

From: Beggs, Tauren R - DNR
Sent: Wednesday, September 16, 2020 9:59 AM
To: Adam Tegen
Cc: 'Harris.Byers@stantec.com'; Jones, Kristin; Rodriguez, Gabriel M.; Jeanne Tarvin; Kathleen McDaniel (kmcdaniel@manitowoc.org) ; Chronert, Roxanne N - DNR (Roxanne.Chronert@wisconsin.gov)
Subject: RE: Site Investigation Review Letter - Additional Investigation Needed for Mirro Plt 9 (Former) - LGU, BRRTS # 02-36-545108
Attachments: 20200916_140_SIR_Not_Appr.pdf

Hi Adam,

The PDF of the letter has been compressed, since it indicated that the previous email did not send due to the file size of the figure attachments being too large. If you would like a paper copy of the letter, please let me know as I will have to coordinate with staff that are able to access the DNR building to mail one.

Thanks,

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Tauren R. Beggs

Phone: (920) 510-3472

Tauren.Beggs@wisconsin.gov (preferred contact method during work at home)

From: Beggs, Tauren R - DNR
Sent: Wednesday, September 16, 2020 9:25 AM
To: Adam Tegen <ategen@manitowoc.org>
Cc: 'Harris.Byers@stantec.com' <Harris.Byers@stantec.com>; Jones, Kristin <Kristin.Jones@newellco.com>; Rodriguez, Gabriel M. <grodriguez@schiffhardin.com>; Jeanne Tarvin <jtarvin@ramboll.com>; Kathleen McDaniel (kmcdaniel@manitowoc.org) <kmcdaniel@manitowoc.org>; Chronert, Roxanne N - DNR (Roxanne.Chronert@wisconsin.gov) <Roxanne.Chronert@wisconsin.gov>
Subject: Site Investigation Review Letter - Additional Investigation Needed for Mirro Plt 9 (Former) - LGU, BRRTS # 02-36-545108

Hi Adam,

Attached is the letter response for the request for review of the status of the site investigation received on July 16, 2020 for the above referenced site. If you have any questions, please feel free to contact me.

Regards,

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Tauren R. Beggs

Hydrogeologist & Northeast Region Land Recycling Expert

Remediation and Redevelopment Program

Wisconsin Department of Natural Resources

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September 16, 2020

Adam Tegen
Community Development Director
Community Development Authority of the City of Manitowoc
900 Quay Street
Manitowoc, WI 54220

SUBJECT: Review of the Site Investigation – Additional Investigation Needed
Mirro Plt 9 (Former) – LGU, 1512 Washington Street, Manitowoc, WI
BRRTS #: 02-36-545108, FID #: 436033730

Dear Mr. Tegen:

On July 16, 2020, the Wisconsin Department of Natural Resources (DNR) received your request for review of the current status of the site investigation with a fee for DNR review and response. Prior to the request for review of the current status of the site investigation, Stantec Consulting Services Inc. (Stantec), on behalf of the Community Development Authority of the City of Manitowoc (CDA) submitted the *Phase II Environmental Site Assessment*, dated March 19, 2020 and a supplemental report titled *Further Characterization of Light Non-Aqueous Phase Liquid in MW-12*, dated June 16, 2020 (Reports). The Reports were received by the DNR on March 23, 2020 and June 16, 2020, respectively. The Reports were reviewed for compliance with Wis. Admin. Code ch. NR 716.

Review

The DNR reviewed the Reports and all available historical site investigation documentation in the case file and determined that additional work is needed to meet the requirements of Wis. Admin. Code ch. NR 716 to complete the site investigation. The degree and extent of contamination identified at the site has not been adequately characterized and documented.

Background

The site has been used historically for heavy industrial operations and aluminum cookware manufacturing by the Mirro company. The CDA previously acquired the site and has the local government unit (LGU) environmental liability exemption. The Mirro buildings have all been demolished on-site. Investigation of the site has been ongoing for years and volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), metals, and perfluoroalkyl and polyfluoroalkyl substances (PFAS) have been detected in soil and/or groundwater. Newell Brands, Inc. is a responsible party (RP) for the contamination at the site.

Completion of the Site Investigation

After reviewing the Reports and all available historical site investigation documentation in the case file submitted to date, the DNR has determined that additional work is necessary to complete the site investigation. The degree and extent of contamination currently identified at the site has not been adequately defined and documented with

respect to Wis. Admin. Code ch. NR 716. The findings and interpretations by the DNR regarding the incomplete site investigation are summarized below:

A. Scoping the Site Investigation

It is the responsibility of a RP to evaluate hazardous substance discharges and environmental pollution, including emerging contaminants, under the Wis. Admin. Code NR 700 rule series. Per Wis. Admin. Code § NR 716.07 and Wis. Admin. Code § NR 716.09, site investigation scoping and work plans should include an evaluation of all potential or known contaminants in all affected or potentially affected environmental media.

B. Degree and Extent of Contamination in All Affected Media

Degree and extent of contamination is not defined. Additional on-site and off-site investigation is needed for the contamination found. Wis. Admin. Code § NR 716.11 outlines the requirements for the field investigation. Additional evaluation and/or investigation is needed as described below for the following environmental media:

1. Soil

- For all contaminants found in soil on-site, there are data gap areas with no samples collected on the south, east, and north sides of the site. The remaining (grid-type pattern) sample locations proposed in Stantec’s *Site-Specific Sampling and Analysis Plan for a Chapter NR 716 WAC Site Investigation* received by the DNR on March 7, 2019, that were not completed yet would likely fill in these data gap areas on-site (see attached Figure 14, Proposed Sampling in Possible Source Areas, dated May 22, 2018). Sampling off-site is also needed. Contaminants have been detected either near the property boundary or off-site already. Based on the known data, the DNR highly recommends collecting soil samples around the perimeter of the property to evaluate what contaminants are migrating off-site. Contaminants in soil have already been detected above soil standards at and/or across the property boundary. Significant soil contamination has been detected at and/or across the western property boundary. Refer to the attached Figure 6, Soil Sample Locations and Soil Quality, dated February 2, 2020 and Figure 4a, Historic Soil Impacts and Previous Sampling Locations, dated July 8, 2020, for site investigation sampling locations.
- PCBs: High concentrations of PCBs have been detected in Area 8 and the Loading Dock areas. Additional characterization in these areas and other areas on the property is needed:
 - Additional horizontal and vertical delineation needed in Area 8 and Loading Dock and further characterization in the tunnel network areas.
 - The horizontal extent is not defined outside of Area 8 and the Loading Dock, SB-10/SB-82 area, and SB-99 area, so further sampling is needed.
 - Off-site sampling to the west of SB-48 area and other areas with exceedances adjacent to the property boundary.
- VOCs: trichlorinated benzenes (component of Pyranol dielectric fluid), naphthalene, and trichloroethene (TCE) were the primary VOCs found:
 - Further sampling in SB-3 and GP-5 area to investigate high concentrations of TCE.
 - Vertical extent needs to be defined in the areas with the higher concentrations of trichlorinated benzenes, naphthalene, and TCE.

