

## FINAL CLOSE OUT REPORT

### Barrels, Inc. Superfund Site Lansing, Michigan

#### I. Introduction

This Final Close Out Report documents that the U.S. Environmental Protection Agency (EPA) and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) have determined that all appropriate response actions at the Barrels, Inc. Superfund Site have been successfully implemented in accordance with *Close Out Procedures for National Priorities List Sites* (OSWER Directive 9320.2-22, May 2011).

#### II. Summary of Site Conditions

##### Background

The Barrels, Inc. Site, a 2.3-acre former drum reclamation facility located at 1404 North Larch Street, is in an industrial area in the northern section of Lansing, Michigan (Figure 1). The site is bounded to the north and east by an active CSX Transportation (CSXT) right-of-way (ROW), to the west by North Larch Street, and to the south by a commercial/industrial building. The Barrels, Inc. facility operated from 1961 until approximately 1980, when it ceased operations and abandoned the property. The drum reclamation process consisted of cleaning drums in a caustic solution, followed by rinsing, repairing, and repainting the drums for reuse. Surface soil was contaminated by spills and/or leakage that occurred at the loading dock and drum storage areas and from a storage tank that contained the caustic cleaning solution.

During the period of facility operations, there was a 5,200 square-foot main building on the property that contained drum cleaning process equipment and two sumps that discharged to the sanitary sewer. Drums destined for recycling were stored on the east side of the site. The property drains eastward into a drainage ditch along the CSXT ROW. The closest surface water body to the site is the Grand River, which is approximately 0.33 miles west, and flows from south to north in the vicinity of the site. Groundwater flow in the glacial aquifer underlying the site is southward. Since groundwater flow is in the opposite direction of surface water flow, the Grand River does not appear to be hydraulically connected with the glacial aquifer. Impacted soil was confined primarily to shallow fill and sediments approximately 2 to 7.5 feet below ground surface (bgs) overlying a clay layer generally several feet thick across most of the site. A sand and gravel aquifer was found at approximately 20 to 30 feet bgs. The clay till acts as an aquitard above the sand and gravel aquifer. There are no private wells located in the area, and all drinking water supplies are supplied by deep municipal wells.

In 1986, the Michigan Department of Natural Resources (MDNR) removed all remaining drums (approximately 1,000 drums), 1,000 cubic yards of contaminated soil, and nine underground storage tanks from the site. MDNR conducted shallow soil sampling in 1987 and confirmed that soil was impacted by metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and cyanide. EPA proposed the site for inclusion on the National Priorities List (NPL) on January 22, 1987 (52 FR 2492) and finalized

the site on the NPL on October 4, 1989 (54 FR 41000). The site's CERCLIS ID is MID017188673. The site was later designated as a State-lead enforcement site.

### State-Lead Response Actions

On March 1, 1993, the State of Michigan entered into a Consent Decree with 15 potentially responsible parties (PRPs) to conduct a Remedial Investigation (RI) and Feasibility Study (FS) and to develop a Remedial Action Plan (RAP) for the site. The Michigan Department of Environmental Quality (MDEQ) (now EGLE) approved the PRPs' Final RI Report in July 1995 and approved the PRPs' Final FS Report in January 1996. The State-approved Final FS Report identified the selected remedial alternative for the site, which included hot spot removal of PCBs, tank cleaning, covering the site with an asphalt cover, storm water controls, groundwater monitoring, and institutional controls (ICs).

In April 1996, the PRPs submitted an initial draft RAP. Subsequently, during the period from 1996 to 2006, new groundwater data indicated that groundwater beneath the site was being impacted by the former Motor Wheel Plant (MWP) Site (CERCLIS ID MID005380134), located directly upgradient of the site at 1600 North Larch Street. Specifically, the concentrations of 1,2-dichloroethane and vinyl chloride above the applicable Part 201 criteria found beneath the Barrels, Inc. Site were determined to be the result of migration of these contaminants from upgradient groundwater. As a result, MDEQ determined that the PRPs for the Barrels, Inc. Site would not be responsible for monitoring or remediating the groundwater contamination migrating onto the site because it would be addressed by a Resource Conservation and Recovery Act (RCRA) corrective action at the former MWP Site. In response, the PRPs submitted a revised version of the draft RAP for the Barrels, Inc. Site in October 2006 that removed the groundwater management system as part of the remedy and reevaluated the remaining components of the remedy selected in the FS Report.

