1. PROJECT AREA DESCRIPTION AND PLANS FOR REVITALIZATION

Target Area and Brownfields

a. Overview of Brownfield Challenges and Description of Target Area

The City of Auburn Hills (population: 26,047, 2024 Census data), the geographic area for this Cleanup Grant application, is in Oakland County in the southeast portion of Michigan's lower peninsula. As the City of Detroit's manufacturing economy steadily expanded to become known as the "automotive capital of the world", surrounding cities like Auburn Hills prospered. Over the course of the City's history, Auburn Hills became known for its high-technology parks and automotive manufacturing centers and is now the home to over 80 international corporations from 32 countries, which includes the U.S. headquarters of Stellantis North America (formerly Chrysler), and BorgWarner, an automotive supplier that maintains production facilities in 24 countries. The City is also home to three colleges, including Oakland University, and the Great Lakes Crossing Outlets, one of the state's largest destination shopping centers.

With the regional decline of the automotive and manufacturing sectors over the past several decades, the region lost more than 44,000 manufacturing jobs (SEMCOG) since the Great Recession in 2008, with Oakland County experiencing a 1.1% decline in manufacturing jobs between 2010 and 2023. Although the region has been recovering, it now faces new challenges from a changing economy. According to a jobs forecast published by the Southeast Michigan Council of Governments (SEMCOG), an **additional loss of 71,000 manufacturing jobs** is projected to occur from 2015 to 2045 as the economy transitions from a production-based to a knowledge-based industry, focusing on the trade of services over physical goods. Despite these challenges, the diversity of the City's economy was instrumental in enduring the regional the manufacturing and automotive decline. While other communities in the region experienced a steep decline in manufacturing jobs, Auburn Hills experienced a 39.1% increase (2023 Census data). The stability of the City's economy, in conjunction with its abundance of natural resources, parks amenities, retail centers, and high quality of life, the City has experienced sustained population growth. Over the past eight years, the City's population has grown by 11.3%, outpacing Oakland County (3.2%) and the State of Michigan (1.5%) (2023 Census data). Residents aged 65 and older now account for approximately 14.7% of the population, a share expected to increase significantly over the next decade. Since 2015, the senior population has grown by 34.9%, compared to 21.4% in Oakland County. These trends suggest that many residents are choosing to stay in Auburn Hills through retirement and aging in place.

Recognizing that the population of people over the age of 65 is expected to double in the City by 2035, Auburn Hills was the first city in the state to proactively partner with the American Association of Retired Persons (AARP) to participate in the AARP Age-Friend Communities Network that assists local governments in developing a place that is ideal for residents of all ages to live. As part of the planning process, the City held several discussions with area seniors who identified a need for affordable housing options that have age-friendly features that allow older residents to keep their independence without barriers and were very interested in the possibility of new senior housing developments coming to the City of Auburn Hills.

Providing new, affordable senior housing has become a growing challenge for the City. With more than 75% of the City's 16.6 square miles developed for commercial and industrial uses, few parcels remain that are large enough to support the development of a senior housing community. One of the limited suitable areas is located within the Clinton River District of the City, part of Census Tract 1406 (the target area), located near the City's southern boundary. This area is largely built out and zoned for single-family residential and business park uses.

Within the target area lies the Kayak Pointe Redevelopment Area (the proposed brownfield site), an 11.1-acre vacant parcel bisected by the Clinton River. While redevelopment of this site would support the City's goal of expanding affordable senior housing, progress has been hindered by undocumented fill contaminated with polychlorinated biphenyls (PCBs). Remediation of the contaminated soil is required before the site can be safely redeveloped and reused, the cost of which has made it difficult for the City to attract a developer. Funding from an EPA Brownfield Cleanup grant would remove this barrier and facilitate successful redevelopment.

b. Description of Proposed Brownfield Site

The proposed brownfield site consists of 11.1 acres of vacant, vegetated land bisected by the Clinton River. Historically, the site was used primarily for overflow parking for the former Pontiac Silverdome and several small restaurants. For more than 20 years, the property has remained vacant, generated minimal to no tax revenue, become an eyesore, and continues to pose environmental risks. The City acquired the site through tax foreclosure in 2017 and began evaluating redevelopment opportunities.

Environmental investigations identified the presence of undocumented fill soils, including foundry sand up to 16 feet below ground surface, likely imported around the same time the Pontiac Silverdome was constructed in the 1970s. Soil sampling detected polychlorinated biphenyls (PCBs), with concentrations exceeding 50 parts per million (ppm) at several locations, classifying the contamination in these areas as hazardous under Toxic Substances Control Act (TSCA).