- The horizontal extent is not defined outside of Area 8, outside of the Loading Dock and area to the north of the Loading dock, and the SB-10/SB-82 area, so further sampling is needed.
- Further sampling in the off-site GP-2 location is needed.
- Sampling off-site is needed adjacent to the SB-15, SB-16, SB-121, and SB-5 areas on the west side of the property.
- PAHs: PAHs appear to be associated with point source discharges and impacted soil fill:
 - Samples collected as part of the rest of the investigation should also be sampled for PAHs to fill in data gaps for soil fill impacts across the property.
 - Need to better define degree and extent around the SB-4, SB-10, and SB-82 area.
 - Likely don't need to sample for PAHs in soil off-site but will be determined through further sampling on-site.
 - Off-site location AMEC-MW-16A historically had PAHs in soil. Need to sample in this area to determine if PAHs are still a concern in this area.
- Metals:
 - Samples collected as part of the rest of the investigation should also be sampled for metals to fill in data gaps for soil fill impacts across the property.
 - Sampling analysis should include sampling of other metals to determine if metals besides the Resource Conservation and Recovery Act (RCRA) 8 detected historically in 2010 (such as antimony, copper, aluminum, nickel, manganese, thallium) are a concern.
- PFAS: PFAS has not been evaluated in soil, so soil needs to be sampled and analyzed for PFAS in all potential source areas. DNR highly recommends the Wisconsin 36 analyte PFAS list be used for analysis. For more details on laboratory certification for PFAS, refer to the following link:
<https://dnr.wisconsin.gov/topic/labCert/PFAS.html>.

2. Groundwater

- For all contaminants found in groundwater on-site, there are data gap areas on-site with no samples collected on the south, east, and north sides of the property. The remaining (grid-type pattern) sample locations proposed in Stantec's *Site-Specific Sampling and Analysis Plan for a Chapter NR 716 WAC Site Investigation* received by the DNR on March 7, 2019 that were not completed yet would likely fill in these data gap areas on-site (see attached Figure 14, Proposed Sampling in Possible Source Areas, dated May 22, 2018). Sampling off-site is also needed. Contaminants have been detected either near the property boundary or off-site already. Based on the known data, the DNR highly recommends collecting groundwater samples around the perimeter of the property to evaluate what contaminants are migrating off-site. Some contaminants in groundwater have already been detected above groundwater standards at and/or across the property boundary. Significant groundwater contamination has been detected at and/or across the western property boundary. Refer to the attached Figure 9a, Potentiometric Surface and Summary of Groundwater Impacts, dated February 2, 2020, and Figure 10a, Groundwater Sample Locations and PFOA+PFOS Concentrations, dated February 2, 2020, and Figure 5, Historic Groundwater Impacts and Previous Sampling Locations, dated July 8, 2020 for site investigation sampling locations.
- NAPL under former Building K was found in multiple monitoring points and a sample collected from MW-12. The NAPL had no PCBs and is not likely petroleum based. The NAPL has been

characterized as a mixture of acetone and polyvinyl fluoride, but also contained high concentrations of PFBA and PFOA. Historically, another NAPL area was found under Building C from a sample from TW-108, which consisted of diesel fuel and/or motor oil but was not confirmed in more recent sampling (see attached Figure 2, Potential Source Areas and Historic Sampling Locations, dated February 2, 2020).

- Further sampling is needed to better define the NAPL areas.
- PCBs:
 - Further sampling needed to define degree and extent around the Loading dock and Area 8, SB/TW-103 and MW-15 area off-site to the west.
- VOCs:
 - Further sampling needed to define degree and extent around the Loading dock and Area 8, TW-106 area, and TW-108 area.
 - Further sampling is needed in the SB-3 and GP-5 areas to investigate high concentrations of TCE.
 - Vertical extent needs to be defined in the areas with higher concentrations of the trichlorinated benzenes, naphthalene, and TCE.
 - Further sampling in the off-site GP-2 location is needed.
 - Sampling off-site is needed adjacent to the TW-103, MW-5, MW-15, MW-121 areas on the west side of the property.
- PAHs:
 - Further sampling is needed off-site to the west of the TW-103, MW-15 area.
 - Further sampling is needed in the TW-110 area.
- Metals:
 - Off-site monitoring wells had exceedances of metals historically. Sampling analysis should include sampling of other metals to determine if metals besides the RCRA 8 detected historically in 2010 (such as aluminum, iron, manganese) are a concern.
 - Further sampling is needed to define degree and extent around TW-106 location.
- PFAS:
 - Need to define extent horizontally in all directions and extent vertically.
 - Need to sample the municipal well closest to the site.
 - Additional NAPL characterization is needed since there were high PFBA and PFOA concentrations detected.
 - DNR highly recommends the Wisconsin 36 analyte PFAS list be used for analysis.

3. Vapor

- Prioritize the vapor investigation.
- VOCs, on-site:
 - No buildings are currently on-site; however, the site is planned to be redeveloped. Any occupied buildings/structures constructed on this property needs vapor assessment sampling to determine if vapors are a concern due to VOCs (primarily TCE, naphthalene, and trichlorobenzenes) above standards in soil and/or groundwater across a large portion of the

site (New buildings should be designed with vapor mitigation systems that could be activated if needed).

- Any new utilities installed should have plugs to prevent potential vapor migration.
- Assess the tunnel network and any utilities on-site, since these could be conduits for vapor migration.
- VOCs, off-site:
 - Vapor assessment is needed for the tunnel network.
 - Vapor assessment is needed inside utilities and in the backfill of utilities.