The PRPs, with the concurrence of the MDEQ, submitted an Interim Response Work Plan in 2010 designed to address the soil contamination at the site by requiring removal of all soils to concentrations that would not require capping for contaminant leaching (Part 201 Residential Drinking Water Protection Criteria) and would allow for direct contact by industrial workers (Part 201 Non-Residential Direct Contact Criteria). These cleanup criteria are specified in Table 1. The PRPs began an Interim Response Action (IRA) in December 2011 that included additional sampling and removal of soil exceeding specified cleanup criteria; decontamination and demolition of tanks, sumps, and unused structures; and removal and disposal of debris. The IRA was completed by the fall of 2012 with the removal of over 13,000 tons of contaminated soil.

EPA determined that cleanup criteria under Part 201 of the Michigan Natural Resources and Environmental Protection Act (NREPA), 1994 Public Act 451, as amended, were Applicable or Relevant and Appropriate Requirements (ARARs) for the cleanup of the site. The site was remediated to meet the limited (restricted) non-residential cleanup criteria established in accordance with Part 201 of NREPA, Michigan Compiled Laws § 324.20120a(1)(d), except for two areas along the active CSXT ROW where the excavations could not be extended any further toward the railroad tracks because they could compromise the structural integrity of the tracks.

## Selected Remedy

On December 8, 2020, EPA issued a Record of Decision (ROD) selecting a no further action final remedy for the site. The State of Michigan concurred with the ROD. As documented in the ROD, the site meets limited non-residential cleanup criteria under Part 201 of NREPA, 1994 Public Act 451, as amended, which is an ARAR. The threat to soil and groundwater from site contamination was removed by excavating contaminated soil and backfilling with clean soil. Based upon the confirmation samples obtained after the soil removals, all soils exceeding appropriate cleanup criteria were excavated and properly disposed of with the limited exceptions along the CSXT ROW noted above. The response activities taken to address PCBs and to satisfy requirements of the Toxic Substances Control Act (TSCA) under 40 CFR Part 761 were approved by EPA. The exceedances of Part 201 criteria for groundwater beneath the Barrels, Inc. Site have been attributed to the former MWP Site and will be addressed under EPA's RCRA corrective action program, which is currently evaluating a cleanup of the former MWP Site.

As a result, EPA and EGLE determined that no further action is necessary to protect public health or welfare or the environment as long as future site uses are consistent with the implemented ICs.

## Institutional Controls

As noted in the ROD, long-term monitoring of ICs will be necessary to maintain protectiveness. The site is comprised of one parcel owned by CSXT (Parcel No. 33-01-01-09-281-011) and two former Michigan Land Bank parcels currently owned by Kaynick Properties LLC (Parcel Nos. 33-01-01-09-281-032 and 33-01-01-09-281-042). The site is bounded to the north and east by an active CSXT ROW (Parcel No. 33-01-01-09-281-001) that was also impacted by the site. EPA and EGLE determined that ICs in the form of proprietary controls were needed for each of the impacted parcels (Figure 2).

On September 23, 2015, restrictive covenants (MDEQ Reference Nos. RC-SF-201-14-004, RC-SF-201-14-005, and RC-SF-201-14-006) were recorded for the three on-site parcels and one off-site parcel. The restrictive covenants prevent potential worker exposure to residual contamination, further limit land use to non-residential usage, and prohibit the use of groundwater underlying the site. Areas within these parcels where PCBs exceeded the 1 part per million (ppm) cleanup criteria for high occupancy use have also been restricted to low occupancy use. On September 26, 2017, restrictive covenants (MDEQ Reference Nos. RC-SF-201-17-002 and RC-SF-201-17-003) were recorded for the three on-site parcels to supplement the existing covenants. Additional restrictions on land and resource use were imposed to prevent potential future direct contact and vapor intrusion exposures.