Consistent with the City's commitment to provide quality parks and recreational amenities that take advantage of the natural resources that the Clinton River provides, the City identified the 3.2-acre portion of the proposed brownfield site south of the Clinton River as an ideal location to construct a public kayak launch. For the remaining 7.9 acres north of the river, the City has determined that it's a prime location for future mixed-use development. As a first step toward achieving these goals, the City conducted additional sampling to vertically and horizontally delineate the extent of the PCB contaminated soils in support of preparing a self-implementing TSCA PCB Cleanup Work Plan. However, high cleanup costs have stalled progress, and available financing tools such as tax increment financing, state grants and local tax abatements, are insufficient to fund cleanup activities on their own. EPA Brownfields Cleanup Grant funding is therefore needed to remediate contamination so the City can move forward with its plans to construct the kayak launch and prepare the northern portion of the site for redevelopment.

Revitalization of the Target Area

c. Reuse Strategy and Alignment with Revitalization Plans

The construction of a mixed-use development that includes 100 new, affordable senior housing units and 26,500 square feet (SF) of ground floor commercial space on the northern portion of the proposed brownfield site directly addresses several of the action plan items identified in the City's Age-Friendly Action Plan and achieves the City's goal to support an aging population. These items include: *1) Encourage developers to consider affordable housing developments for older residents, 2) Increase the awareness of age-friendly housing options available within the City, and 3) Improve the walkability of Auburn Hills, including bike paths and trails.*

The proposed construction of a kayak launch and park on the southern portion of the proposed brownfield is prime opportunity to directly address several initiatives identified in Auburn Hills' Riverwalk Master Plan including: *1) providing a network of trails, paths and sidewalks that allow people to walk or bike to the Downtown Core, and to various park amenities, 2) providing a range of active and passive park spaces and features for all ages and abilities in the Riverwalk Park system, and 3) increasing access to the river for fishing, canoeing and kayaking.* The proposed brownfield site is located within a federally designated floodplain.

On a regional scale, the project resonates with objectives outlined in the Comprehensive Economic Development Strategy for Southeast Michigan (SEMCOG, 2021), which include: *1) creating and marketing quality places through connecting people to the places they live and supporting the growth of dynamic, diverse places to live, work, and visit, and 2) anticipating demands for land use by encouraging sustainable development of diverse and desirable housing options, considering regional needs and economic conditions, and prioritizing infill development*.

d. Outcomes and Benefits of Reuse Strategy

The redevelopment of the target area brownfield will achieve the goals of regional and local planning initiatives by providing affordable senior housing, attracting new residents within the city and creating spaces that provide walkable connections to area parks and amenities. The construction of a kayak launch on the southern portion of the proposed brownfield site would create a recreational access point to the Clinton River.

Environmental sustainability, water quality, land stewardship, and aesthetics have long guided the City's recreational planning. Over the past three years, the City has invested more than $3.8 million in maintaining and enhancing parks and recreational resources. Tree-lined walking and biking paths connect neighborhoods to numerous parks, making the City one of the region's most walkable communities. As part of the proposed brownfield redevelopment, 750 linear feet of new sidewalks are planned to connect the proposed kayak launch and park to the City's extensive pedestrian network serving neighborhoods, schools, businesses, and shopping areas.

The outcomes and benefits of the development of the northern portion of the proposed brownfield site are summarized in the table below.

Target Area Reuse	Outcomes and Benefits	Tax Implications
Commercial Retail	• Four retail spaces totaling an estimated 26,500 SF • Creation of 23 new jobs*	Est. Taxable Value Increase: $1.24 million Annual Tax Revenue Increase: $58,100
Senior Living Apartments	• 100 affordable senior living apartment units • Housing for an additional 150 new residents	Est. Taxable Value Increase: $3.46 million Annual Tax Revenue Increase: $194,500

**According to data provided by the Energy Information Administration*

The redevelopment will also include a stormwater detention area designed to capture stormwater runoff from paved areas. By using sustainable best management practices intended to offset the effects of climate change, the detention area will reduce the effects of peak stormwater discharges during wet-weather rain events and mitigate channel degradation in the nearby Clinton River. These best management practices would include the use of native wetland vegetation that have high transpiration rates, provide habitat for area wildlife, and will have the capability of filtering non-point source pollutants commonly associated with urban stormwater runoff. Preliminary estimates indicate the detention area could store up to

400,000 gallons of stormwater. Additional best management practices can also be employed to vegetate and stabilize the banks of the Clinton River channel and reduce the bank erosion.

Redevelopment of the target area will also improve local climate adaptation capacity and resilience, thereby protecting residents and community investments by reducing atmospheric greenhouse gas levels. According to the US Department of Agriculture's (USDA) I-Tree estimation tool, the inclusion of tree canopy planned for the redevelopment of the target area (see table below), can significantly reduce energy consumption for heating and cooling and reduce carbon dioxide emissions. In conjunction with carbon sequestration from the tree's life cycle, the redevelopment of the priority brownfield sites can improve climate adaptation capacity at the local level by reducing and removing carbon dioxide emissions.