4. Other Media (Surface Water and Sediment)

Evaluate other applicable contaminant migration pathways such as sediment and water inside utilities and Sherman Creek on the northwest side of the property. Depending on the results of groundwater contamination off-site and/or contamination through surface water or utilities, additional surface water or sediment sampling may be needed.

C. Migration Pathways and Receptors

Site investigation activities must include an evaluation of pathways for contaminant migration and an evaluation of the potential or known impacts to receptors under Wis. Admin. Code ch. NR 716. Receptors and migration pathways were discussed in more detail in the previous Section B. Degree and Extent of Contamination in All Affected Media.

Schedule

The DNR will work with the City of Manitowoc (exempt LGU) and Newell Brands, Inc. (RP) to complete the site investigation. Any work the City of Manitowoc decides to complete to get the site ready for redevelopment needs to follow the Wis. Admin. Code ch. NR 700 rule series. In consideration of administrative code requirements, the DNR is requiring implementation of the following schedule from the RP:

- Per Wis. Admin. Code § NR 716.09(1), the DNR is requiring the submittal of a supplemental site investigation work plan by October 14, 2020. The work plan must comply with Wis. Admin. Code § NR 716.09(2). A fee will be required with submittals of work plans through the enforcement process with the RP for DNR review and response.
- Per Wis. Admin. Code § NR 716.11(2r), the additional site investigation activities must begin within 60 days of the DNR approval of the work plan.
- Per Wis. Admin. Code § NR 716.14, all sampling results are required to be submitted within 10 days of receiving the laboratory data.
- Per Wis. Admin. Code § NR 716.15(1), a supplemental site investigation report shall be submitted within 60 days after completion of the field investigation. A fee will be required with submittal of a site investigation report through the enforcement process with the RP for DNR review and response.
- NR 700 semi-annual progress reports will be required until the case is closed.

Once the additional work has been completed and documented, the RP's consultant should evaluate whether the site investigation is complete based on the results of the additional work. If a remedial action is warranted, the RP's consultant should submit a remedial actions option report (RAOR) within 60 days after the completion of the field investigation.

The DNR appreciates your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me, the DNR Project Manager, at 920-510-3472 or at Tauren.Beggs@wisconsin.gov.

Sincerely,



Tauren R. Beggs
Hydrogeologist
Remediation & Redevelopment Program

Attachments:

- Figure 14, Proposed Sampling in Possible Source Areas, dated May 22, 2018
- Figure 6, Soil Sample Locations and Soil Quality, dated February 2, 2020
- Figure 4a, Historic Soil Impacts and Previous Sampling Locations, dated July 8, 2020
- Figure 9a, Potentiometric Surface and Summary of Groundwater Impacts, dated February 2, 2020
- Figure 10a, Groundwater Sample Locations and PFOA+PFOS Concentrations, dated February 2, 2020
- Figure 5, Historic Groundwater Impacts and Previous Sampling Locations, dated July 8, 2020
- Figure 2, Potential Source Areas and Historic Sampling Locations, dated February 2, 2020

cc: Harris Byers, Stantec (Harris.Byers@stantec.com)
Kristin Holloway Jones, Newell Brands, Inc. (Kristin.Jones@newellco.com)
Gabriel Rodriguez, Schiff Hardin LLP (grodriguez@schiffhardin.com)
Jeanne Tarvin, Ramboll (jtarvin@ramboll.com)

Figure No.

14

Title





Figure 14. Proposed Sampling In Possible Source Areas

Client/Project




City of Manitowoc
USEPA Brownfield Assessment Grant
Hazardous Substances

0 50 100 Feet
193703931
Prepared by HLB on 5-22-18





Legend

-  Target Parcel
-  Parcels
-  Potential Source Areas
-  Former Building Layout

Proposed Sample Locations

-  Soil Boring / Monitoring Well
-  Soil Boring
-  Soil Boring / Temp Well

Additional Sample Locations

-  Soil Boring / Monitoring Well
-  Soil Boring
-  Soil Boring / Temp Well
-  Existing Monitoring Wells



Source ID	Potential Source
1	Pit
2	Compressor Pits
3	Boiler Room
4	Steam Outlet
5	Etching Room
6	Anodizing Room
7	Basement Sump
8	Former Tannery
9	Drainage Channels
10	Coal Boiler Room
11	Heat Treat Pit
12	Paint Mixing



Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include:
 Orthophotography: 2017 City of Manitowoc
 Data Adapted From: Symbiont (2016) and AES (2011)