The City of Lansing also prohibits the installation of new wells and the use of existing water wells within a restricted area around the upgradient former MWP Site, which encompasses the entire 2.3-acre Barrels, Inc. Site, via the City's Groundwater Well Regulations (Part 12, Title 2, Chapter 1211 of the Code of Ordinances). Provisions of this ordinance serve as a supplemental IC mechanism to prevent exposure to contaminated groundwater that is the primary source of

contamination beneath the Barrels, Inc. Site. Further details on the recorded ICs for the site are listed in Table 2.

Together, the restrictive covenants, combined with the groundwater ordinance, are effective controls to assure long-term protectiveness for all areas of the site that do not allow for unlimited use and unrestricted exposure (UU/UE). There is also a legal basis for the enforcement by EPA and EGLE of the use restrictions outlined in the restrictive covenants against current and future owners. Therefore, long-term stewardship is being addressed at the Barrels, Inc. Site through the implementation of the ICs in conjunction with routine inspections to ensure the site remedy continues to function as intended. The site achieved the Site-wide Ready for Anticipated Use designation on December 16, 2020.

Because this remedy will result in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for UU/UE, a statutory review will be conducted within five years of ROD signature to ensure that the remedy is, or will be, protective of human health and the environment. EPA has determined that no further remedial action is necessary for the Barrels, Inc. Site. Previous cleanup actions at the site have eliminated the need for further remedial action.

#### Final Inspection

As part of the process for selecting the final remedy at the site, a site inspection was conducted on July 7, 2020 by Lauren Bumba, EPA Remedial Project Manager. In summary, no signs of excavation or disturbance of the soil cover were observed, and permanent markers placed along the fence line were found to be in good condition. The observed land use was consistent with the existing ICs. No signs of vandalism or trespassing were observed.

### **III. Monitoring Results**

Other than long-term monitoring for compliance with ICs, no additional monitoring was required for the no further action remedy selected in the 2020 ROD. The risk discussion presented below includes an evaluation of appropriate cleanup criteria to demonstrate that the site has met the requirements for a no further action remedy.

As detailed above, the bulk of the soil that exceeded target cleanup criteria was removed during the IRA, but there is some residual contamination present in two areas along the CSXT ROW where it is not feasible to excavate any further toward the railroad tracks. All soils that remain in the CSXT ROW that contain concentrations of contaminants of concern above target cleanup criteria are covered with imported clean fill or railroad ballast and are covered by ICs that require dermal protection for workers, include specific requirements for any future excavation and cleanup work, and provide for limited non-residential use.

The risk evaluation conducted using the soil sampling data and confirmation sampling results from the IRA determined that the soil at the site does not exceed EGLE's target cancer risk level of 1 in 100,000 and that the non-carcinogenic risk hazard quotient is less than 1 for a non-residential use scenario. The risk evaluation also concluded that there is no vapor intrusion risk

resulting from VOCs remaining in soil for any future buildings constructed on-site, and that the likelihood of metals leaching from shallow soil to groundwater is very low.

For groundwater, there are currently only limited areas of the site where groundwater is impacted. Natural processes including dilution and dispersion will likely continue in these limited areas where groundwater was impacted, and the use of groundwater in these areas is prohibited by ICs. As noted above, the presence of chlorinated VOCs in groundwater exceeding Part 201 criteria has been attributed to migration from the upgradient former MWP Site. During the most recent sampling event for the former MWP Site in March 2018, vinyl chloride was the only constituent of concern detected in on-site groundwater at or above Part 201 residential drinking water criteria or EPA maximum contaminant levels. None of the values exceeded any of the non-residential vapor intrusion screening levels or any of the groundwater-surface water interface criteria for VOCs.

