FORMER CELERY FIELDS OF WHITEHALL, MICHIGAN

Historical Context, Site Background, Field Investigation, and Screening-Level Results

Technical Report

Prepared for:
Muskegon Conservation District

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Executive Summary

This report integrates the history, field-investigation framework, and screening-level soil results for approximately 154 acres of former celery fields adjoining the White River near Whitehall, Michigan. Historical drainage converted floodplain wetlands into productive muck farms and left a network of berms, channels, and water-control features that continue to shape site hydrology. Six soil samples were evaluated to inform restoration planning. No reported soil analyte exceeded the selected Michigan EGLE residential direct-contact criterion, and the detected PFOS and PFHxS concentrations were well below the EPA residential soil screening values used for comparison. These findings support continued restoration planning while recognizing that screening comparisons do not replace a complete exposure-pathway, background, or groundwater-migration evaluation.

1. Historical Background

The celery fields of the Whitehall–Montague area are developed on fertile, water-rich lowlands bordering the White River and White Lake. These organic muck soils retained moisture and nutrients, making them well suited to celery, a crop that required reliable water and intensive management. As the lumber era receded in the late nineteenth century, agriculture provided a new use for cleared land and drained wetlands. Dutch immigrants contributed specialized growing practices and family labor that helped establish celery as an important regional crop [1].

By the early twentieth century, celery farming had become a defining feature of the Whitehall–Montague landscape (Figure 1). Seed was started in greenhouses; seedlings were transplanted, often more than once; and mature stalks were cut, trimmed, washed, and packed by hand. Maintaining productive muck required drainage ditches, dikes, and pumps. Rail, truck, and Lake Michigan shipping connected western Michigan growers with markets in Chicago, Milwaukee, and beyond [1,4].

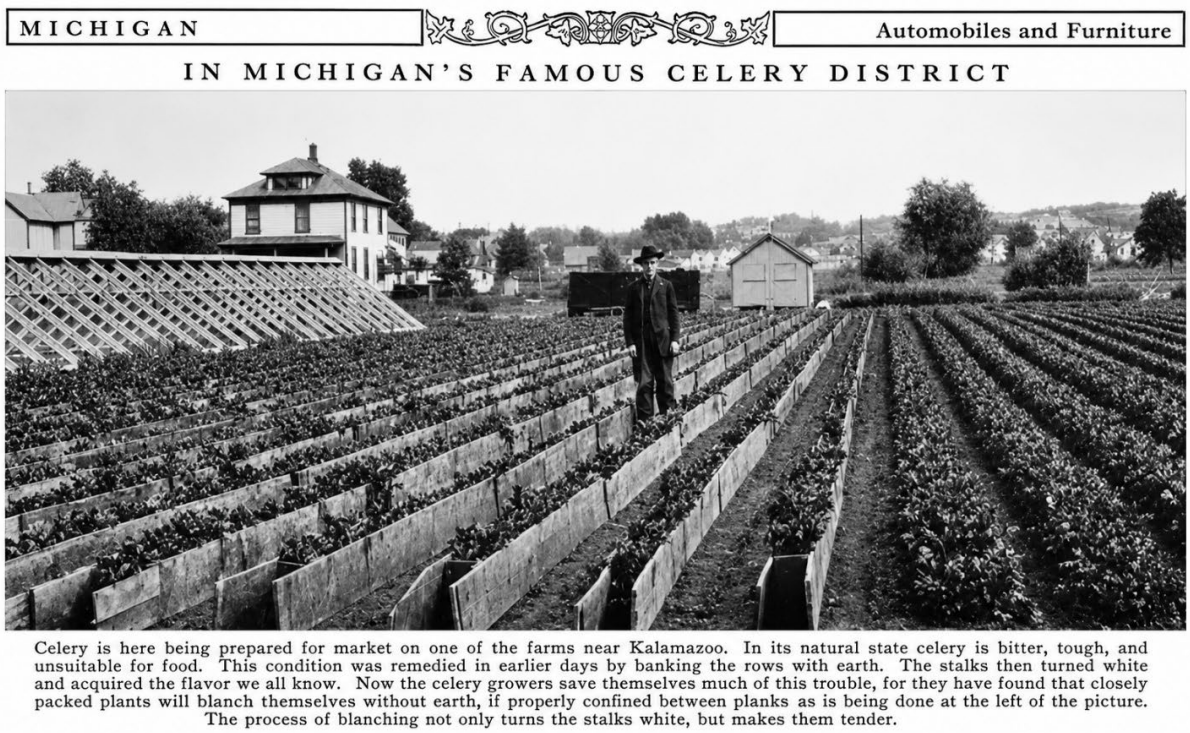


Figure 1. Early commercial celery production near Kalamazoo Michigan demonstrating intensive cultivation of drained muck soils. Photographic plate was published 1922 (Compton's Picture Encyclopedia, Vol. 8., F.E. Compton and Company, Chicago. 1922).

