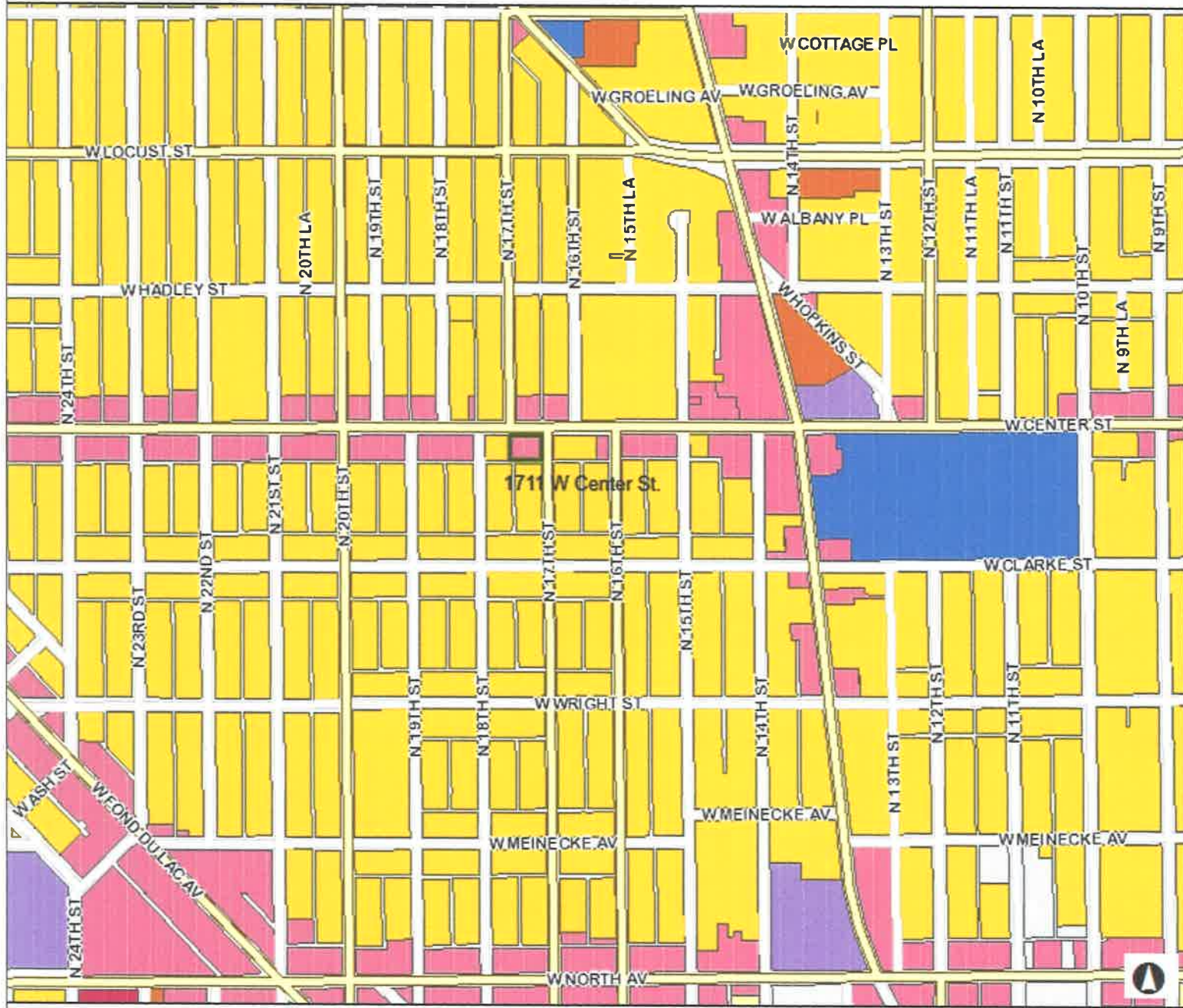






# F.3. Verification of Zoning

City of Milwaukee, Wisconsin



- Legend -**
- City limits
  - Freeways**
    - Freeways
    - Exit ramps
    - Entry ramps
    - Ramps
  - Major streets
  - Streets
  - Waterways
  - Zoning**
    - Unknown or pending zoning
    - Residential - single family
    - Residential - two family
    - Residential - multi-family
    - Residential - residence and office
    - Commercial - neighborhood shopping
    - Commercial - local business
    - Commercial - commercial service
    - Commercial - regional business
    - Commercial - central business
    - Industrial - commercial
    - Industrial - office

**- Notes -**  
 Mack's Service Corner site (1711 W Center Street) is outlined in green.



Department of Administration - ITMD



## F. 4. Signed Statement

WDNR BRRTS Case 03-41-208431

WDNR Site Name: Macks Service Corner

### Geographic Information System (GIS) Registry of Closed Remediation Sites

In compliance with the revisions to the NR 700 rule series requiring certain closed sites to be listed on the Geographic Information System (GIS) Registry of Closed Remediation Sites (Registry) effective Nov., 2001, I have provided the following information.

To the best of my knowledge the legal descriptions provided and attached to this statement are complete and accurate.

Responsible Party:

Roslyn Henderson owner  
(print name/title)

Roslyn Henderson 3/13/2020  
(signature) (date)

## **Attachment G/Notification to Owners of Impacted Properties**

- G.1 Deeds – Off Source Properties - It does not appear that any contamination exceeding the NR720 Soil RCLs or NR140 Enforcement Standards has migrated onto any adjacent properties or road right of way.
- G.2 Certified Survey Map - It does not appear that any contamination exceeding the NR720 Soil RCLs or NR140 Enforcement Standards has migrated onto any adjacent properties or road right of way.
- G.3 Verification of Zoning Map - It does not appear that any contamination exceeding the NR720 Soil RCLs or NR140 Enforcement Standards has migrated onto any adjacent properties or road right of way.
- G.4 Signed Statement - It does not appear that any contamination exceeding the NR720 Soil RCLs or NR140 Enforcement Standards has migrated onto any adjacent properties or road right of way.