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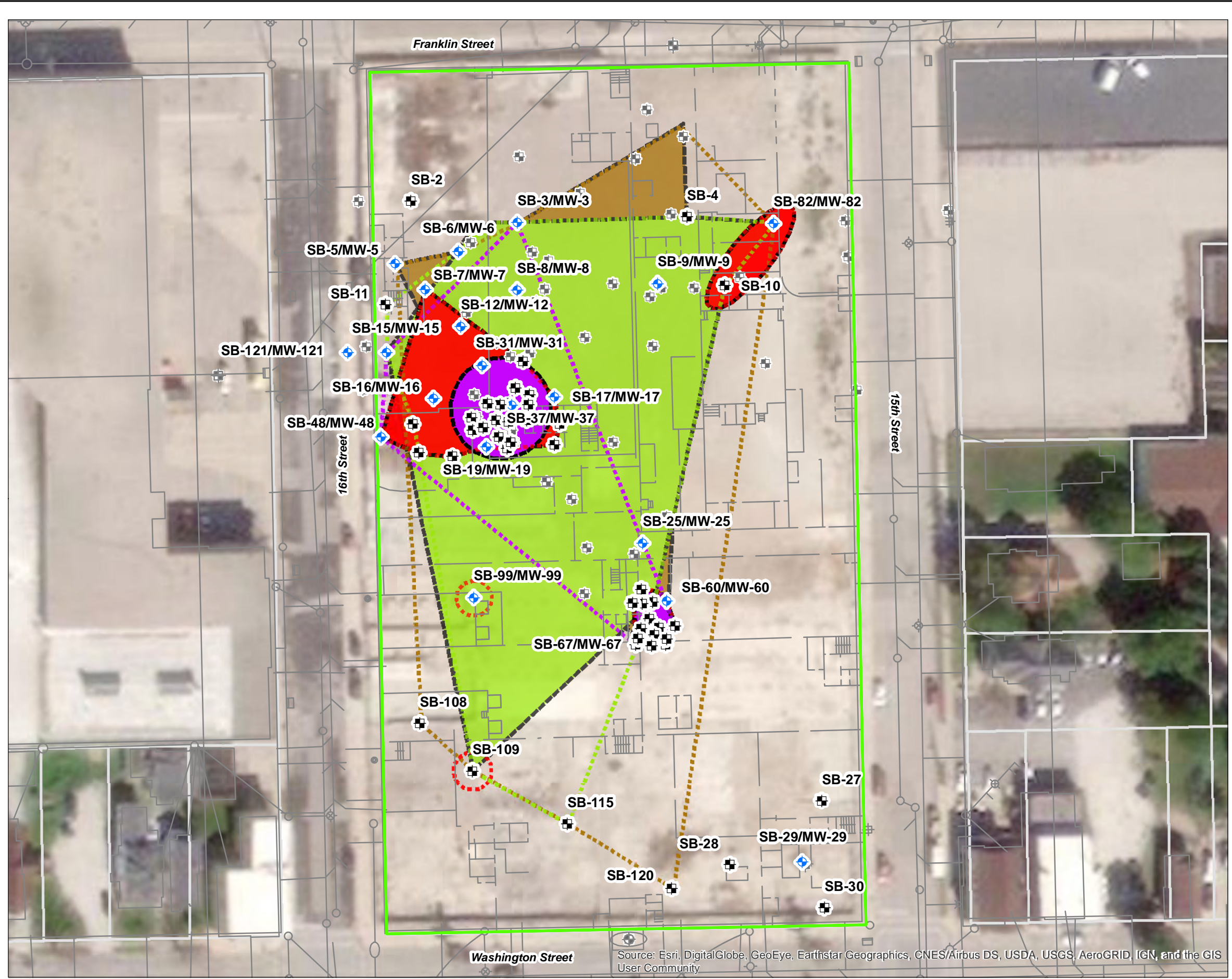
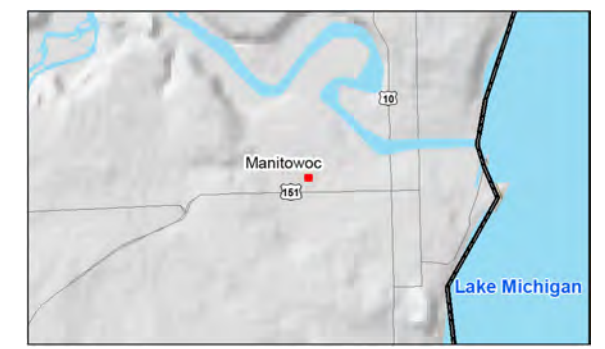


Figure No. 6
 Title Soil Sample Locations and Soil Quality
 Client/Project City of Manitowoc
 USEPA Brownfield Assessment Grant
 Hazardous Substances
 0 45 90 Feet
 193706270
 Prepared by HLB on 1/20/2020

- Legend**
- Soil Boring / Monitoring Well (21)
 - Soil Boring (45)
 - Target Parcel
 - Parcels
 - Former Building Walls
 - Historic Sampling Locations (47)
- Soil Direct Contact (DC) RCLs**
- PCBs > Industrial DC RCL
 - PCBs > Non-Industrial DC RCL
 - VOCs > Industrial DC RCL
 - VOCs > Non-Industrial DC RCL
 - Metals > Industrial DC RCL
 - Metals > Non-Industrial DC RCL
 - PAHs > Industrial DC RCL
 - PAHs > Non-Industrial DC RCL



Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include:
 Orthophotography: 2017 City of Manitowoc
 Data Adapted From: Symbiont (2016) and AES (2011)



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

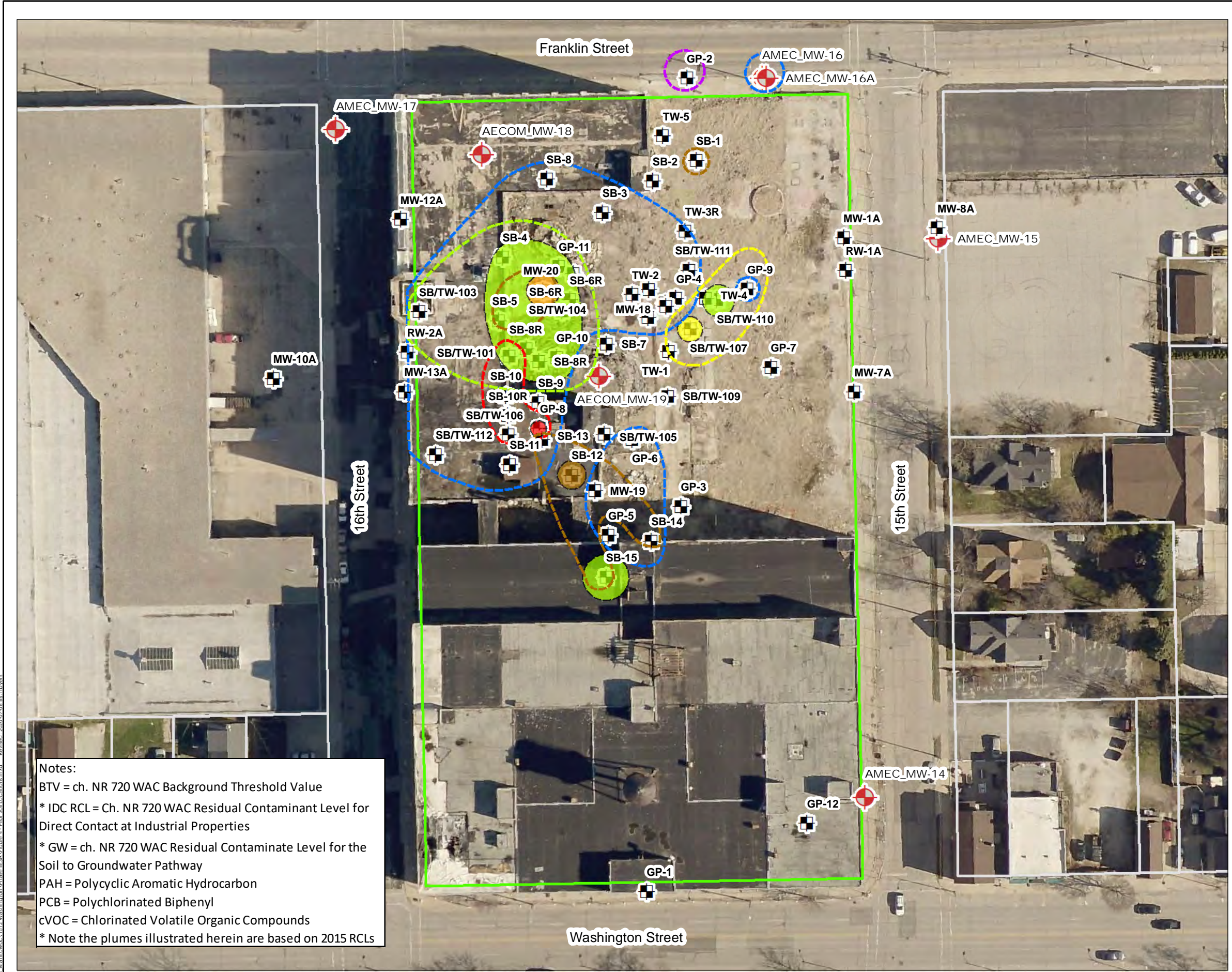
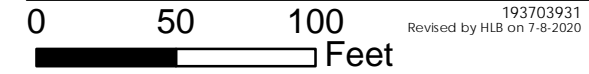