Multigenerational farm families shaped this agricultural landscape. Edward Weesies, a Dutch immigrant who arrived in Muskegon in 1884, worked in sawmills and celery fields before his family purchased a Montague farm in 1908. By the 1940s, Weesies Brothers Farms had expanded to more than 400 acres along the White River [2]. William Bishop developed approximately 120 acres south of the river near Whitehall. During the 1944–1945 labor shortage, German

prisoners of war worked on Bishop's celery farm, an episode documented in letters preserved by the Lakeshore Museum Center [3].

After World War II, mechanical planters and harvesters reduced some of the intensive hand labor. Bishop was among the early Michigan growers to adopt an electric automated celery harvester in the 1960s [3]. Greenhouses originally used for celery seedlings also supported diversification into bedding plants and flowers. Even with mechanization, regional growers faced rising costs, crop disease, labor constraints, and competition from large-scale production in warmer states.

Commercial celery production ultimately disappeared from the Whitehall–Montague landscape. Weesies Brothers Farms recorded its final celery harvest in 1998 and shifted toward ornamental plants, landscaping, and other crops [2]. The former fields nevertheless remain visible in today's berms, ditches, and modified lowlands. This legacy links local agricultural history directly to current restoration questions concerning hydrology, soil quality, and ecological function.

2. Illustrated Historical Timeline

Table 1. Selected milestones in the development and restoration of the Whitehall celery-field landscape. Sources: [2,3,9].

Year	Event
1859	Whitehall established as lumber community
1867	Village incorporated
1880–1900	Wetlands drained for agriculture
1890–1930	Celery production expands throughout western Michigan
1930–1955	Peak commercial celery production
1960–1990	Agricultural decline; wetlands begin recovering
2014–Present	MCD acquires property for restoration

3. Environmental Field Investigation

This field study was designed to characterize berm soils before restoration design and construction. Six representative locations were sampled using paired sediment cores: one core for laboratory analysis and one retained as an archive for potential follow-up work.

3.1 Project Background

The Muskegon Conservation District, in partnership with Ducks Unlimited and with support from the Great Lakes Fishery Commission, is evaluating restoration of approximately 154 acres of former celery fields adjoining the White River near Whitehall. The project seeks to reconnect historical wetlands and improve ecological function, wildlife habitat, and hydrologic connectivity. Characterization of berm materials provides baseline information for engineering, permitting, and management decisions [5].

3.2 Study Objectives

The investigation addressed four objectives:

1. Characterize chemical conditions in historical berm materials.
2. Evaluate results against applicable Michigan screening criteria.
3. Provide baseline environmental data for engineering design.
4. Support restoration permitting and regulatory review.

3.3 Sampling Design

Six representative soil-sampling locations with depth (in feet (ft.), meter (m)), and location (lat. x long. coordinates) were provided by Ducks Unlimited and evaluated as follows (Figure 2):

SB1 5.65 ft. (1.72 m) 43.4191492362 N, -86.3350181375 W
SB2 4.04 ft. (1.23 m) 43.4205330075 N, -86.3342247091 W
SB3 3.96 ft. (1.21 m) 43.4242322072 N, -86.3343726201 W
SB4 4.23 ft. (1.29 m) 43.4248619937 N, -86.3336652505 W
SB5 3.25 ft. (0.99 m) 43.4240064185 N, -86.3304556504 W
SB6 6.02 ft. (1.83 m) 43.4177660834 N, -86.3361490590 W

