

From: Byers, Harris <Harris.Byers@stantec.com>
Sent: Tuesday, October 18, 2022 5:36 PM
To: Beggs, Tauren R - DNR
Cc: Adam Tegen; Paul Braun
Subject: Status Update on the Site Investigation at the Phase 2 Redevelopment Area of the River Point District
Attachments: Phase II Redevelopment Area - Status Update.pdf

Tauren:

On behalf of the City of Manitowoc, attached is a status update letter summarizing the results from sampling conducted through Summer 2022 and providing a schedule for future work at the Phase 2 Redevelopment Area of the River Point District in Manitowoc.

As we discussed last month, the purpose of this letter is to support the City's pending request to WDNR for an acknowledgement letter to support the CDA's grant application for a FY23 USEPA Brownfield Cleanup grant. As described herein, the Site Investigation is substantially complete and work has sufficiently characterized the Site to the point cleanup/reuse can begin in Summer 2023.

Sincerely,

Harris Byers, Ph.D.

Sr. Brownfields Project Manager
Contaminant Hydrogeologist / Urban Geochemist

Direct: 414 581-6476
Harris.Byers@stantec.com

Stantec
12080 Corporate Parkway Suite 200
Mequon WI 53092-2649



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Stantec Consulting Services Inc.
12080 Corporate Parkway, Suite 200
Mequon WI 53092-2661

October 18, 2022

Project/File: 193708490

Attention: Mr. Tauren Beggs

Hydrogeologist, Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
Northeast Region, Green Bay Service Center
2984 Shawano Ave
Green Bay, WI 54313-6727

Reference: Site Investigation Status Update

Phase 2 Redevelopment Area; River Point District; Manitowoc, Wisconsin
Closed BRRTS # 03-36-001962 Holmes Oil Corp
Open BRRTS # 02-36-585491 River Point District

Dear Mr. Beggs,

On behalf of the City of Manitowoc (City) and City of Manitowoc Community Development Authority (CDA), Stantec Consulting Services, Inc. (Stantec) prepared this status update to the ongoing Site Investigation in the Phase 2 Redevelopment Area at the River Point District in Manitowoc, Wisconsin (herein referred to as the "Property"). The purpose of this letter is to summarize the results from sampling conducted through Summer 2022 and provide the scope and schedule for future work. As described herein, a Site Investigation report and a combined Remedial Action Plan / Material Management Plan will be prepared in Winter 2022 and submitted to the Wisconsin Department of Natural Resources (WDNR) for review. Based on the results to date, the anticipated remedial approach will be similar to the approach implemented for the Phase I Redevelopment Area.

The location of the Property and the River Point District relative to regional topography is illustrated on Figure 1. The project background, summary of investigation sampling results to date, and scope and schedule for future work are detailed in the following sections.

PROJECT BACKGROUND

Defining the Phase 2 Redevelopment Area. The Phase 2 Redevelopment Area was initially delineated by Stantec in the (2022a) *Site Investigation Workplan* based on anticipated redevelopment activities targeted for 2022. However, anticipated 2022 infrastructure work was postponed until 2023 to coincide with pending multi-family town home redevelopment along the riverfront. The updated Phase 2 Redevelopment Area relative to historic property identification numbers is illustrated on Figure 2. The updated Phase 2 Redevelopment Area relative to additional phases of redevelopment at the River Point District is illustrated on Figure 3.

Proposed Redevelopment. The River Point District was rezoned from Industrial to Business B-4 to facilitate non-industrial redevelopment (Figure 4). As illustrated on Figure 5, updated redevelopment in the Phase 2 Redevelopment Area includes: multi-family townhomes (1.95 acres), a restaurant (5,000 square feet), newly

Reference: Site Investigation Status Update; Phase 2 Redevelopment Area; River Point District; Manitowoc, Wisconsin

constructed roadway/rights of way (2.28 acres; 1,400 linear feet), and riverwalk/parkland (1.76 acres with 1,360 linear feet of multi-modal trail).

Objective of Site Investigation. Multiple phases of assessment work at the Property have identified a variety of subsurface impacts from petroleum and/or hazardous substances (AECOM, 2020 and Stantec, 2019-2022b). As such, a Site Investigation was warranted to define the nature, degree, extent, and source(s) of contamination on the Property and to determine the need for (and provide information to support) additional investigation or remedial action where warranted to facilitate non-industrial redevelopment (Stantec, 2022a).

INTERIM SITE INVESTIGATION SAMPLING RESULTS

Stantec began Site Investigation activities in the Phase 2 Redevelopment Area on May 27, 2022 with work continuing through Summer 2022 using methods described in the Stantec (2022a) Site Investigation Workplan. Soil quality data from the Summer 2022 sampling event is combined with prior Stantec work (2020a, 2020c, and 2021b) on Table 1, and groundwater quality data from the Summer 2022 sampling event is combined with prior Stantec work on Table 2. Sample locations are illustrated on Figure 6.

Soil. Similar to previous phases of work, soil sampling in Summer 2022 confirmed the presence of a contiguous sitewide surficial granular fill unit extending from the ground surface downward up to seven feet in depth. The vertical and horizontal extents of the fill unit area are illustrated on Figure 7. A spatial model of Figure 7 estimates there are 34,100 cubic yards of granular fill in the Phase 2 Redevelopment Area.