Target Area Reuse	Estimate of Carbon Dioxide Reductions (lbs/year)			
	Trees Planted (estimated)	Energy Reduction from Heating/Cooling	Carbon Sequestration	Total*
Commercial Retail Space, Senior Living Apartments (north)	55	160 lbs.	1,050 lbs.	1,210 lbs.
Kayak Launch (south)	27	82 lbs.	535 lbs.	617 lbs.

** Itreetools.com – Totals are calculated for the first year of planting only, using 2.5" caliper, balled and burlap trees. Totals do not account for carbon reductions over the lifetime of the trees.*

Strategy for Leveraging Resources

e. Resources Needed for Site Characterization

The City has completed multiple assessments of the proposed brownfield site and it is now sufficiently characterized. No further site characterization is required for remediation to begin.

f. Resources Needed for Site Remediation

The City's brownfield redevelopment authority has established a local brownfield revolving fund (LBRF) under Michigan's Brownfield Financing Act, which is funded by capturing a small percentage of tax increment revenue from successfully completed brownfield projects in the City. If awarded an EPA Brownfield Cleanup grant, the brownfield authority could utilize a portion of their LBRF to support a small portion of the cleanup activities. Since the LBRF is dependent on the successful completion of the brownfield projects within the City, in conjunction with the other projects the authority is already supporting, funding from the LBRF is not sufficient to address the significant cost of removing and properly disposing of the PCB contaminated soil that has been identified at the proposed brownfield site.

g. Resources Needed for Site Reuse

A summary of the funding resources that have been secured, sought, or will be sought to contribute to the completion of the reuse of the target area and proposed brownfield site is included in the table below.

Name of Resource	Is the Resource for (1.c.i.) Assessment, (1.c.ii) Remediation, (1.c.iii) Reuse Activities?	Is the Resource Secured or Unsecured?	Additional Details or Information About the Resource
Tax Increment Financing (TIF)	Remediation	Unsecured	Michigan enables local governments to issue TIF plans for the cleanup and redevelopment of brownfields. Tax revenue generated from brownfield redevelopment within the target area or proposed brownfield site creates the tax increment, which is reimbursed to the developer over time to assist in the cost of cleanup activities.
EGLE Grant and Loans	Remediation	Unsecured	State funding is available for environmental assessment and cleanup of properties with known contamination. Local units of government can apply for funding. Funding is limited to $1 million in grants and loans per applicant per year.
Michigan Department of Natural Resources Recreation Passport Grants	Reuse	Unsecured	The objective for the program is to provide funding to local units for the development of public recreation facilities. This includes the development of new facilities and the renovation of old facilities.
Michigan Community Revitalization Program	Remediation, Reuse	Unsecured	The focus of the MCRP is to encourage and promote structural renovations and redevelopment of brownfield and

			historic preservation sites located in traditional downtowns and high-impact corridors. MCRP provides gap financing in the form of performance-based grants, loans, or other economic assistance for eligible investment projects in Michigan.
Auburn Hills Brownfield Redevelopment Fund	Remediation	Unsecured	Funded using tax increment financing from other successful brownfield projects within the City, the fund supports brownfield cleanup activities through low interest loans or grants.
Tax Abatements	Reuse	Unsecured	Michigan has several tax abatement programs available to encourage the rehabilitation of obsolete commercial, and industrial properties. The type, amount, and length of the tax abatement is dependent upon the property history and need for assistance.

h. Use of Existing Infrastructure

The target area and proposed brownfield site has access to readily available utilities that include natural gas, electricity, water, sewer, and fiber optic lines that are sufficient to support redevelopment and reuse without significant additional resource investment. Regionally, the target area and proposed brownfield site has direct access to an established regional infrastructure, providing many advantages that include access to a world-class transportation network of highways, rail, airports, and waterways.

2. COMMUNITY NEED AND COMMUNITY ENGAGEMENT

Community Need

a. The Community's Need for Funding

The City's small population and decreased state revenue share are the primary reasons why the City does not have the ability to fund the cleanup activities needed at the proposed brownfield site. Between 2024 and 2025, the City's projected revenues dropped by approximately 15.17% while operating expenses increased by 14.6% (Auburn Hills 2025-2026 Amended Budget Report). Although revenues from project property taxes are expected to rise by 3.7%, it is not enough to offset the 21.8% loss of state revenue share. Rising operational expenditures are primarily related to the increase costs for public safety services, planned capital improvement projects, debt service, and reduced income from permits and fees. Proactive budget planning has allowed the City to maintain a sufficient general fund, which has been reallocated to offset reduction in revenues and maintain fiscal responsibility (Auburn Hills 2025-2026 Amended Budget Report).