#### **IV. Attainment of Groundwater Restoration Cleanup Levels**

This section is not applicable. The selected remedy does not require groundwater restoration and/or cleanup actions at the site under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

#### **V. Summary of Operation and Maintenance (O&M) Required**

Contaminated soil was excavated, removed, and disposed of off-site to meet limited non-residential cleanup criteria under Part 201 of NREPA, 1994 Public Act 451, as amended, for all relevant pathways of potential exposure with the exception of the CSXT ROW. No additional operation and maintenance or engineering controls are required on site. The responsibility for the remaining monitoring wells on the Barrels, Inc. Site has been transferred to Demmer Properties, LLC who will monitor the contaminated MWP groundwater plume as part of the RCRA corrective action for the MWP Site. ICs, in the form of restrictive covenants, are in place to prevent potential worker exposure to residual contamination, limit land use to non-residential usage, and prohibit the use of groundwater underlying the site. Long-term monitoring of ICs will be necessary to maintain protectiveness.

#### **VI. Demonstration of Cleanup Activity Quality Assurance/Quality Control (QA/QC)**

Cleanup, construction, or any other remedial activities and associated QA/QC were not required as part of the ROD.

#### **VII. Five-Year Review (FYR)**

Statutory FYRs are required due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for UU/UE. A statutory FYR will be conducted within five years of ROD signature to ensure that the remedy is, or will be, protective of human health and the environment. The first FYR is due on December 8, 2025.

## VIII. Site Completion Criteria

The site meets all site completion requirements specified in OSWER Directive 9320.2-22, *Close Out Procedures for National Priorities List Sites*.

The No Further Action ROD achieves the degree of protection specified for all pathways of exposure. All response actions and associated cleanup goals are consistent with Agency policy and guidance. Therefore, EPA has determined that no further Superfund response is needed at the site to protect human health and the environment.

## IX. Bibliography

Circuit Court for the County of Ingham Michigan (March 1, 1993). *Consent Decree, Docket Number 93-73908-CE*.

Conestoga-Rovers & Associates (April 1995). *Final Remedial Investigation Report, Barrels Inc. Site, Lansing, Michigan*.

Conestoga-Rovers & Associates (January 1996). *Final Feasibility Study Report, Barrels Inc. Site, City of Lansing, Ingham County, Michigan*.

Conestoga-Rovers & Associates (October 13, 2006). *Draft Remedial Action Plan, Barrels, Inc. Site, Ingham County, Lansing, Michigan*.

Conestoga-Rovers & Associates (May 24, 2013). *Post IRA Site Soil Conditions, Barrels, Inc. Site, Lansing, Michigan*.

EPA (December 8, 2020). *Record of Decision: Barrels, Inc. Superfund Site, Lansing, Michigan*. Retrieved from <https://semspub.epa.gov/work/05/962488.pdf>.

EPA (September 25, 2018). *Superfund Site Preliminary Close Out Report for the Barrels, Inc. Superfund Site, Lansing, Michigan*. Retrieved from <https://semspub.epa.gov/work/05/943596.pdf>.

Progressive Engineering & Construction, Inc. (December 8, 2016). *Revised No Further Action Report, Barrels, Inc. Superfund Site, Lansing, Michigan*.