As illustrated on Figure 8 and summarized in Table 1, similar to previous phases of work, a variety of hazardous substances and petroleum were detected in soil/fill at concentrations greater than health-based ch. NR 720 Wisconsin Administrative Code (WAC) residual contaminant levels (RCLs). Similar other portions of the River Point District (Stantec, 2021b), impacts associated with the sitewide surficial granular fill unit in the Phase 2 Redevelopment Area have not migrated downward to underlying native soils. Petroleum volatile organic compound (VOC) impacts to surficial fill and underlying native soils, though delineated, are more widely identifiable in the Phase 2 Redevelopment Area (e.g., SB-157, SB-160) and are likely associated with previous bulk petroleum storage/handling at the Property. Chlorinated solvents were previously detected by Stantec (2020a) in soil; however, solvents were not confirmed in soil during subsequent sampling events.

Groundwater. Similar to previous phases of work, groundwater sampling in Summer 2022 confirmed the presence of arsenic in groundwater, which is considered representative of background concentrations and not indicative of a release to groundwater. The concentration of 1,1,2,2-Tetrachloroethane in groundwater at MW-157 was greater than the ch. NR 140 WAC Enforcement Standard and the concentration of benzene in groundwater at MW-157 was slightly greater than the ch. NR 140 WAC Preventive Action Limit (Table 2). As illustrated on Figure 6, MW-157 is located adjacent to a former oil house and bulk petroleum storage facility, and as described below, identified VOC impacts to groundwater will be further evaluated in Fall/Winter 2022.

SCOPE AND SCHEDULE FOR FUTURE WORK

Site Investigation scoping as required by Section NR 716.07 WAC was completed by Stantec (2022b) and onsite work began in May 2022. The vertical and horizontal extents of impacts to soil in the Phase 2 Redevelopment Area are delineated. However, continued evaluation of VOC impacts to groundwater in the vicinity of the former oil house is warranted to confirm the presence and delineate the extents of petroleum and/or solvent impacts.

Supplemental groundwater sampling is scheduled for the week of October 17, 2022. Laboratory results are expected within two weeks following the sampling event. Stantec will review the laboratory results upon receipt and, if necessary, evaluate the need for additional sampling. Supplemental groundwater sampling will

Reference: Site Investigation Status Update; Phase 2 Redevelopment Area; River Point District; Manitowoc, Wisconsin

be completed in November 2022, with the goal of submitting the Site Investigation Report to WDNR for review by the end of December 2022.

Final redevelopment plans are expected by January 1, 2023. A combined Remedial Action Plan / Material Management Plan (RAP/MMP) will be tailored to the proposed redevelopment and submitted to WDNR in February 2023 with the goal of having the Property ready to begin cleanup/redevelopment work by Spring 2023. The proposed redevelopment in the Phase 2 Redevelopment Area is conceptually similar to the Phase 1 Redevelopment Area. As such, the RAP/MMP for the Phase 2 Redevelopment Area is expected to be an extension of previous Stantec (2021c and 2022b) RAPs/MMPs.

We look forward to continuing to work with you and the City and CDA to facilitate non-industrial redevelopment of the River Point District.

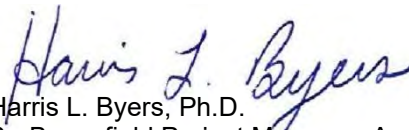
Regards,

STANTEC CONSULTING SERVICES INC.



Whitney M. Cull, EIT
Geologic Engineer in Training
Email: whitney.cull@stantec.com

STANTEC CONSULTING SERVICES INC.



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STANTEC CONSULTING SERVICES INC.



Richard J. Binder, PG, CPG
Principal
Email: rick.binder@stantec.com

Enclosures: Figures
Tables

References

AECOM, 2020, Former CN Property Limited Site Investigation, 200 North 10th Street & 1110 Buffalo Street, Manitowoc, WI, May 8, 2020.

Stantec, 2019, 10th Street Railroad Property, Manitowoc, Wisconsin, Phase I Environmental Site Assessment, March 21, 2019.

Stantec, 2020a, Phase II Environmental Site Assessment, Riverpoint District; Manitowoc, Wisconsin, March 23, 2020.

Stantec, 2020b, Construction Documentation Report for Demolition and Removal of Structural Impediments, River Point District – Site 3, December 11, 2020.

Stantec, 2020c, Phase II Environmental Site Assessment, River Point District; Manitowoc, Wisconsin, Site 3, December 18, 2020.

Reference: Site Investigation Status Update; Phase 2 Redevelopment Area; River Point District; Manitowoc, Wisconsin

Stantec, 2021a, Fire Department Response During Explosive Demolition of a Former Grain Elevator, 1101 Buffalo Street, River Point District – Phase I Construction Area; Manitowoc, Wisconsin, September 7, 2021.

Stantec, 2021b, NR 716 Site Investigation Report, River Point District Phase 1 Construction Area; Manitowoc, Wisconsin, July 19, 2021.

Stantec, 2021c, Remedial Action Plan & Materials Management Plan, River Point District, Phase 1 Construction Area; Manitowoc, Wisconsin, July 19, 2021.

Stantec, 2022a, Site Investigation Workplan, River Point District Phase 2 Construction Area, Manitowoc, Wisconsin, February 17, 2022.