Figure No. **4a**
 Title
Historic Soil Impacts and Previous Sampling Locations

Client/Project
 City of Manitowoc
 USEPA Brownfield Assessment Grant
 Hazardous Substances



Legend

- Target Parcel
- Parcels
- Historic Sampling Locations
- Remaining Monitoring Wells

Historic Soil Impacts

- As > BTV
- As and Pb > BTV
- As > IDCL RCL
- PAH > IDC RCL and GW RCL
- PAH > GW RCL
- PCB = 210 mg/kg
- PCB = 0.5 mg/kg
- PCB = 6 mg/kg
- PCB = 0.2 mg/kg
- Benzene > GW RCL
- cVOC > GW RCL



- Notes**
- Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 - Data Sources Include:
 Orthophotography: 2017 City of Manitowoc
 Data Adapted From: Symbiont (2016) and AES (2011)

Notes:
 BTV = ch. NR 720 WAC Background Threshold Value
 * IDC RCL = Ch. NR 720 WAC Residual Contaminant Level for Direct Contact at Industrial Properties
 * GW = ch. NR 720 WAC Residual Contaminant Level for the Soil to Groundwater Pathway
 PAH = Polycyclic Aromatic Hydrocarbon
 PCB = Polychlorinated Biphenyl
 cVOC = Chlorinated Volatile Organic Compounds
 * Note the plumes illustrated herein are based on 2015 RCLs



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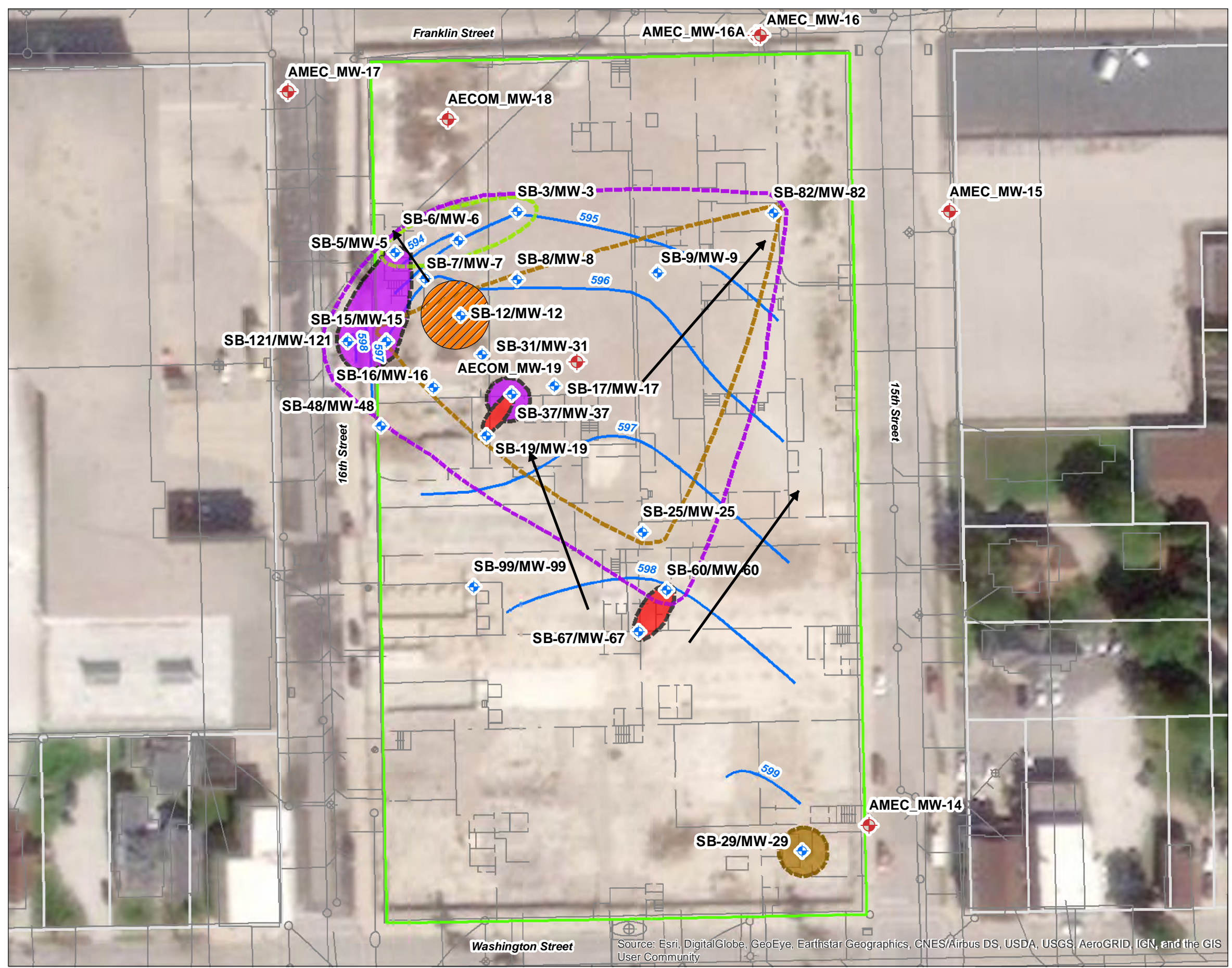
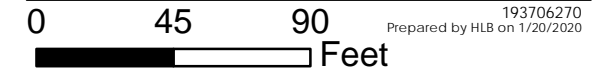