Approved by:

2/18/2021

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Signed by: DOUGLAS BALLOTTI

**List of Attachments**

Table 1 - Target Cleanup Criteria for Soils Used During IRA

Table 2 - ICs Currently in Place at the Barrels, Inc. Superfund Site

Figure 1 - Site Location

Figure 2 - Site Map with Parcel Boundaries

Figure 3 - IC Restrictions Map

**Table 1: Target Cleanup Criteria for Soils Used During IRA**

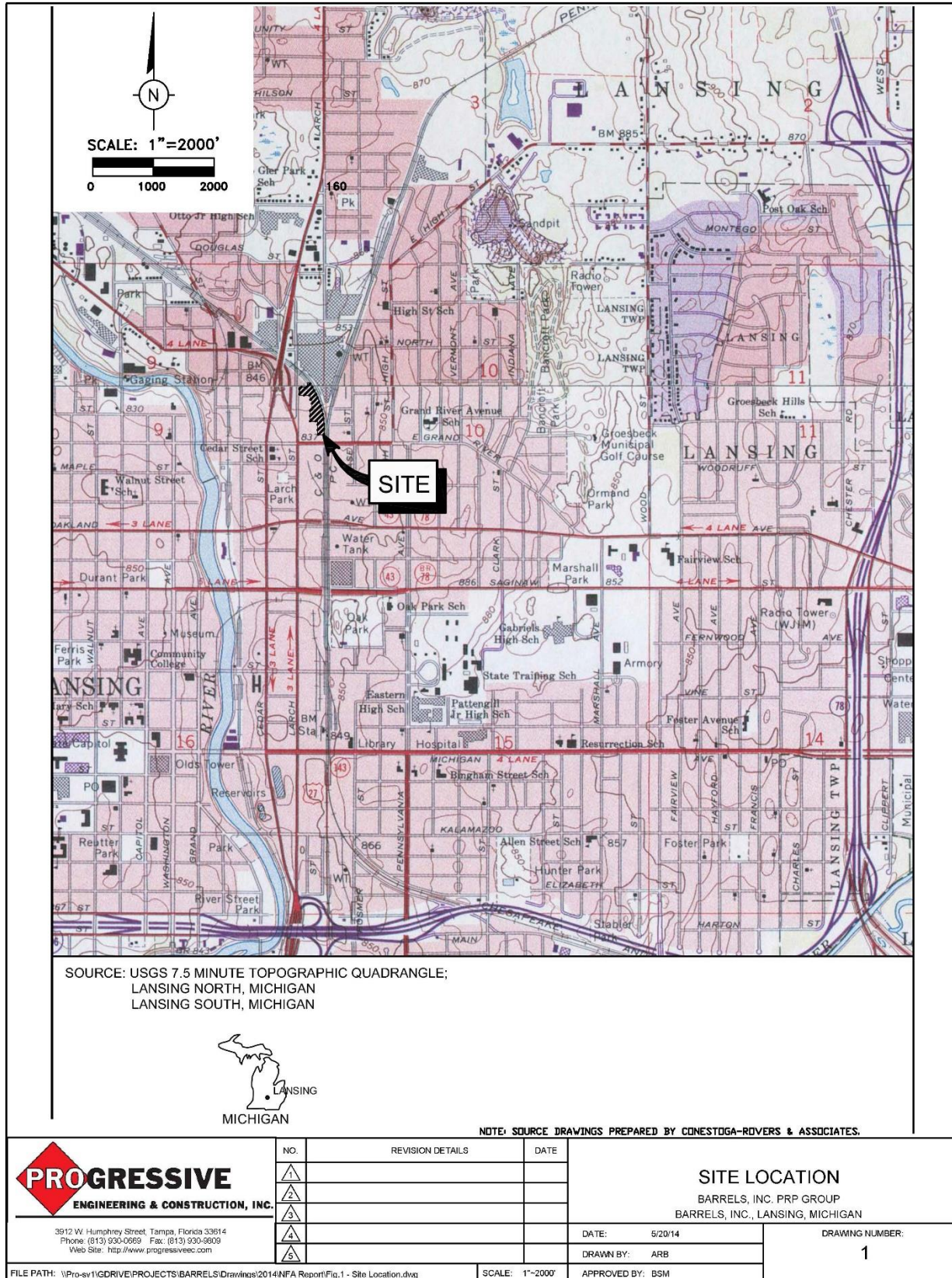
	<b>Residential Drinking Water Protection Criteria</b>	<b>Non- Residential Direct Contact Criteria</b>	<b>Site Specific Background</b>	<b>Site-Specific Cleanup Level</b>
<b><i>Volatile Organic Compounds</i></b>				
Benzene	0.1	840	NA	0.107
Ethylbenzene	1.5	71,000	NA	9.2
Tetrachloroethene	0.1	930	NA	0.272
Toluene	16	160,000	NA	49
Trichloroethene	0.1	660	NA	0.291
Xylenes (total)	5.6	1.E+06	NA	33
<b><i>Semi-volatile Organic Compounds</i></b>				
Acenaphthylene	5.9	5,200	NA	60
Benzo(a)pyrene	NLL	8	NA	NA
Dibenz(a,h)anthracene	NLL	8	NA	NA
Naphthalene	35	52,000	NA	350
N-Nitrosodiphenylamine	5.4	7,800	NA	35
Phenanthrene	56	5,200	NA	579
2-Chlorophenol	0.9	4,500	NA	5.9
<b><i>Polychlorinated Biphenyls</i></b>				
PCBs	NLL	(T)	NA	16
<b><i>Inorganics</i></b>				
Antimony	4.3	670	NA	NA
Arsenic	4.6	37	27.7	NA
Barium	1,300	1.30E+05	NA	NA
Cadmium	6	2,100	NA	NA
Chromium (total)	1.0E+06	1.00E+06	77.2	NA
Copper	5,800	7.30E+04	NA	NA
Lead	700	900	NA	NA
Mercury (total)	1.7	580	NA	NA
Nickel	100	1.50E+05	102	NA
Zinc	2,400	6.30E+05	NA	NA
Cyanide (total)	4	250	NA	NA
<b>Notes</b>				
Values in ppm, derived from Tables 2 and 3 - Soils (Residential and Non-Residential), Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based Screening Levels (12/30/2013). NA - Not applicable. NLL - Not likely to leach. (T) - Refer to the federal TSCA, 40 C.F.R. §761, Subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards.				
Values in yellow boxes are those used for the IRA as cleanup goals for each constituent.				