Stantec, 2022b, Addendum to the Stantec (2021) Remedial Action Plan & Materials Management Plan, River Point District, Phase 1 Construction Area; Manitowoc, Wisconsin, July 29, 2022.

Limitations

This work was completed in accordance with generally accepted practices for the environmental consulting profession, undertaking similar studies at the same time and in the same geographical area as the work conducted by Stantec. Stantec observed the degree of care and skill that are generally exercised by the profession under similar circumstances and conditions. No other warranty is expressed or implied.

Stantec's observations, findings, and opinions should not be considered as scientific certainties, but only as opinion based upon our professional judgment concerning the significance of the data gathered during this investigation. Specifically, Stantec cannot represent that the Property does not contain or potentially contain any hazardous or toxic materials or other latent conditions beyond that identified by Stantec during the work. Additionally, due to limitations of the environmental assessment process and the necessary use of data furnished by others, Stantec and its subcontractors cannot assume liability if actual conditions differ from the information presented in this letter. Stantec does not warrant that this submittal represents an exhaustive study of all possible environmental concerns at the project area.

This document was prepared by Stantec for the City/CDA of Manitowoc. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

FIGURES



Figure No.
1
 Title
Project Area and Regional Topography
 Client/Project
 Phase II Redevelopment Area
 River Point District
 City of Manitowoc
 Prepared by HLB on 10/15/2022

0 195 390 Feet

Legend

Phase II Cleanup Area

River Point District

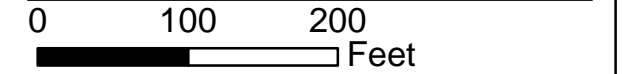
Notes
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 2. Orthophotograph: Manitowoc County, 2020








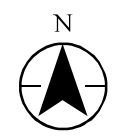
Figure No.
2
 Title
**Project Area and
 Parcel Identification Numbers**

Client/Project
 Phase II Redevelopment Area
 River Point District
 City of Manitowoc
Prepared by HLB on 10/15/2022



Legend

-  Phase II Cleanup
-  River Point District
-  Parcel Identification Numbers



Notes
 1. Coordinate System: NAD 1983 HARN WISCRS Manitowoc County Feet
 2. Orthophotograph: Manitowoc County, 2020





Figure No.
3
 Title
**Project Area and
 Additional Cleanup Areas**

Client/Project
 Phase II Redevelopment Area
 River Point District
 City of Manitowoc

Prepared by HLB on 10/15/2022

0 130 260
 Feet

Legend

- Phase II Cleanup Area (2023-2024)
- Additional Redevelopment Areas**
- Phase I Redevelopment Area (2021-2023)
- Phase III Redevelopment Area (2024-2025)
- Phase IV Redevelopment Area (2025)

Notes
 1. Coordinate System: NAD 1983 HARN WISCRS Manitowoc County Feet
 2. Orthophotograph: Manitowoc County, 2020



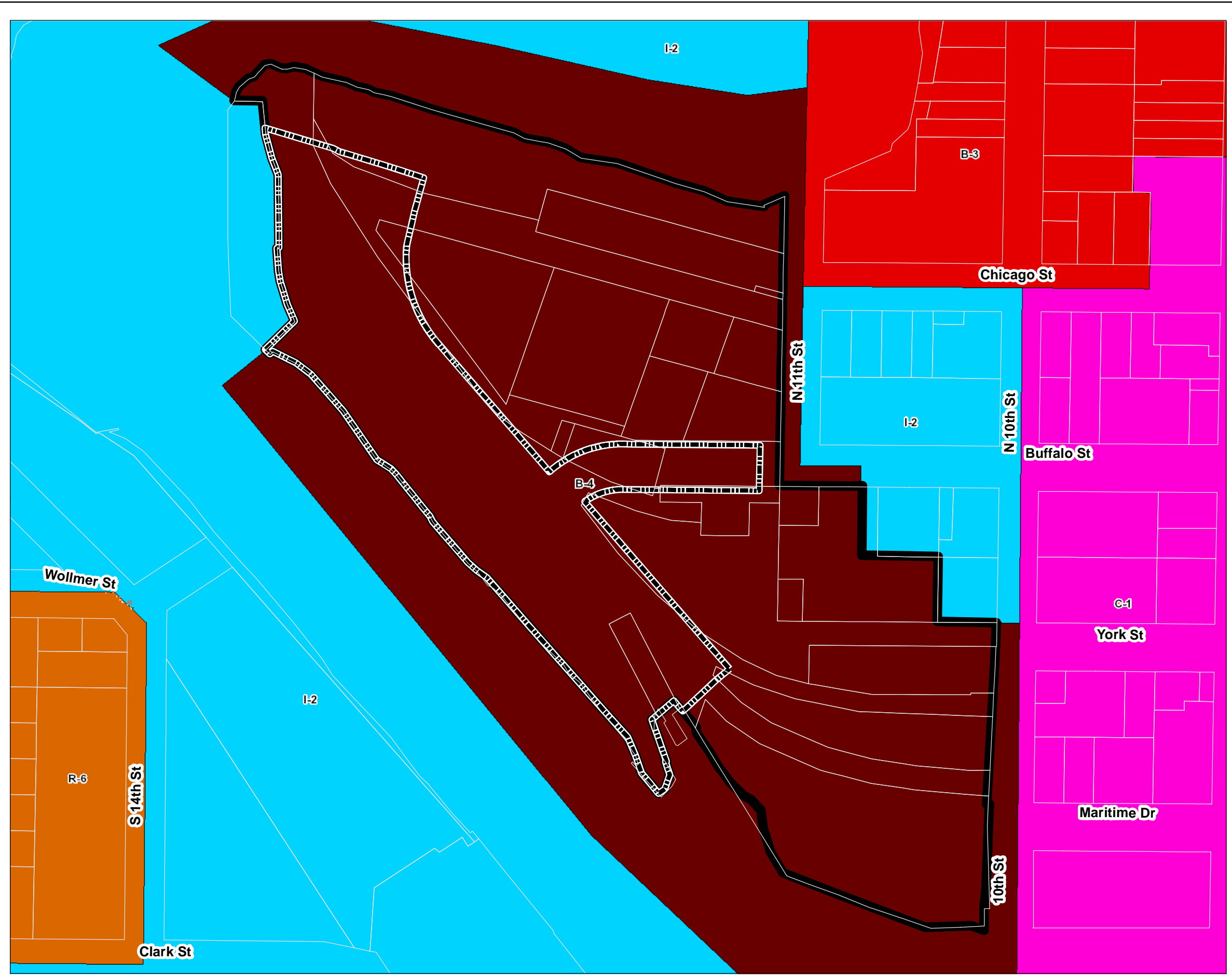
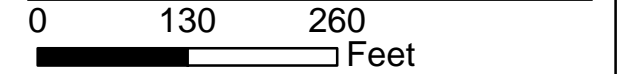
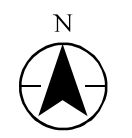