Figure No. **9a**
 Title
Potentiometric Surface and Summary of Groundwater Impacts

Client/Project
 City of Manitowoc
 USEPA Brownfield Assessment Grant
 Hazardous Substances

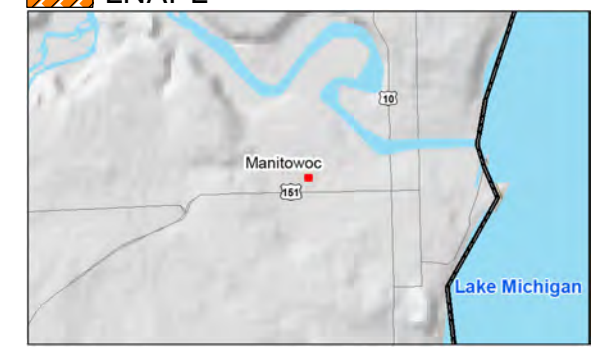


Legend
 ◈ Prior Monitoring Wells (7)

▭ Target Parcel
 — Groundwater Elevation (Ft AMSL)
 — Former Building Walls
 ▭ Parcels

Phase II ESA Sample Locations
 ◈ Soil Boring / Monitoring Well (21)

Groundwater Impacts Ch. NR 140 WAC Criteria
 ▭ Metals > ES
 ▭ Metals > PAL
 ▭ PAH > PAL
 ▭ PCB > ES
 ▭ PCB > PAL
 ▭ VOC > ES
 ▭ VOC > PAL
 ▭ LNAPL



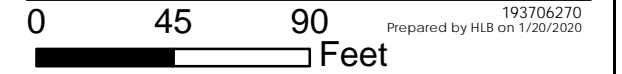
Notes
 1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include:
 Orthophotography: 2017 City of Manitowoc
 Select Data Adapted From: Symbiot (2016) and AES (2011)



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure No. 10a
 Title
Groundwater Sample Locations and PFOA+PFOS Concentrations

Client/Project
 City of Manitowoc
 USEPA Brownfield Assessment Grant
 Hazardous Substances



Legend

Phase II ESA Sample Locations

- Soil Boring / Monitoring Well (21)
- Prior Monitoring Wells (7)

- Potential Source Areas (4)
- Historic USTs (7)
- Paint/Paint Waste Storage (Yanko, 1989)

Paint Related Features (ca. 1959)

- "Paint Mixing" - 6th Floor
- Pipe Run to Spray Booth - 3rd Floor
- Pipe Run to Spray Booth - 5th Floor
- Pipe Run to Spray Booth - 6th Floor

PFOA+PFOS Concentration (ng /L)

- 100
- 500
- 1000

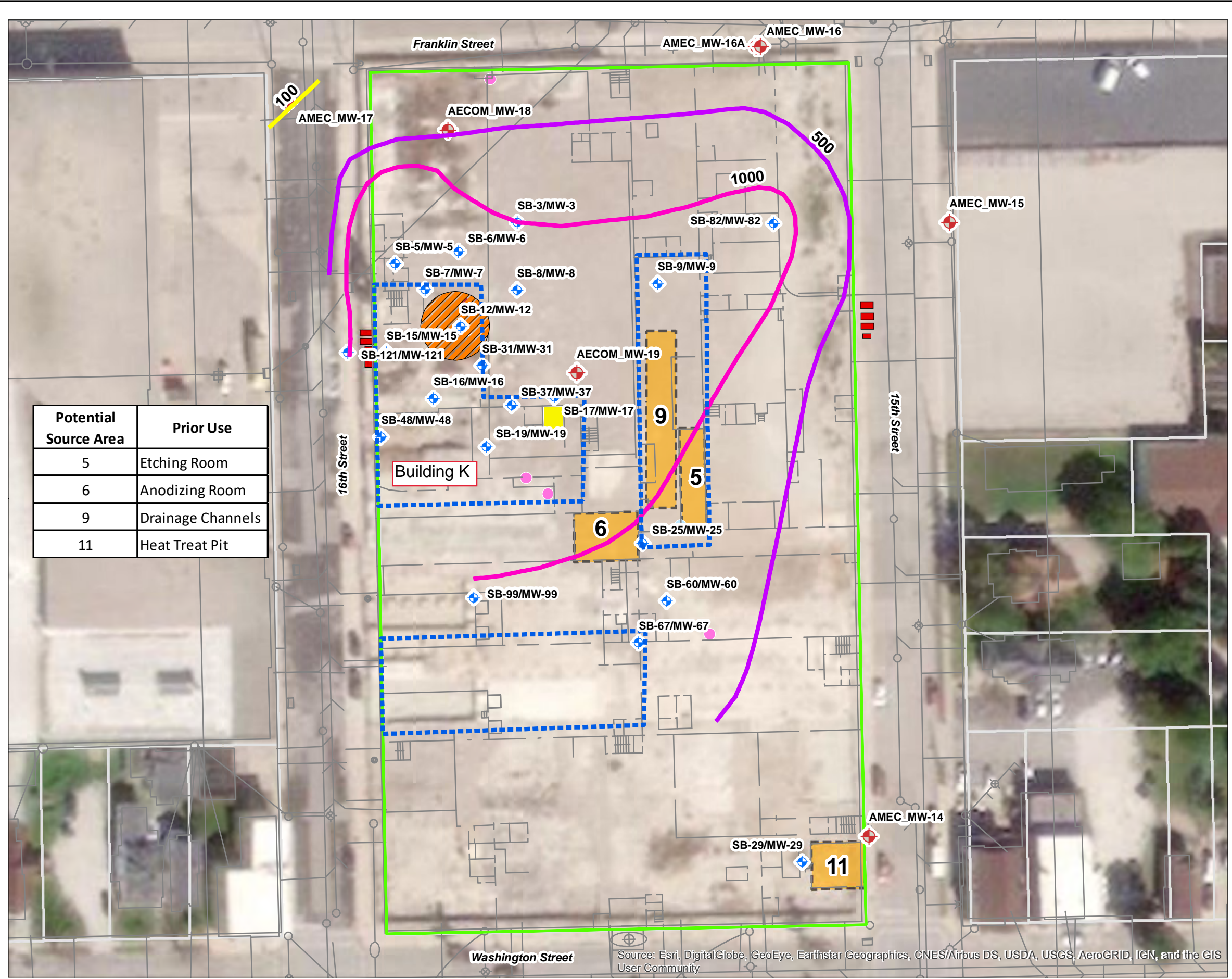
- LNAPL
- Target Parcel
- Former Building Walls
- Parcels