Within Census Tract 1406, the presence of the proposed brownfield site has likely had a negative impact on nearby residential properties. The average value of residential properties within Census Tract 1406 is approximately 12.5% below the City's average and two-thirds of the County-wide average. The poverty rate within Auburn Hills is slightly higher than the county average (6.9% compared to 6.4%), and within Census Tract 1406, 2.3% of the households are receiving public assistance compared to 1.8% of the households within the City. Large tracts of developable land are not available within the city limits, reducing opportunities to increase property tax revenues from new development within the City. The City's revenues are required to maintain existing services to support a growing population (11.3% increase over the past 8 years) (ACS, 2023). Therefore, the City is unable to fully fund cleanup activities at the proposed brownfield property without assistance from an EPA Brownfield Cleanup Grant.

b. Health or Welfare of Sensitive Populations

There are a disproportionate minority and low-income population in Census Tract 1406, making these populations more susceptible to contamination exposure. The following table shows the percentages of minority, low-income, and senior populations in the target area census tract compared to the City, County, and state (2023 Census data).

	CT 1406	City	County	State
Percent Minority Population	41.8%	44.0%	30.8%	27.0%
Percent of Low-Income Population*	16.7%	19.1%	14.7%	14.2%
Percent of Population Aged 55+	19.2%	26.1%	32.1%	18.2%

*Source: unitedforalice.org – Low Income is defined as Asset Limited, Income Constrained, Employed (ALICE) — where median household income is above the federal poverty line, but not enough to afford basic expenses in the county (Oakland County – $34,944).

According to the health statistics published by the County Health Rankings and Roadmaps (www.countyhealthrankings.org), Oakland County exceeds the state average for preventable hospital stays per 100,000 persons by approximately 6.1% and has a higher daily density of fine particulate matter (7.5 ug/cubic meter compared to 6.7 ug/cubic meter). Cleanup of the proposed brownfield site will reduce exposure to harmful chemicals and compounds, thereby

reducing the negative health impacts associated with contamination for this segment of the population and position the property for redevelopment.

c. Greater than Normal Incidence of Disease and Adverse Health Conditions

According to the International Agency for Research on Cancer (IARC), PCBs are known carcinogens that impact the liver, skin, and reproductive system, suggesting that segments of the population that are exposed to these contaminants are more vulnerable to experiencing severe health effects. Data published by the Michigan Department of Health and Human Services (MDHHS, 2021) indicates that the cancer-related mortality rate is the leading cause of death in the County, especially among individuals aged 50 or older. Although the incidence of liver and skin-related cancer in Oakland County is consistent with the State, the incidence of reproductive system-related cancers is slightly higher in Oakland County than the state's rate (MDHHS, 2021).

d. Economically Impoverished/Disproportionately Impacted Populations

As stated in Section 2.b – Health or Welfare of Sensitive Populations, there are disproportionately impacted populations present within the City and Census Tract 1406 that unfairly impose health and safety hazards upon minority, low-income and senior populations. This grant will assist the city in eliminating environmental hazards by remediating contamination that negatively impacts residents' health, depresses property values, and stagnates economic growth. As noted in Section 1.d – Outcomes and Benefits of the Reuse Strategy, the redevelopment of the target area and proposed brownfield site will address the needs of a growing senior population creating additional affordable senior housing options and commercial retail spaces that will create approximately 23 new jobs.

Community Engagement

e. Project Involvement, f. Project Roles

The table below summarizes the roles of local organizations and groups that will provide technical assistance to the city and provide critical input into the cleanup and redevelopment process to ensure that the highest and best use of the target area property is determined.

List of Organizations, Entities, Groups & Roles

Name of Organization, Entity, or Group	Entity's Mission	Point of Contact (name & email)	Specific Involvement in the Project or Assistance Provided
Southeast Michigan Council of Governments (SEMCOG)	SEMCOG supports local planning efforts by providing technical assistance, regional data, and intragovernmental resources.	Kevin Johnson johnson@semcog.org	SEMCOG will assist the city by providing economic data pertaining to housing demand, trends, and other economic data.
Clinton River Watershed Council (CWRC)	An organization dedicated to the health and improvement of the Clinton River through the use of technical data, stewardship, and citizen involvement	Jennifer Hill jennifer@crwc.org	CRWC will advise the city to identify opportunities to improve the quality, natural habitat, and recreational value of the Clinton River (bisects the proposed brownfield site).
Oakland County Brownfield Redevelopment Authority (OCBRA)	OCBRA administers the Oakland County brownfield program, manages brownfield plans for communities that do not have a brownfield authority, and administers an EPA Brownfield Assessment grant	Brad Hansen hansenb@oakgov.org	OCBRA will provide technical assistance for local brownfield planning initiatives.
Auburn Hills Rotary Club	The rotary is a service club for service-minded individuals to provide humanitarian service and promote high ethical standards within the communities it serves.	Lisa Kiefer lisakieferrotary@gmail.com	Provide assistance to the City by providing citizen input on park improvements for the southern area of the proposed brownfield property that will be developed as a kayak launch