Figure No. **4**
 Title
Project Area and Zoning
 Client/Project
 Phase II Redevelopment Area
 River Point District
 City of Manitowoc
 Prepared by HLB on 10/15/2022



Legend

- Parcels
- Phase II Cleanup Area
- River Point District



Zoning

- B-1 Office - Residential
- B-2 Neighborhood
- B-3 General
- B-4 Central
- C-1 Commercial
- I-1 Light Industrial
- I-2 Heavy Industrial
- P-1 Conservancy
- R-1 Residential - Agricultural
- R-2 Single Family
- R-3 Single Family
- R-4 Single and Two Family
- R-5 Low Density Multiple Family
- R-6 Multiple Family
- R-7 Central

Notes
 1. Coordinate System: NAD 1983 HARN WISCRS Manitowoc County Feet
 2. Orthophotograph: Manitowoc County, 2020



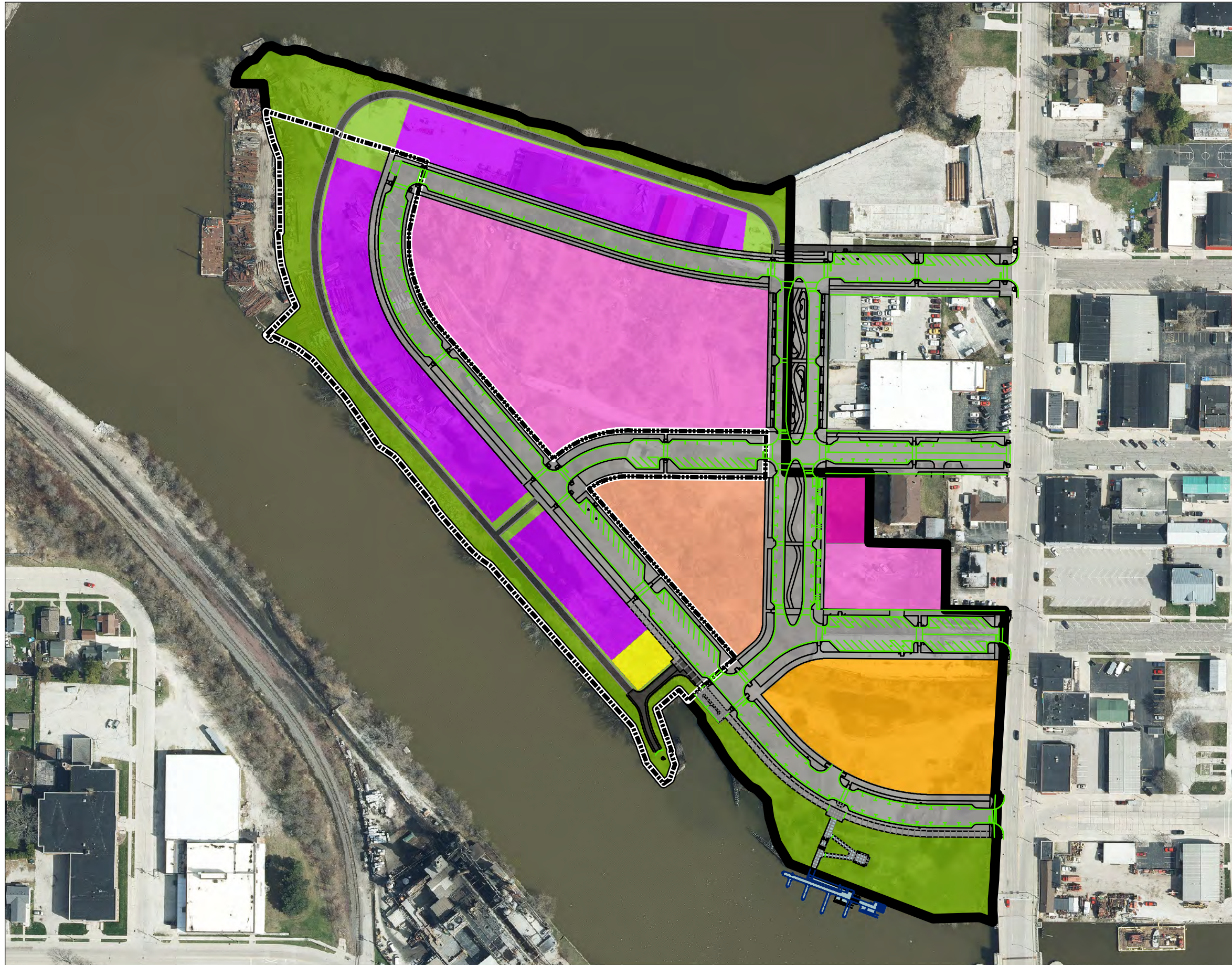
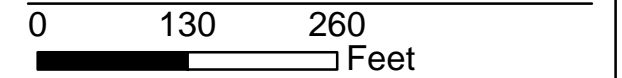
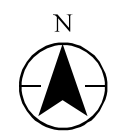