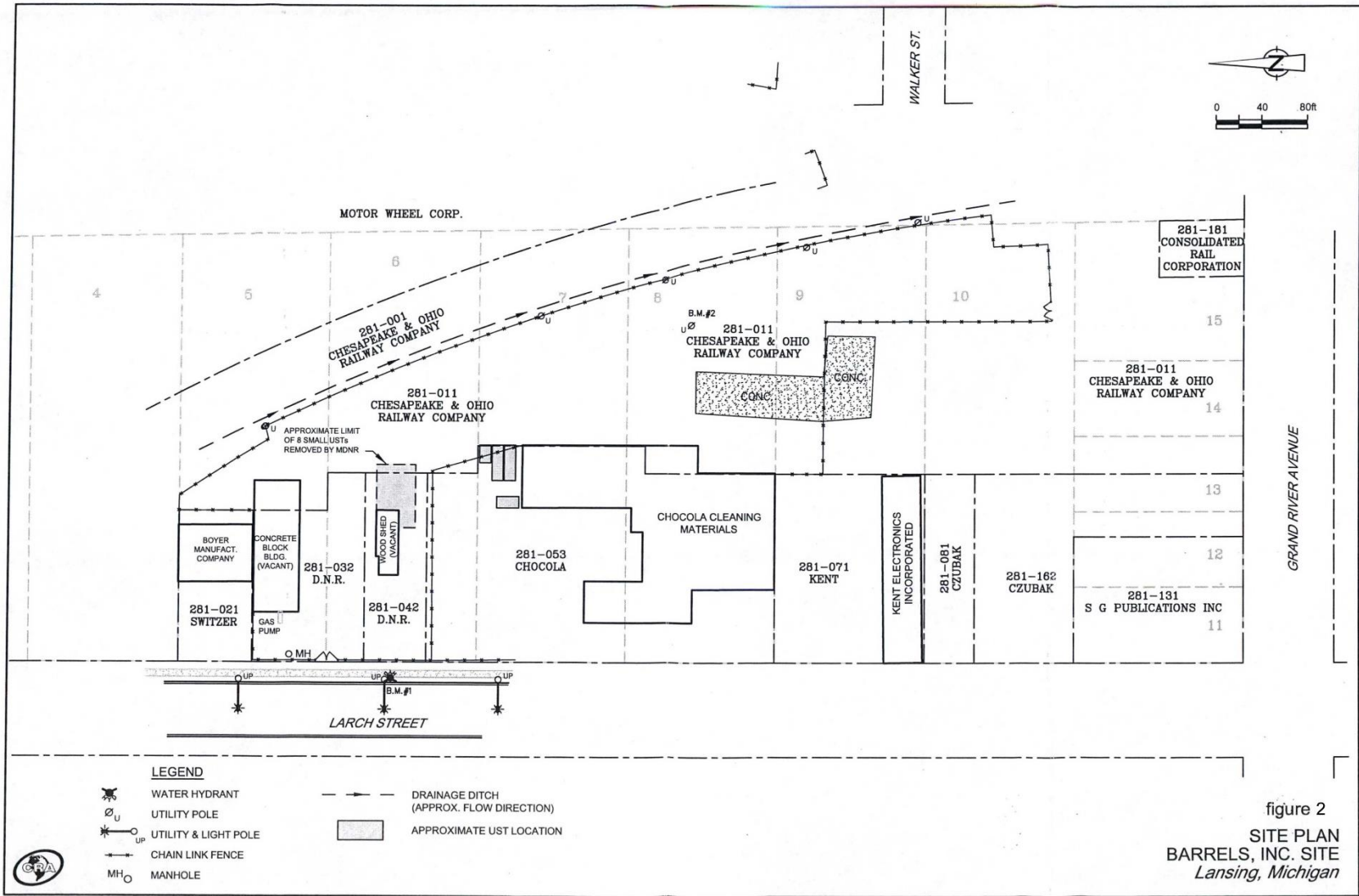
**Table 2: ICs Currently in Place at the Barrels, Inc. Superfund Site**