Friends of the Clinton River Trail (FCRT)	FCRT is a volunteer, nonprofit, citizen group committed to promoting the Clinton River Trail as a safe and enjoyable destination.	Josh Eichenhorn clintonrivertrail@gmail.com	Provide assistance to the City in identifying and recommending opportunities to integrate the proposed pathway on brownfield property into the Clinton River Trail network.
Auburn Hills Chamber of Commerce	The chamber's mission is to foster economic prosperity by supporting the Auburn Hills business community.	Jean Jernigan jjernigan@auburnhillschamber.com	The chamber will serve as a liaison to the City for local business owners that are affected by the project and advise the City on the long-term uses of the proposed brownfield site that involve commercial uses.

g. Incorporating Community Input

The City will engage target area residents and the surrounding community through multiple communication channels, including press releases, public notices, postings at City offices and local libraries, the City website, and social media. Once the grant is awarded, a "kickoff" announcement meeting will be held, followed by public meetings to update the public on the cleanup and redevelopment status of the project. These meetings will provide a platform for residents to share input on health, safety, and community disruption posed by the project. The City will record these concerns to help make decisions on improving the process and performance under the grant. Community input will be appropriately responded to by the grant manager or environmental consultant. To reach residents who may not attend public meetings, communication regarding grant updates will be posted on the city's website, social media platforms, community-wide emails, or mailers, and an option to provide comments electronically or attend virtually will be made available.

3. TASK DESCRIPTIONS, COST ESTIMATES, AND MEASURING PROGRESS

a. Proposed Cleanup Plan

Once EPA approves the project work plan and enters into a cooperative agreement with the City, the City will begin the process of procuring a qualified environmental consultant. The selected consultant will have experience with the cleanup activities outlined in the work plan, community outreach, and relevant state and federal regulations. Procurement of the qualified environmental consultant will be conducted using EPA's procurement guidelines and the established City's purchasing and procurement policies. This includes publishing a Request for Proposal that will be widely distributed to qualified firms with specific guidelines and deadlines. The City will review each response, select the most qualified candidate, and enter into a master services agreement with the selected consultant.

The selected cleanup alternative involves utilizing a self-implementing cleanup approach for the PCB contamination based on the intended reuse of the proposed brownfield site and target area using the TSCA Subpart D Cleanup Standards for high and low occupancy uses. With respect adjacency of the proposed brownfield site to the Clinton River, the conceptual reuse of the proposed brownfield site includes passive uses south of the river that includes a kayak launch, stormwater management areas, walking trails, a park, and green space, all of which are considered low occupancy uses. The conceptual use to the north of the river includes mixed-use residential development, paved areas, green space, and stormwater management areas, which are considered high occupancy uses. Before the commencement of cleanup activities, a self-implementing TSCA PCB Cleanup work plan will be prepared for EPA review and approval (the state of Michigan does not have its own TSCA program). EPA's review of the plan is expected to be a timely process (generally 8 to 12 months); however, the entire project is anticipated to fall within the four-year grant period. Based on the sampling data collected from the proposed brownfield site, cleanup activities are expected to include the disposal of approximately 1,030 tons of hazardous contaminated soil, 9,315 tons of non-hazardous contaminated soil, and the import and placement of approximately 10,345 tons of clean backfill material. Contaminated materials will be transported to a licensed facility that meets applicable disposal requirements. In addition, cleanup activities include oversight by an environmental consultant to ensure compliance with all applicable regulations. Environmental verification sampling of the excavated areas will be completed using other funding sources procured by the City (see Section 1.g – Resources Needed for Site Reuse).

Description of Tasks/Activities and Outputs

Task 1: Community Involvement
b. *Project Implementation:* Includes preparing and implementing a Community Involvement Plan outlining all community participation activities, including resident notifications, cleanup schedules, project updates, and a direct line of communication for submitting questions and concerns. At a minimum, three public meetings will be held (pre, interim, and post cleanup) to solicit input, educate, and update the community on cleanup progress. This task also includes the attendance of two staff members at the EPA National Brownfield Conference.