Figure No.
5
 Title
**Project Area and
 Proposed Redevelopment**

Client/Project
 Phase II Redevelopment Area
 River Point District
 City of Manitowoc
 Prepared by HLB on 10/15/2022



Legend

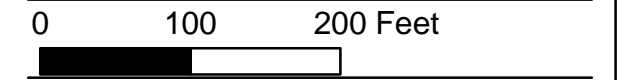


-  Phase II Cleanup
-  River Point District
- Proposed Redevelopment**
-  Restaurant (2023)
-  Town Homes (2023-2025)
-  Commercial (Finished)
-  Multi-Family (Finishing 2022)
-  Roadway (2021-2024)
-  Landscaping (2023-2025)
-  Floating Dock and Pier (2023)
-  Multi-Family Residential (2023-2024)
-  Sidewalk (2023-2024)
-  River Walk / Park (2023-2024)
-  Proposed Commercial (2024-2025)

Notes
 1. Coordinate System: NAD 1983 HARN WISCRS Manitowoc County Feet
 2. Orthophotograph: Manitowoc County, 2020



Figure No.
6
 Title
**Project Area and
 Sample Locations**
 Client/Project
 Phase II Redevelopment Area
 River Point District
 City of Manitowoc
 Prepared by HLB on 10/15/2022



Legend

Phase II Cleanup Area

River Point District

Sample Locations (2021-2022)

Soil Boring/Monitoring Well

Soil Boring

Sample Locations (2018-2021)

Soil Boring

Soil Boring/Temp Well



Notes
 1. Coordinate System: NAD 1983 HARN WISCRS Manitowoc County Feet
 2. Orthophotograph: Manitowoc County, 2020



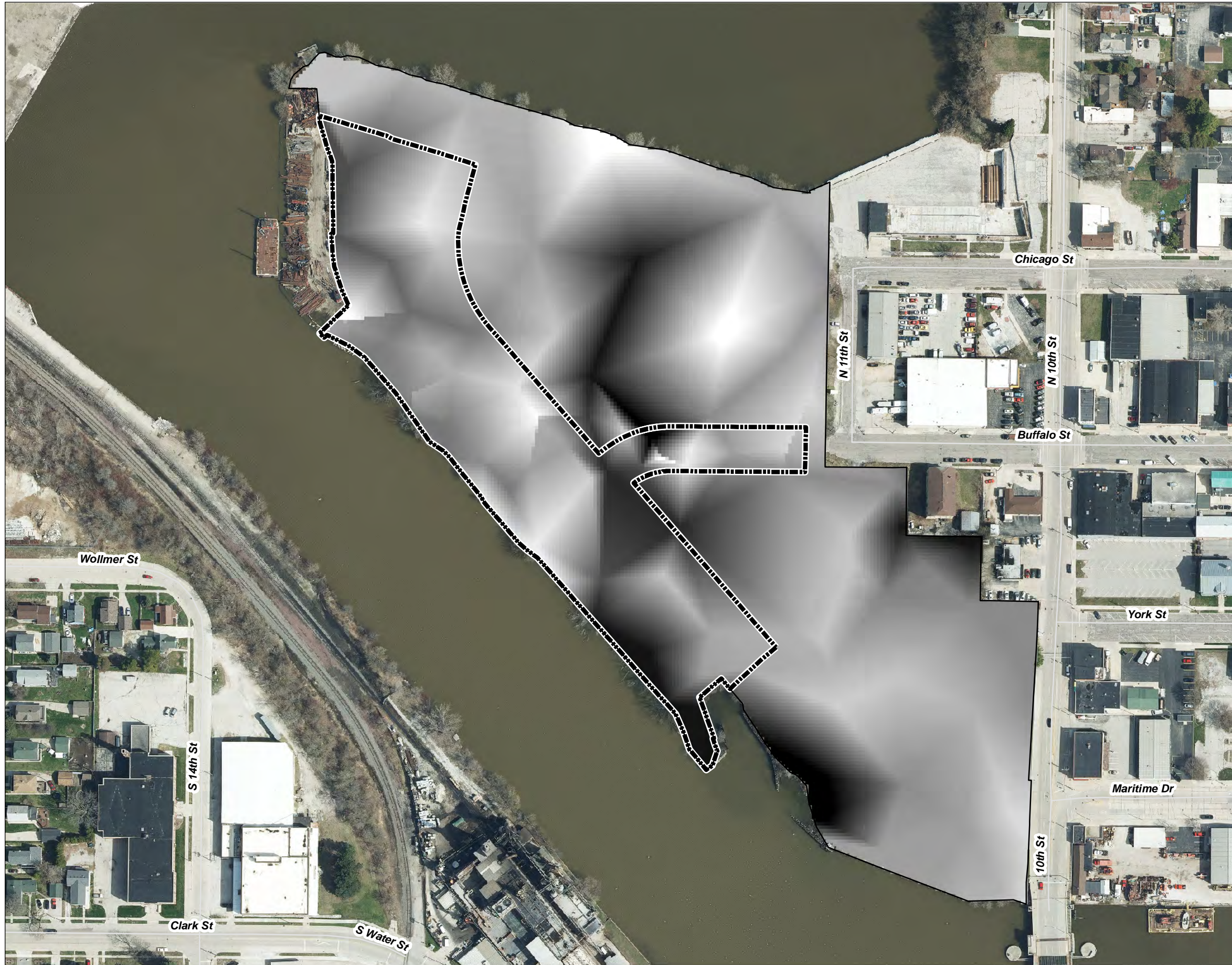
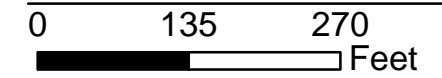