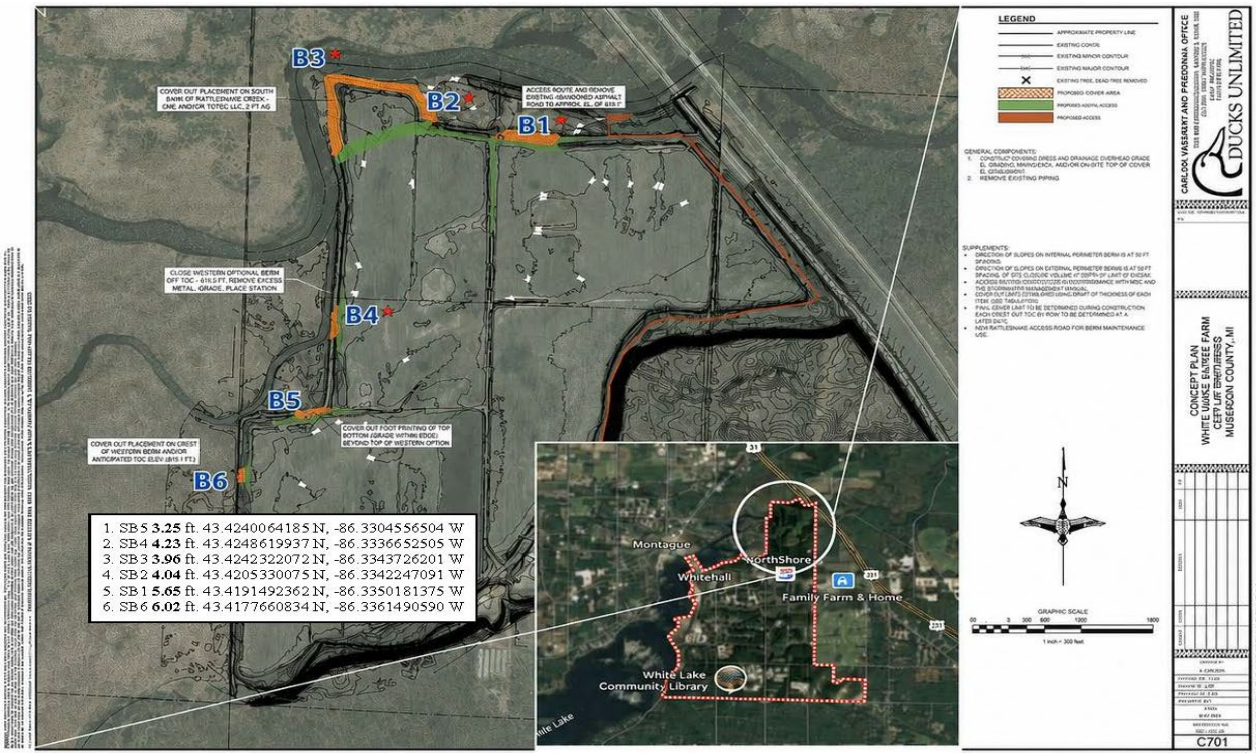


Figure 2. Proposed restoration area & field-investigation. Source: project mapping supplied by Ducks Unlimited [5].

At each location:

- Two sediment cores were collected.
- One core was submitted for laboratory analysis.
- One core was archived at −80°C for potential future analysis.

For nutrient analysis, staff used a decontaminated steel core barrel with a clear, analyte-compatible liner which was then pressed vertically into the sediment and recovered the core with minimal disturbance. They documented recovery, depth, color, texture, odor, and layering, then transferred the designated material into laboratory-supplied containers. Samples were taken to the Annis Water Resources Institute (AWRI) for documentation and forwarded to the laboratory within the required preservation and holding times [11].

For PFAS analysis, staff used a decontaminated stainless-steel core barrel with a verified PFAS-free liner. Fluoropolymer materials that could contaminate the samples—PTFE, PVDF, PCTFE, ETFE, and FEP—were not used. Samples were placed in PFAS-free containers, and paired archive cores were labeled with the date, time, depth, and coordinates. Laboratory samples were transferred promptly; archive cores were stored at −80°C. Reusable equipment was scrubbed with an approved detergent and triple-rinsed with verified PFAS-free water between stations [10,11].

3.4 Laboratory Analyses

Laboratory testing used the analytical methods identified in Table 2B. The analytical scope included metals, PFAS, PAHs, dioxins/furans, SVOCs, nutrients, and percent solids [6].