Media, engineered controls, and areas that do not support UU/UE based on current conditions	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date
Soils	33-01-01-09-281-001, 33-01-01-09-281-011, 33-01-01-09-281-032, and 33-01-01-09-281-042	Limit future land use to non-residential and prevent potential worker exposure to residual contamination.	<p>Declaration of Restrictive Covenants, recorded with Ingham County Recorder's Office on September 23, 2015</p> <p>Declaration of Restrictive Covenants, recorded with Ingham County Recorder's Office on September 26, 2017</p>
Groundwater	33-01-01-09-281-001, 33-01-01-09-281-011, 33-01-01-09-281-032, and 33-01-01-09-281-042	Prohibit installation of groundwater wells and groundwater use.	<p>Declaration of Restrictive Covenants, recorded with Ingham County Recorder's Office on September 23, 2015</p> <p>Groundwater Ordinance, August 21, 2006  <a href="#">CHAPTER 1211. - GROUNDWATER WELL REGULATIONS   Code of Ordinances   Lansing, MI   Municode Library</a></p>
Indoor Air	33-01-01-09-281-011, 33-01-01-09-281-032, and 33-01-01-09-281-042	Prohibit new structures unless engineering controls incorporated during construction to eliminate migration of subsurface vapor phase hazardous substances or vapor intrusion evaluation conducted prior to such construction.	Declaration of Restrictive Covenants, recorded with Ingham County Recorder's Office on September 26, 2017

**Figure 1: Site Location**



**Figure 2: Site Map with Parcel Boundaries**



04869-00(027)GN-WA006 SEP 02/2004

**Figure 3: IC Restrictions Map**