Figure No.
7
 Title
**Project Area and
 Thickness of Fill**
 Client/Project
 Phase II Redevelopment Area
 River Point District
 City of Manitowoc
 Prepared by HLB on 10/15/2022



Legend

N

River Point District

Phase II Cleanup Area (2023-2024)

Fill Thickness (Feet)

Value

High : 8

Low : 0.25

Notes
 1. Coordinate System: NAD 1983 HARN WISCRS Manitowoc County Feet
 2. Orthophotograph: Manitowoc County, 2020



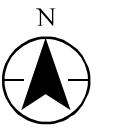


Figure No.
8
Title
Project Area and
Subsurface Impacts
Client/Project
Phase II Redevelopment Area
River Point District
City of Manitowoc
Prepared by HLB on 10/15/2022

0 100 200
Feet

Legend

- Phase II Cleanup
- River Point District
- Petroleum Impacts to Soil
- Identified Groundwater Impacts**
- Polycyclic Aromatic Hydrocarbons
- Chlorinated VOCs
- Petroleum VOCs
- Arsenic > ES
- Benzo(b)fluoranthene and Chrysene > PAL (concentrations "J-Flagged")
- Benzene > ES
- Petroleum VOCs > PAL
- Benzo(a)pyrene > PAL (concentration "J-Flagged")



Notes

1. Coordinate System: NAD 1983 HARN WISCRS Manitowoc County Feet
2. Orthophotograph: Manitowoc County, 2020
3. PAL = ch. NR 140 Wisconsin Administrative Code (WAC) Preventive Action Limit; ES = ch. NR 140 WAC Enforcement Standard; VOC = Volatile Organic Compound; SVOC = Semi-Volatile Organic Compound; PAH = Polycyclic Aromatic Hydrocarbon



TABLES

Table 1
Soil Quality
Phase II Redevelopment Area
River Point District; Manitowoc, Wisconsin

Notes:

mg/kg	Milligram per Kilogram
µg/kg	Microgram per Kilogram
SBVT	Wisconsin Soil Background Threshold Value per WDNR, 2018, RCL spreadsheet for use with macro-enabled Excel program, December 2018 Update, available at https://dnr.wi.gov/topic/Brownfields/documents/tech/RCLs.xlsm .
RCL	Residual contaminant level for noted pathway per WDNR, 2018, RCL spreadsheet for use with macro-enabled Excel program, December 2018 Update, available at https://dnr.wi.gov/topic/Brownfields/documents/tech/RCLs.xlsm .

A	Concentration with a superscript A indicates concentration exceeds the soil background threshold value
B	Concentration with a superscript B indicates concentration exceeds the RCL for direct contact at non-industrial properties
C	Concentration with a superscript C indicates concentration exceeds the RCL for direct contact at industrial properties
D	Concentration with a superscript D indicates concentration exceeds the RCL for the soil to groundwater exposure pathway
1,500 ^{BCD}	Concentration with multiple superscript letters indicates concentration exceeds more than one RCL. In this example, the concentration exceeds the RCL for direct contact at non-industrial and industrial properties and the RCL for the soil to groundwater exposure route.
15.2	Measured concentration did not exceed the indicated standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed.
B	Indicates analyte was found in associated blank, as well as in the sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD relative percent difference exceeds control limits
J	The reported result is an estimated value.
ND	Not detected.
*	LCS or LCSD is outside the control limits
^	Laboratory instrument-related QC is outside acceptance limits.