c. Anticipated Project Schedule: Community Involvement Plan and pre-project public meeting: Quarter 2, interim public meeting: Quarter 7, post cleanup public meeting: Quarter 12
d. Task/Activity Lead: City of Auburn Hills with support from the environmental consultant.
e. Outputs: Community Involvement Plan, community involvement meetings, presentation materials, meeting minutes documenting the outcomes of each meeting.
Task 2: Cleanup Planning
b. *Project Implementation:* Includes the finalization of the Analysis of Brownfield Cleanup Alternatives (ABCA), the preparation of a Section 106 Historical Review to document the potential past use of the proposed brownfield site by Native Americans, a Section 7 Threatened and Endangered Species Review, and the development and approval of a self-implementing TSCA PCB Cleanup work plan for low and high occupancy uses, preparation of bids and specifications, solicitation of competitive pricing, and the development of a Quality Assurance Project Plan (QAPP). Both the Section 106 Historic Review and the Section 7 Threatened and Endangered Species Review are required by the EPA as part of its Brownfield Cleanup Grant requirements. The self-implementing TSCA PCB Cleanup work plan will include volume calculations using environmental site characterization data that was previously completed by the City. It is anticipated that the approval process of the self-implementing TSCA PCB Cleanup work plan will take approximately one year and require the submittal of several drafts and ongoing correspondence with EPA TSCA staff before final approval is issued. Attendance of a pre-bid meeting and site walkover will be mandatory for qualified contractors to submit competitive pricing. Retaining a qualified contractor will abide by EPA Guidelines and the City's established procurement process.
c. *Anticipated Project Schedule:* Final ABCA: Quarter 2, Section 106 and Section 7 Review: Quarter 3, QAPP: Quarter 4, Self-Implementing TSCA PCB Cleanup Work Plan: Quarters 2-7, Plans, Specifications, Contractor Selection and Documentation: Quarter 8
d. *Task/Activity Lead:* City of Auburn Hills with support from the environmental consultant.
e. *Outputs:* Final ABCA, Section 106 and Section 7 review, Approved Self-Implementing TSCA PCB Cleanup Work Plan, QAPP, Pre-Bid Meeting/Site Walkover Attendance List, Bid Tabulation and Recommendation to Award.
Task 3: Cleanup Activities
b. *Project Implementation:* Activities include the implementation of the self-implementing TSCA PCB Cleanup work plan that involves the excavation, transport and disposal of contaminated soil at an approved disposal facility, temporary sheeting and shoring, contaminated groundwater disposal, the import and placement of clean fill material, environmental verification sampling and oversight, and the installation and maintenance of appropriate surface cover. Once cleanup activities have been completed, a final cleanup report that summarizes the cleanup activities, environmental verification sampling results, disposal documentation, and remaining due care obligations will be prepared by the environmental consultant. In addition, the City will ensure that the cleanup activities conducted by the contractor are compliant with federal wage requirements in accordance with the Davis-Bacon Act.
c. *Anticipated Project Schedule:* Quarters 8-10
d. *Task/Activity Lead:* City of Auburn Hills with support from the environmental consultant and cleanup contractor.
e. *Outputs:* 1) Removal and disposal of approximately 1,030 tons of hazardous PCB contaminated soil, 9,315 tons of non-hazardous PCB contaminated soil, 200 linear feet of temporary sheeting and shoring, the disposal of 250,000 gallons of contaminated groundwater, the placement of approximately 10,345 tons of clean backfill (quantity imported), and the laboratory analysis of an estimated 132 soil verification samples. Other outputs include a final cleanup report which will summarize daily observation reports, project photos, disposal documentation, and Davis-Bacon Act compliance documentation.
Task 4: Grant Administration
b. *Project Implementation:* Includes the preparation and submittal of required quarterly and annual progress reports, input of project data into ACRES, and preparation and submittal of a final project report.
c. Anticipated Project Schedule: Progress reports will be submitted quarterly over the course of the cooperative agreement. A final project report will be prepared and submitted prior to the end of the agreement.
d. Task/Activity Lead: City of Auburn Hills with support from the environmental consultant.
e. Outputs: 12 Quarterly progress reports (assuming project is completed in three years), final project report.

f. Cost Estimates

Budget Categories		Project Tasks ($2,062,870)				Total
		Task 1 Community Involvement	Task 2 Cleanup Planning	Task 3 Cleanup Activities	Task 4 Grant Administration	
Direct Costs	Personnel	$0	$0	$0	$0	$0
	Fringe Benefits	$0	$0	$0	$0	$0
	Travel	$5,500	$0	$0	$0	$5,500
	Equipment	$0	$0	$0	$0	$0
	Supplies	$0	$0	$0	$0	$0
	Contractual	$13,000	$51,500	$208,850	$28,500	$301,850
	Construction	$0	$0	$1,755,970	$0	$1,755,970
	Other	$0	$0	$0	$0	$0
Total Direct Costs		$18,500	$51,500	$1,964,820	$28,500	$2,062,870
Indirect Costs		$0	$0	$0	$0	$0
Total Budget (Total Direct Costs + Indirect Costs)		$18,500	$51,500	$1,964,820	$28,500	$2,062,870

Task 1 – Community Involvement:

Contractual Costs: Preparation of the Community Involvement Plan is estimated to require 22.25 hours at $135/hour for an estimated cost of $3,000. Preparation and presentation for three community outreach meetings, which include consultant time to assist the city with these tasks, is approximately $3,330/meeting, 24.5 hrs./meeting at an average rate of $135/hr. = $10,000. A total of $5,500 is budgeted for attendance at the EPA Brownfield Training Conference in 2027 for two City staff. This includes registration fees ($350/person), a per-diem ($450/person over 4 days), lodging ($1,300/person over 3 nights), and air travel ($650/person). Personnel costs incurred by the City will be provided as in-kind services.