3.5 Project Deliverables

Project deliverables include:

- GIS-based sampling maps and laboratory analytical tables with quality-control documentation.
- Screening comparisons and an integrated technical report supporting restoration design and regulatory review.

4. Results

4.1 Soil Chemistry Results

This section consolidates laboratory soil results and compares the maximum reported concentration for each applicable analyte with the Michigan EGLE Part 201 generic residential soil direct-contact criterion. This screening-level comparison does not replace a complete pathway evaluation, background assessment, or EGLE-approved site-specific determination.

The regulatory comparison used EGLE's Cleanup Criteria Requirements for Response Activity, R 299.46, Table 2 A&B (Residential Soil Criteria; October 12, 2023). EGLE values reported in µg/kg were converted to mg/kg by dividing by 1,000 [7].

No reported analyte exceeded the selected EGLE residential soil direct-contact criterion. All 17 PAHs were below the laboratory reporting limit of 0.330 mg/kg dry weight. Arsenic, cadmium, lead, and mercury were not detected above their reporting limits, and each reporting limit was below its corresponding direct-contact criterion. Total chromium was conservatively compared with the chromium (VI) criterion in accordance with EGLE footnote H when only total chromium data are available. Nutrients and percent solids are presented for site characterization because no direct-contact criterion was assigned in the screening table [6,7].

4.1.1 Interpretation Framework

Table 2A. Percentages compare the maximum reported concentration—or the reporting limit for a non-detect—with the selected screening criterion. Colors support rapid review but do not replace the numeric values.

Percent of criterion	Regulatory interpretation	Display
<10%	Below Criterion	Green
10% to <50%	Below Criterion	Yellow
50% to 100%	Approaching Criterion	Orange
>100%	Exceeds Criterion	Red
No applicable criterion	No Criterion Established	Gray
Non-detect treatment. For analytes reported as not detected, the percent shown is an upper-bound percentage calculated from the highest sample-specific reporting limit divided by the criterion. It is displayed with a "<" symbol and is not treated as a measured concentration.		

Table 2B. Soil Analytical Results and Michigan EGLE Residential Direct-Contact Comparison. Color categories correspond to Table 2A.

Analyte	Method	Units	RDL	SB1	SB2	SB3	SB4	SB5	SB6	Maximum	EGLE criterion (mg/kg)	% criterion	Exceeds ?	Regulatory interpretation
Mercury	EPA 7471B	mg/kg	0.050-0.051	ND	ND	ND	ND	ND	ND	ND (<0.051)	160	<0.0319%	No	Below Criterion
Arsenic	EPA 6020B	mg/kg	2.0	ND	ND	ND	ND	ND	ND	ND (<2.0)	7.6	<26.3%	No	Below Criterion
Cadmium	EPA 6020B	mg/kg	0.20	ND	ND	ND	ND	ND	ND	ND (<0.20)	550	<0.0364%	No	Below Criterion
Chromium, total	EPA 6020B	mg/kg	2.0	2.1	4.4	2.9	4.6	7.8	4.6	7.8	2500	0.312%	No	Below Criterion
Copper	EPA 6020B	mg/kg	1.0	1.4	5.7	1.4	2.6	3.8	2.8	5.7	20000	0.0285%	No	Below Criterion
Lead	EPA 6020B	mg/kg	10	ND	ND	ND	ND	ND	ND	ND (<10)	400	<2.5%	No	Below Criterion
Nickel	EPA 6020B	mg/kg	1.0	2.2	4.5	2.9	18	12	33	33	40000	0.0825%	No	Below Criterion
Selenium	EPA 6020B	mg/kg	0.38-0.40	0.41	0.71	0.48	0.66	0.70	0.50	0.71	2600	0.0273%	No	Below Criterion
Zinc	EPA 6020B	mg/kg	4.8-5.0	5.7	11	5.7	9.7	11	11	11	170000	0.00647%	No	Below Criterion
Total phosphorus	EPA 6010D	mg/kg	6.0-6.3	62	170	92	100	200	180	200	—	N/A	N/A	No Criterion Established
Phosphate equivalent (calculated)	Total P × 3.066	mg/kg	—	190	521	282	307	613	552	613	—	N/A	N/A	No Criterion Established
Nitrate as N	EPA 300.0	mg/kg	2.8-3.0	ND	ND	ND	ND	3.3	ND	3.3	—	N/A	N/A	No Criterion Established
Nitrite as N	EPA 300.0	mg/kg	1.0	ND	ND	ND	ND	ND	ND	ND (<1.0)	—	N/A	N/A	No Criterion Established
Percent solids	ASTM D2974	%	0.10	91	76	83	88	78	90	91	—	N/A	N/A	No Criterion Established
Naphthalene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	16000	<0.00206%	No	Below Criterion
2-Methylnaphthalene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	8100	<0.00407%	No	Below Criterion
Acenaphthylene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	1600	<0.0206%	No	Below Criterion
Acenaphthene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	41000	<0.000805%	No	Below Criterion
Fluorene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	27000	<0.00122%	No	Below Criterion
Phenanthrene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	1600	<0.0206%	No	Below Criterion
Anthracene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	230000	<0.000143%	No	Below Criterion
Fluoranthene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	46000	<0.000717%	No	Below Criterion
Pyrene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	29000	<0.00114%	No	Below Criterion
Benzo(a)anthracene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	20	<1.65%	No	Below Criterion
Chrysene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	2000	<0.0165%	No	Below Criterion
Benzo(b)fluoranthene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	20	<1.65%	No	Below Criterion
Benzo(k)fluoranthene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	200	<0.165%	No	Below Criterion
Benzo(a)pyrene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	2	<16.5%	No	Below Criterion
Indeno(1,2,3-cd)pyrene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	20	<1.65%	No	Below Criterion
Dibenz(a,h)anthracene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	2	<16.5%	No	Below Criterion
Benzo(g,h,i)perylene	EPA 8270E	mg/kg	0.330	ND	ND	ND	ND	ND	ND	ND (<0.330)	2500	<0.0132%	No	Below Criterion