Legacy sample IDs were used in Stantec reports prior to January 2021.

Table 2
Groundwater Quality Compared to NR 140 Standards
Phase II Redevelopment Area
River Point District
Manitowoc, Wisconsin

Notes:

- ug/L microgram per liter
- mg/L milligram per liter
- A** Constituent concentration with a subscript A is greater than the ch. NR 140 WAC Preventive Action Limit
- AB** Constituent concentration with a subscript AB is greater than the ch. NR 140 WAC Enforcement Standard
- 15.2 Measured concentration did not exceed the indicated standard.
- <0.03 Analyte was not detected at a concentration greater than the laboratory reporting limit.
- Parameter not analyzed.
- B Indicates analyte was found in associated blank, as well as in the sample.
- H Sample was prepped or analyzed beyond the specified holding time.
- I Recorded values are the estimated maximum possible concentration.
- J The reported result is an estimated value between the laboratory limit of detection and the limit of quantitation.
- ND Not detected.
- n/v No standard/guideline value.
- * The lab control sample (LCS) or lab control sample duplicate (LCSD) was outside of acceptable limits.
- ** Combined standard for (6) PFAS compounds proposed by the Wisconsin Department of Health Services on November 6, 2020 as part of the rulemaking process with updating ch. NR 140 WAC.

Legacy sample IDs were used in Stantec reports prior to January 2021.

Table 2
Groundwater Quality Compared to NR 140 Standards
Phase II Redevelopment Area
River Point District
Manitowoc, Wisconsin