Notes

- Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
- Select Groundwater Data Adapted From: AECOM (2018)

Potential Source Area	Prior Use
5	Etching Room
6	Anodizing Room
9	Drainage Channels
11	Heat Treat Pit



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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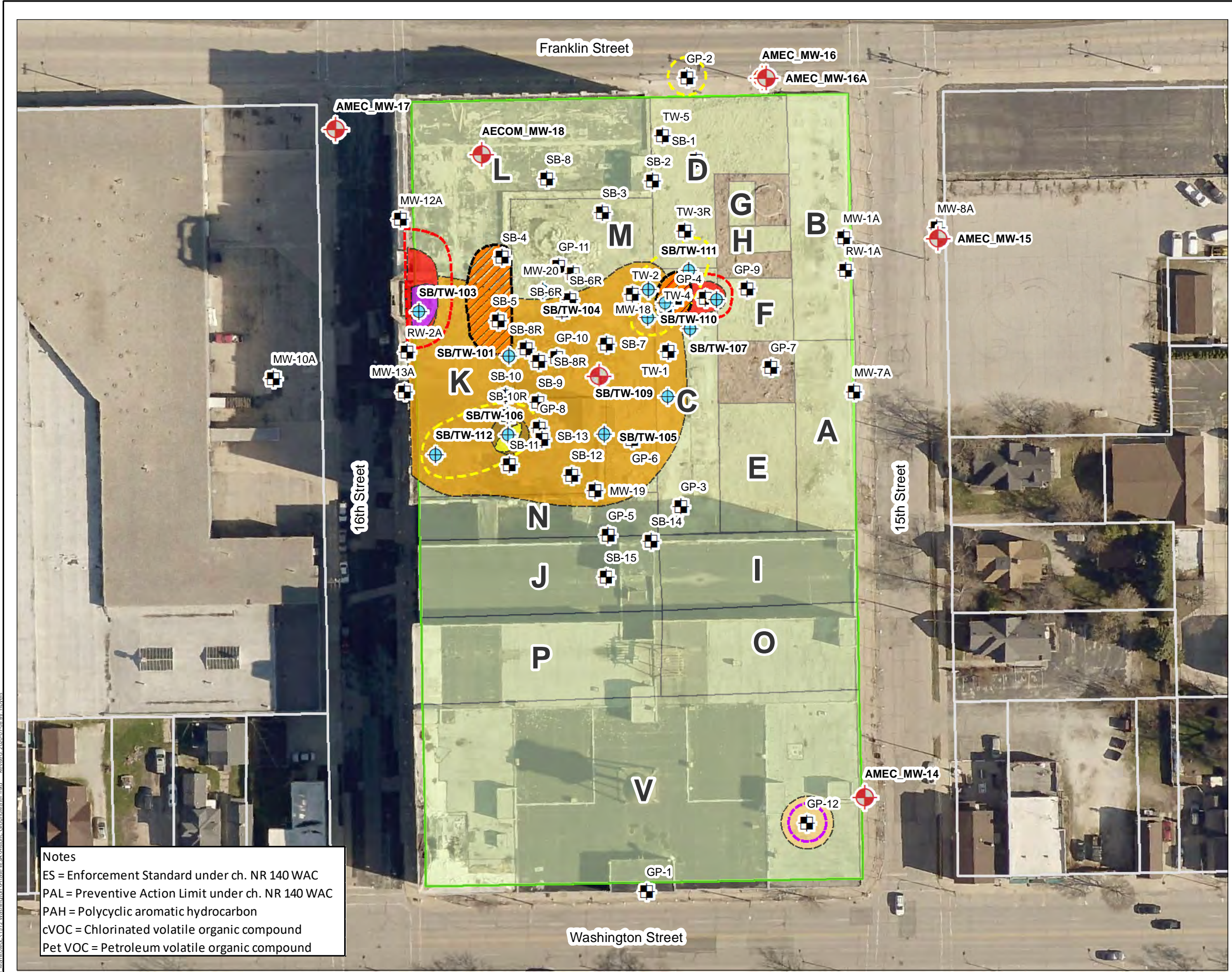
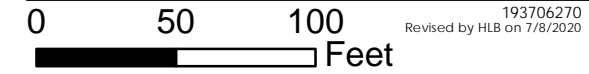


Figure No. 5
 Title
Historic Groundwater Impacts and Previous Sampling Locations

Client/Project
 City of Manitowoc
 USEPA Brownfield Assessment Grant
 Hazardous Substances



- Legend**
- Symbiont Soil Borings/Temp Wells
 - Monitoring Wells
 - Historic Sampling Locations
 - LNAPL (AES, 2010)

- Historic Groundwater Impacts**
- PAH > ES
 - PAH > PAL
 - Misc. Metals > ES
 - As, Se, or Cr > ES
 - Cr > ES
 - cVOC > ES
 - cVOC > PAL
 - Pet VOC > ES
 - Benzene > PAL
 - Former Building Layout
 - Target Parcel
 - Parcels



Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include:
 Orthophotography: 2017 City of Manitowoc
 Data Adapted From: Symbiont (2016) and AES (2011)