Notes: ND = not detected above the reporting detection limit (RDL). All laboratory concentrations are dry-weight values. PAH RDLs were converted from 330 µg/kg to 0.330 mg/kg. EGLE criteria shown are residential soil direct-contact criteria from Table 2 and were converted from µg/kg to mg/kg. For non-detects, "% criterion" is an upper-bound percentage based on the highest applicable RDL. Total chromium was compared with chromium (VI). The total-mercury comparison uses the Table 2 direct-contact value. "Phosphate equivalent" equals total phosphorus × 3.066 and must not be interpreted as analytically measured orthophosphate. The final compliance determination may require evaluation of other exposure pathways, background concentrations, site conditions, and applicable footnotes. Sources: Trace Analytical Laboratories, Certificate of Analysis, Project 26F1221, final report dated July 13, 2026. Michigan EGLE, Cleanup Criteria Requirements for Response Activity, R 299.46 Table 2 (Residential Soil Criteria), official table dated October 12, 2023, and R 299.49 footnotes dated October 12, 2023.

4.2 PFAS Results

Six soil samples (SB1–SB6; Table 3A) were analyzed for PFAS using EPA Method 537M. PFOS and PFHxS were the only parent PFAS detected; no target PFAS were detected in SB4 or SB6 [6].

Detected PFOS and PFHxS concentrations were low and spatially limited. The maximum concentrations of both compounds occurred in SB2; SB4 and SB6 contained no target PFAS detections.

Table 3A. Detected PFOS and PFHxS concentrations in soil samples SB1–SB6. ND = not detected above the laboratory reporting limit; concentrations are reported on a dry-weight basis.

Sample	PFOS (µg/kg dry)	PFHxS (µg/kg dry)
SB1	0.088	0.069
SB2	0.180	0.071
SB3	0.070	0.067
SB4	ND	ND
SB5	0.056	ND
SB6	ND	ND

The highest PFOS concentration was 0.180 µg/kg dry weight, and the highest PFHxS concentration was 0.071 µg/kg dry weight (Table 3B); both occurred in SB2.

Michigan Part 201 does not provide generic statewide soil criteria for direct comparison with these PFAS results. Accordingly, the report uses EPA residential soil Regional Screening Levels (RSLs) as conservative screening benchmarks. RSLs are risk-based comparison values—not cleanup standards—and exceedance would indicate a need for additional evaluation [8].

Table 3B. Maximum detected PFAS concentrations compared with EPA residential soil screening values. Screening values are risk-based comparison levels, not cleanup standards. Percentages equal the maximum detected concentration divided by the screening value.