Constituents	Units	Preventive Action Limit (A)	Enforcement Standard (B)	Sample ID, Legacy Sample ID (Prior to 2021), Sample Date									
				MW-147	MW-150	MW-153	MW-154	MW-157	MW-158	MW-159	MW-162	MW-163	MW-165
				-	-	-	-	-	-	-	-	-	-
				3-Jun-22	3-Jun-22	3-Jun-22	3-Jun-22	21-Jul-22	19-Jul-22	21-Jul-22	21-Jul-22	21-Jul-22	19-Jul-22
Detected Metals													
Arsenic	mg/L	0.001	0.01	0.00077 J	0.001	0.00088 J	-	0.0018 ^A	0.00070 J	0.00055 J	0.00058 J	0.00052 J	0.0059 ^A
Barium	mg/L	0.4	2	-	-	-	-	-	-	-	-	-	-
Chromium	mg/L	0.01	0.1	-	-	-	-	-	-	-	-	-	-
Lead	mg/L	0.0015	0.015	<0.00019	<0.00019	<0.00019	-	-	-	-	-	-	-
Detected Polychlorinated Biphenyls													
9 Aroclor Mixtures	µg/L	0.003	n/v	-	-	-	-	-	-	-	-	-	BDL
Fluorinated Alkyl Substances													
Perfluorobutane Sulfonate (PFBS)	ng/L	90,000	450,000	-	-	-	-	-	-	-	-	-	-
Perfluorobutanoic Acid (PFBA)	ng/L	2,000	10,000	-	-	-	-	-	-	-	-	-	-
Perfluorodecane Sulfonate (8:2)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-
Perfluorododecanoic Acid (PFDoA)	ng/L	100	500	-	-	-	-	-	-	-	-	-	-
Perfluoroheptane Sulfonate (PFHpS)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-
Perfluoroheptanoic Acid (PFHpA)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-
Perfluorohexanesulfonic acid (PFHxS)	ng/L	4	40	-	-	-	-	-	-	-	-	-	-
Perfluorohexanoic Acid (PFHxA)	ng/L	30,000	150,000	-	-	-	-	-	-	-	-	-	-
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	2	20	-	-	-	-	-	-	-	-	-	-
Perfluorononanoic Acid (PFNA)	ng/L	3	30	-	-	-	-	-	-	-	-	-	-
Perfluorooctane Sulfonate (6:2)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-
Perfluorooctane Sulfonate (PFOS)	ng/L	2	20	-	-	-	-	-	-	-	-	-	-
Perfluorooctanesulfonamide (PFOSA)	ng/L	2	20	-	-	-	-	-	-	-	-	-	-
Perfluoropentanesulfonic Acid (PFPeS)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-
Perfluoropentanoic Acid (PFPeA)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-
Perfluorotetradecanoic Acid (PFTeA)	ng/L	2,000	10,000	-	-	-	-	-	-	-	-	-	-
Perfluorotridecanoic Acid (PFTriA)	ng/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-
NETFOSE+NETFOSA+NETFOSAA+PFOSA+PFOA+PFOS**	ng/L	2	20	-	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons													
Acenaphthene	µg/L	n/v	n/v	<0.25	<0.24	<0.25	<0.25	-	<0.24	-	-	<0.25	<0.25
Acenaphthylene	µg/L	n/v	n/v	<0.21	<0.21	<0.21	<0.21	-	<0.21	-	-	<0.21	<0.22
Anthracene	µg/L	600	3,000	<0.27	<0.26	<0.27	<0.27	-	<0.26 *+	-	-	<0.27 *+	<0.27 *+
Benzo(a)anthracene	µg/L	n/v	n/v	<0.045	<0.043	<0.045	<0.045	-	<0.044	-	-	<0.045	<0.046
Benzo(a)pyrene	µg/L	0.02	0.2	<0.079	<0.076	<0.079	<0.079	-	<0.077	-	-	<0.079	<0.080
Benzo(b)fluoranthene	µg/L	0.02	0.2	<0.065	<0.062	<0.065	<0.065	-	<0.062	-	-	<0.064	<0.065
Benzo(g,h,i)perylene	µg/L	n/v	n/v	<0.30	<0.29	<0.30	<0.30	-	<0.29	-	-	<0.30	<0.30
Benzo(k)fluoranthene	µg/L	n/v	n/v	<0.051	<0.049	<0.051	<0.051	-	<0.050	-	-	<0.051	<0.052
Chrysene	µg/L	0.02	0.2	<0.055	<0.052	<0.055	<0.055	-	<0.053	-	-	<0.054	<0.055
Dibenzo(a,h)anthracene	µg/L	n/v	n/v	<0.041	<0.039	<0.041	<0.041	-	<0.039	-	-	<0.040	<0.041
Fluoranthene	µg/L	80	400	<0.36	<0.35	<0.36	<0.36	-	<0.35	-	-	<0.36	<0.37
Fluorene	µg/L	80	400	<0.20	<0.19	<0.20	<0.20	-	<0.19	-	-	<0.19	<0.20
Indeno(1,2,3-cd)pyrene	µg/L	n/v	n/v	<0.060	<0.057	<0.060	<0.060	-	<0.058	-	-	<0.059	<0.060
Methylnaphthalene, 1-	µg/L	n/v	n/v	<0.24	<0.23	<0.24	<0.24	-	<0.23	-	-	<0.24	<0.24
Methylnaphthalene, 2-	µg/L	n/v	n/v	<0.052	<0.050	<0.052	<0.052	-	<0.050	-	-	0.071 J	<0.053
Naphthalene	µg/L	10	100	<0.25	<0.24	<0.25	<0.25	-	<0.24	-	-	<0.25	<0.25
Phenanthrene	µg/L	n/v	n/v	<0.24	<0.23	<0.24	<0.24	-	<0.23	-	-	<0.24	<0.24
Pyrene	µg/L	50	250	<0.34	<0.33	<0.34	<0.34	-	<0.33 *+	-	-	<0.34 *+	<0.34 *+
Volatile Organic Compounds													
Benzene	µg/L	0.5	5	<0.15	-	<0.15	<0.15	0.69 ^A	<0.15	<0.15	<0.15	<0.15	<0.15
Butylbenzene, sec- (2-Phenylbutane)	µg/L	n/v	n/v	<0.40	-	<0.40 *-	<0.40 *-	0.83 J	<0.40	<0.40	<0.40	<0.40	<0.40
Butylbenzene, tert-	µg/L	n/v	n/v	<0.40 F2	-	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Chloroform (Trichloromethane)	µg/L	0.6	6	<0.37	-	<0.37	<0.37	0.87 J ^A	<0.37	<0.37	<0.37	<0.37	<0.37
Ethylbenzene	µg/L	140	700	<0.18	-	<0.18	<0.18	1.4	<0.18	<0.18	<0.18	<0.18	<0.18
Isopropylbenzene	µg/L	n/v	n/v	<0.39	-	<0.39	<0.39	2.3	<0.39	<0.39	<0.39	<0.39	<0.39
Isopropyltoluene, p- (Cymene)	µg/L	n/v	n/v	<0.36 F2 FQ	-	<0.36	<0.36	1.3	<0.36	<0.36	<0.36	<0.36	<0.36
Methylene Chloride (Dichloromethane)	µg/L	0.5	5	<1.6	-	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Naphthalene	µg/L	10	100	0.70 J	-	<0.34	0.67 J	0.51 J	<0.34	<0.34	<0.34	<0.34	0.43 J
Propylbenzene, n-	µg/L	n/v	n/v	<0.41	-	<0.41	<0.41	1.8	<0.41	<0.41	<0.41	<0.41	<0.41
Tetrachloroethane, 1,1,2,2-	µg/L	0.02	0.2	<0.40	-	<0.40	<0.40	1.9 ^{AB}	<0.40	<0.40	<0.40	<0.40	<0.40
Tetrachloroethene (PCE)	µg/L	0.5	5	<0.37	-	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37
Toluene	µg/L	160	800	<0.15	-	<0.15	<0.15	0.62	<0.15	0.39 J	<0.15	<0.15	0.58
Trichloroethene (TCE)	µg/L	0.5	5	<0.16	-	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Trimethylbenzene, 1,2,4-	µg/L	96 (Combined)	480 (Combined)	0.74 J	-	0.73 J	0.72 J	13	<0.36	0.44 J	<0.36	<0.36	<0.36
Trimethylbenzene, 1,3,5-	µg/L	96 (Combined)	480 (Combined)	<0.25	-	<0.25	<0.25	5	<0.25	<0.25	<0.25	<0.25	<0.25
Xylenes, Total	µg/L	400	2,000	<0.22	-	<0.22	<0.22	2.4	<0.22	0.28 J	<0.22	<0.22	<0.22
General Chemistry													
Total Cyanide	mg/L	n/v	n/v	-	-	-	-	0.024	-	0.0066	0.053	0.062	-