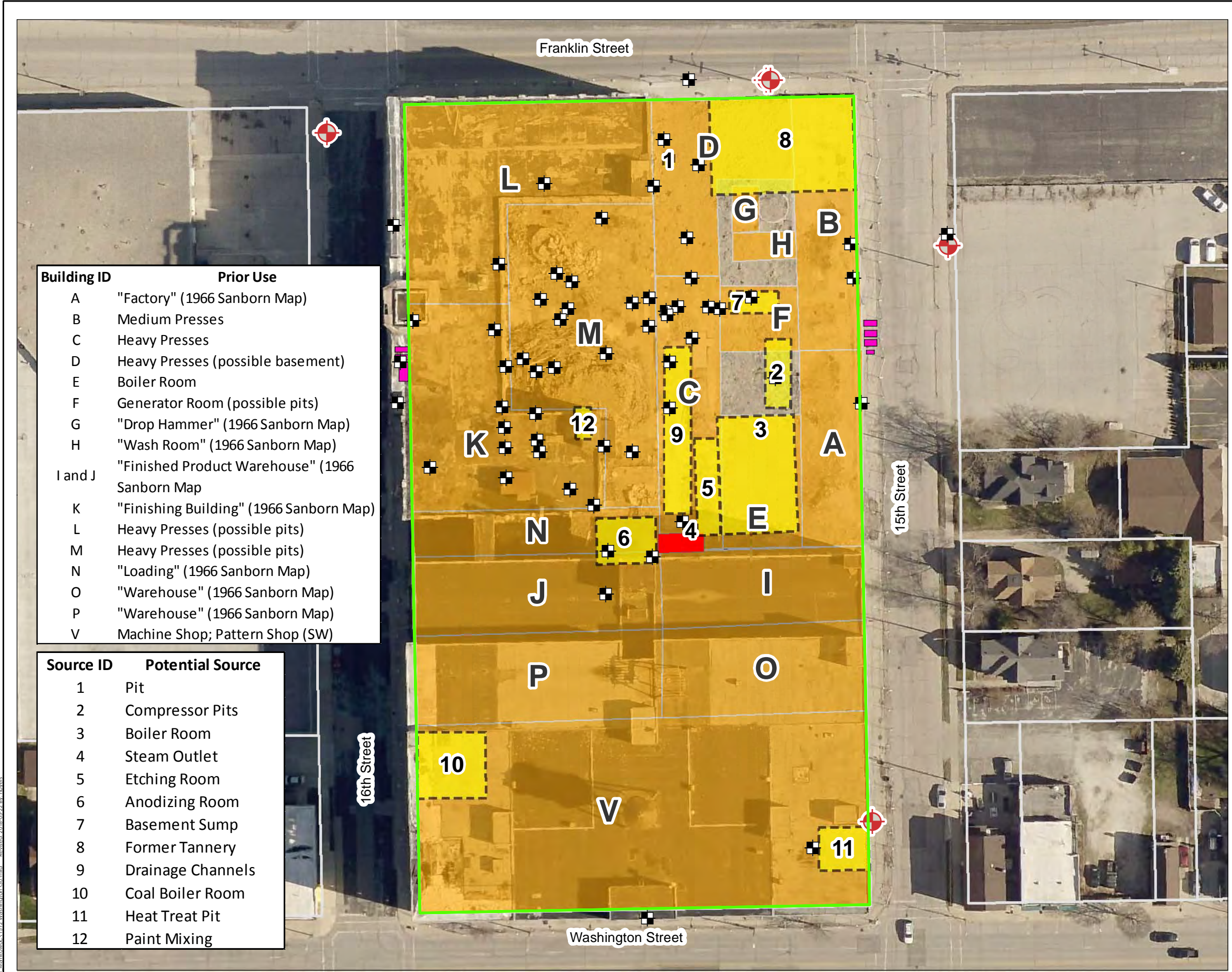
Notes

ES = Enforcement Standard under ch. NR 140 WAC
 PAL = Preventive Action Limit under ch. NR 140 WAC
 PAH = Polycyclic aromatic hydrocarbon
 cVOC = Chlorinated volatile organic compound
 Pet VOC = Petroleum volatile organic compound



C:\GIS_Manitowoc\1617_Washington_Phase_I_ESA_Historic_Groundwater.mxd Revised: 2/20/2020 BY: bboyes

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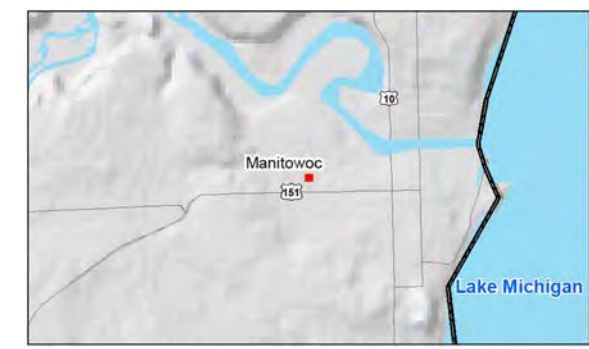
Building ID	Prior Use
A	"Factory" (1966 Sanborn Map)
B	Medium Presses
C	Heavy Presses
D	Heavy Presses (possible basement)
E	Boiler Room
F	Generator Room (possible pits)
G	"Drop Hammer" (1966 Sanborn Map)
H	"Wash Room" (1966 Sanborn Map)
I and J	"Finished Product Warehouse" (1966 Sanborn Map)
K	"Finishing Building" (1966 Sanborn Map)
L	Heavy Presses (possible pits)
M	Heavy Presses (possible pits)
N	"Loading" (1966 Sanborn Map)
O	"Warehouse" (1966 Sanborn Map)
P	"Warehouse" (1966 Sanborn Map)
V	Machine Shop; Pattern Shop (SW)

Source ID	Potential Source
1	Pit
2	Compressor Pits
3	Boiler Room
4	Steam Outlet
5	Etching Room
6	Anodizing Room
7	Basement Sump
8	Former Tannery
9	Drainage Channels
10	Coal Boiler Room
11	Heat Treat Pit
12	Paint Mixing

Figure No. **2**
 Title
Potential Source Areas and Historic Sampling Locations
 Client/Project
 City of Manitowoc
 USEPA Brownfield Assessment Grant
 Hazardous Substances
 0 45 90 Feet
 193703931
 Prepared by HLB on 5-22-18

Legend

- Target Parcel
- Historic Sampling Locations
- Remaining Monitoring Wells
- Potential Source Areas
- Historic USTs
- Remaining (2) USTs
- Former Building Layout
- Parcels



Notes

- Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
- Data Sources Include:
 Orthophotography: 2017 City of Manitowoc
 Data Adapted From: Symbiont (2016) and AES (2011)



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