Analyte	Maximum Detected (µg/kg dry)	EPA Residential Screening Value (µg/kg)	Percent of Screening Value
PFOS	0.180	13	1.38%
PFHxS	0.071	130	0.055%

All detected concentrations were below the EPA residential soil RSLs used for comparison. The maximum PFOS concentration was approximately 1.4% of its screening value, while the maximum PFHxS concentration was approximately 0.06%. Laboratory-estimated linear and branched isomer results were not added to parent-analyte concentrations, thereby avoiding double-counting [6,8].

PFAS detections were limited to low concentrations of PFOS and PFHxS, and no federal screening benchmark was exceeded. Site-specific exposure and groundwater-migration pathways should still be considered during restoration planning.

4.3 Soil Characterization at Celery Flats Sampling Points (SB1–SB6)

The points SB1–SB6 occur in a former celery-growing lowland characterized by organic (muck) soils and shallow groundwater (Table 4). The most plausible SSURGO component family is Houghton-Adrian-Kerston-type muck

Table 4. Point-by-Point soil characterization for samples SB1-6. Boring depth (listed as imperial (ft.) and metric (m)) is the sampled depth, not mapped soil thickness. Soil and hydrologic descriptions are planning-level interpretations.

Point	Boring depth (ft)	Boring depth (m)	Mapped landscape position	Likely soil / association	Expected profile and texture	Drainage / hydrology	Hydric / HSG	Environmental interpretation
SB1	5.65	1.72	Western-central organic lowland; deeper boring is consistent with a thick wetland-soil deposit.	Organic-soil (muck) association; likely Houghton, Adrian, and/or Kerston component, with local alluvial/mineral inclusions.	Dark sapric muck at the surface and through much of the profile; locally underlain by sand or alternating organic and mineral alluvium. Nearly level (generally 0-2%).	Very poorly drained under natural conditions; seasonal saturation at or near the surface. Artificial drainage, ditching, and restoration earthwork may alter current water levels.	Hydric: yes. Likely dual hydrologic group A/D where drained versus undrained; treat as D under saturated natural conditions.	High organic-carbon sorption capacity for hydrophobic contaminants and some metals, but low bulk density, shallow groundwater, channel proximity, and preferential flow increase the potential for dissolved contaminant and nutrient transport.
SB2	4.04	1.23	Western-central margin of the reclaimed/abandoned muck field beside the creek corridor.	Organic-soil (muck) association; likely Houghton, Adrian, and/or Kerston component, with local alluvial/mineral inclusions.	Dark sapric muck at the surface and through much of the profile; locally underlain by sand or alternating organic and mineral alluvium. Nearly level (generally 0-2%).	Very poorly drained under natural conditions; seasonal saturation at or near the surface. Artificial drainage, ditching, and restoration earthwork may alter current water levels.	Hydric: yes. Likely dual hydrologic group A/D where drained versus undrained; treat as D under saturated natural conditions.	High organic-carbon sorption capacity for hydrophobic contaminants and some metals, but low bulk density, shallow groundwater, channel proximity, and preferential flow increase the potential for dissolved contaminant and nutrient transport.
SB3	3.96	1.21	Northwestern lowland near the channel; likely subject to prolonged saturation and periodic flooding.	Organic-soil (muck) association; likely Houghton, Adrian, and/or Kerston component, with local alluvial/mineral inclusions.	Dark sapric muck at the surface and through much of the profile; locally underlain by sand or alternating organic and mineral alluvium. Nearly level (generally 0-2%).	Very poorly drained under natural conditions; seasonal saturation at or near the surface. Artificial drainage, ditching, and restoration earthwork may alter current water levels.	Hydric: yes. Likely dual hydrologic group A/D where drained versus undrained; treat as D under saturated natural conditions.	High organic-carbon sorption capacity for hydrophobic contaminants and some metals, but low bulk density, shallow groundwater, channel proximity, and preferential flow increase the potential for dissolved contaminant and nutrient transport.
SB4	4.23	1.29	Northwestern margin of the flats adjacent to the sinuous channel and low floodplain.	Organic-soil (muck) association; likely Houghton, Adrian, and/or Kerston component, with local alluvial/mineral inclusions.	Dark sapric muck at the surface and through much of the profile; locally underlain by sand or alternating organic and mineral alluvium. Nearly level (generally 0-2%).	Very poorly drained under natural conditions; seasonal saturation at or near the surface. Artificial drainage, ditching, and restoration earthwork may alter current water levels.	Hydric: yes. Likely dual hydrologic group A/D where drained versus undrained; treat as D under saturated natural conditions.	High organic-carbon sorption capacity for hydrophobic contaminants and some metals, but low bulk density, shallow groundwater, channel proximity, and preferential flow increase the potential for dissolved contaminant and nutrient transport.
SB5	3.25	0.99	Northern edge of the former celery flats, close to the access road and Black Creek floodplain.	Organic-soil (muck) association; likely Houghton, Adrian, and/or Kerston component, with local alluvial/mineral inclusions.	Dark sapric muck at the surface and through much of the profile; locally underlain by sand or alternating organic and mineral alluvium. Nearly level (generally 0-2%).	Very poorly drained under natural conditions; seasonal saturation at or near the surface. Artificial drainage, ditching, and restoration earthwork may alter current water levels.	Hydric: yes. Likely dual hydrologic group A/D where drained versus undrained; treat as D under saturated natural conditions.	High organic-carbon sorption capacity for hydrophobic contaminants and some metals, but low bulk density, shallow groundwater, channel proximity, and preferential flow increase the potential for dissolved contaminant and nutrient transport.
SB6	6.02	1.83	Southwestern portion of the flats near wetland and channel margins; deepest boring in the group.	Organic-soil (muck) association; likely Houghton, Adrian, and/or Kerston component, with local alluvial/mineral inclusions.	Dark sapric muck at the surface and through much of the profile; locally underlain by sand or alternating organic and mineral alluvium. Nearly level (generally 0-2%).	Very poorly drained under natural conditions; seasonal saturation at or near the surface. Artificial drainage, ditching, and restoration earthwork may alter current water levels.	Hydric: yes. Likely dual hydrologic group A/D where drained versus undrained; treat as D under saturated natural conditions.	High organic-carbon sorption capacity for hydrophobic contaminants and some metals, but low bulk density, shallow groundwater, channel proximity, and preferential flow increase the potential for dissolved contaminant and nutrient transport.

(Table 5): very poorly drained, nearly level, hydric organic soils formed in depressions, drainageways, lake plains, and floodplains.

The six locations occupy a nearly-level former muck-farming and wetland landscape. All six points should be treated as hydric-soil locations for planning purposes unless field morphology demonstrates otherwise. Ditches, berms, excavation, placement of fill, and wetland-restoration work may have changed the original soil profile and drainage regime. Organic soil can retain PAHs and many metals because of its high organic-carbon content. Conversely, shallow groundwater, flooding, low bulk density, and proximity to channels can promote nutrient release and transport of more mobile dissolved constituents, including some PFAS. The reported boring depth is not itself the mapped soil thickness.

5. Discussion

The Whitehall celery fields illustrate how historical land use can continue to structure a restoration site long after agriculture ends. Drainage ditches, berms, and engineered water-control features altered floodplain connectivity and created the physical template now being evaluated for wetland restoration. The historical record is therefore not simply contextual; it helps explain present hydrology, sampling locations, and potential contaminant pathways.

The screening results provide a favorable initial indication for restoration planning. No reported soil analyte exceeded the selected EGLE residential direct-contact criterion, and PFOS and PFHxS were detected at only small fractions of the EPA residential soil RSLs. The nondetect treatment used in the soil-chemistry table is intentionally conservative because each reporting limit is treated as an upper-bound concentration.

These comparisons remain screening-level evaluations. Any future restoration should integrate analytical results with soil-handling plans, background conditions, and potential groundwater and surface-water migration pathways. Archived cores offer a practical resource if engineering changes or regulatory review identify a need for additional analyses.

6. Conclusions

The former celery fields are both a significant part of White Lake's agricultural history and a substantial opportunity for wetland restoration. Historical drainage created berms, channels, and water-control features that remain central to current site conditions. Available soil results do not identify exceedances of the selected EGLE residential direct-contact criteria. PFAS detections were limited to low concentrations of PFOS and PFHxS, and both were well below the EPA residential soil screening values used in this report. Together, the historical review and analytical screening support continued feasibility, design, and permitting work.

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