Task 2 – Cleanup Planning:

Contractual Costs: The total estimated cost to complete cleanup planning activities, which includes the following: finalizing the ABCA, preparing the memorandum of decision/equivalency memorandum, establishing an administrative record preparing a self-implementing TSCA PCB Cleanup Work Plan, a Section 106 Historical Review, a Section 7 Threatened and Endangered Species Review, and preparation of specifications and competitive bidding of the project, is $51,500. The cost of finalizing the ABCA is estimated to require 26 hours, at an average rate of $135/hr., for an estimated cost of $3,500. The cost of preparing the memorandum of decision/equivalency memorandum and establishing an administrative record, as required by EPA, is estimated to require 22.25 hours, at an average rate of $135/hr., for an estimated cost of $3,000. The cost of preparing and submitting a TSCA PCB Cleanup Work Plan for EPA TSCA approval is estimated at approximately 174 hours at an average rate of $135/hr. for an estimated cost of $23,500. The preparation and submittal of a Section 106 Historical Review is estimated to require 48 hours, at an average rate of $135/hr. for an estimated cost of $6,500. The preparation and submittal of a Section 7 Threatened and Endangered Species Review is estimated to require 26 hours, at an average rate of $135/hr. for an estimated cost of $3,500. The cost of preparing specifications, bidding, and selecting a qualified contractor to complete the cleanup activities is estimated at 59.25 hours, at an average rate of $135/hr. for an estimated cost of $8,000. The cost of preparing the QAPP is estimated at approximately 26 hours, at an average rate of $135/hr. for an estimated cost of $3,500.

Task 3 – Cleanup Activities:

Contractual Costs: The total estimated cost of cleanup activities to be paid with grant funds is $1,964,820, of which $1,755,970 is estimated for construction activities (including a 15% contingency of $199,950 to account for unforeseen conditions related to soil removal and backfill activities). The excavation, transportation, and disposal cost of hazardous PCB contaminated soil is estimated to be $397,580 based on a unit cost of $386/ton and an estimate of 1,030 tons of soil. For non-hazardous PCB contaminated soil, the excavation, transportation, and disposal cost is estimated to be $521,640 based on a unit cost of $56/ton and an estimate of 9,315 tons of soil. Approximately 200 linear feet of temporary sheeting and shoring for the excavation areas adjacent to the Clinton River is estimated at $23,000 based on a unit cost of $115/linear foot. The cost to pump and dispose of 250,000 gallons of contaminated groundwater within the excavation areas is $200,000, based on a unit cost of $0.80/gallon. The import and placement of clean backfill are estimated at $413,800, based on a $40/ton cost and a preliminary estimate of 10,345 tons. The cost of environmental oversight

generally ranges from 10-15% of the total cost of cleanup activities and is estimated at approximately $177,600 (averaging $2,960/day over 60 days). The laboratory cost of post removal verification sampling is estimated to be $13,250 based on a unit cost of $100/sample. The preparation of the Final Cleanup Report is estimated to be $12,500 and requires 92.5 hours at an average rate of $135/hr. The cost of Davis-Bacon compliance is estimated to be $5,500 and requires 40.5 hours at an average rate of $135/hr.

Task 4 – Grant Administration:

The city will oversee this task with reporting assistance from the environmental consultant. The estimated cost for this task is $28,500 over the duration of the grant. This cost assumes that 12 quarterly reports will be prepared throughout the grant, that regular updates will be submitted to EPA ACRES, that a final project report will be prepared, and that additional EPA forms will be completed. Costs include environmental consultant support (approximately 211.25 hours at $135/hr.). Personnel costs incurred by the City will be provided as in-kind services.

g. Plan to Measure and Evaluate Environmental Progress and Results

The City will track several metrics to evaluate the grant's outputs and outcomes and determine whether it is fulfilling its intended purpose. The City will measure progress by holding monthly progress meetings with the qualified environmental consultant and contractor throughout the grant. Outputs related to community involvement tasks include the number of community involvement meetings held, attendance documentation, and meeting summaries. Progress will be tracked during cleanup activities by preparing daily observation reports and site photos. Outputs will also include the excavated and disposed of quantities of contaminated materials, the number of temporary jobs created for cleanup activities, and the preparation of a final cleanup report documenting cleanup activities. Through the final site plan approval process, additional outcomes include the number of acres redeveloped, temporary construction jobs created, permanent jobs created, new residents relocating to the site, and total dollars leveraged from other funding sources and private investment will be reported; however, it is anticipated that these outcomes may not be available until after the cooperative agreement has expired.

4. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

Programmatic Capability

a. Organizational Structure and b. Description of Key Staff

Stephanie Carroll, the City's Economic Development Manager, will be responsible for the day-to-day project management, grant administration, and financial management of the grant. Ms. Carroll has over 27 years of experience supporting economic growth, business development, and community advancement. Throughout her career, she has worked closely with public and private partners to strengthen local economies and create sustainable development opportunities. Stephanie brings extensive expertise in grant writing, successfully securing funding to support infrastructure improvements, workforce development initiatives, and community-focused projects. Her deep understanding of economic development strategies, combined with her ability to navigate complex funding processes, has made her a trusted resource for organizations seeking long-term impact. Known for her strategic thinking, attention to detail, and collaborative leadership style, Stephanie has consistently driven results while fostering strong relationships with stakeholders. She remains committed to advancing economic vitality and supporting initiatives that benefit both businesses and the broader community.

c. Acquiring Additional Resources

Once EPA approves the project work plan and enters into a cooperative agreement with the City, the City will immediately begin the procurement process to retain a qualified environmental consultant. The desired consultant will be experienced in conducting various types of brownfield cleanup activities, as outlined in our cleanup plan, along with community outreach experience and familiarity with the applicable state and federal regulations.

As described in Section 3, Task 2 – Cleanup Planning, the City, with assistance from the qualified environmental consultant, will prepare project specifications and publish a Request for Proposal with allotted guidelines and deadlines to solicit competitive pricing from qualified contractors. The selected contractor will be experienced in conducting cleanup activities specific to those outlined in the EPA approved Self-implementing TSCA PCB Cleanup Work Plan, and familiar with the appropriate state and federal regulations.

Past Performance and Accomplishments

f. Never Received Any Type of Federal or Non-Federal Financial Assistance Agreements

The City of Auburn Hills has never received any type of federal or non-federal financial assistance agreement (grant or cooperative agreement).

AKT PEERLESS™
ENVIRONMENTAL SERVICES

DRAFT ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES

USEPA Brownfield Cleanup Grant Application
Kayak Point Redevelopment Area
Auburn Hills, Michigan

PREPARED FOR The City of Auburn Hills
1827 N. Squirrel Road
Auburn Hills, Michigan 48326

DATE December 2025

Table of Contents

FIGURES

DRAFT ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES

Kayak Point Redevelopment Area

1.0 Introduction

This draft Analysis of Brownfield Cleanup Alternatives (ABCA) was prepared by AKT Peerless for the Kayak Point Redevelopment Area Project. It is a required element of the United States Environmental Protection Agency (USEPA) Brownfield Cleanup Grant application that the City of Auburn Hills, Michigan (the City) is submitting.

The Kayak Point Redevelopment Area (the proposed brownfield site) consists of a single parcel totaling approximately 11.1 acres located within the City of Auburn Hills' Clinton River District. It is bordered by a commercial development to the north, single-family residential homes to the east, Auburn Road to the south, and Opdyke Road the west in Auburn Hills, Oakland County, Michigan (the subject property, and proposed brownfield site). If awarded, the proposed environmental cleanup activities conducted at the proposed brownfield site will be funded, in part, under the USEPA Brownfield Cleanup grant.

In preparing this draft ABCA for the Project, AKT Peerless and the City (property owner) considered environmental factors, various site characteristics, surrounding property use, land use restrictions, potential future uses of the subject property and surrounding area, and applicable cleanup goals for the Project.

This draft ABCA provides a comparative analysis of the cleanup alternatives being considered using the criteria of effectiveness, ability to implement, and the cost of each alternative. This draft ABCA recommends the most appropriate cleanup alternative, which will position the subject property for redevelopment for residential and passive recreational use, which is a direct benefit to the public.

2.0 Background

2.1 Site Description

The proposed brownfield site consists of a single parcel of land that is in Section 26, Township 3 North, Range 10 East, Oakland County, Michigan.

Subject Property Identifiers

Address	Tax Identification Number	Approximate Acreage
2041 Auburn Road	14-26-351-001	11.1

The proposed brownfield site is currently undeveloped, vegetated land bisected by the Clinton River with no structures. Refer to **Figure 1** for a topographic site location map.

2.2 Site History

Historically, the proposed brownfield site was vacant land as early as 1937. Between 1957 and 1983 the site was listed as the Auburn Heights Trailer camp and later used for overflow parking for the former Pontiac Silverdome. By 1993, the property was listed as Country Kitchen. At the time the City of Auburn Hills acquired the property through tax foreclosure in 2017, the property was vacant with no structures.

2.3 Previous Environmental Investigations

To date there have been several environmental investigations of the site.

August 2018 Phase I Environmental Site Assessment by Applied Environmental

In August 2018, Applied Environmental completed a Phase I Environmental Site Assessment (ESA) of the proposed brownfield site on behalf of Opdyke Medical, PLLC. Based on the findings of the Phase I ESA, it was the opinion of Applied Environmental that no further inquiry into the environmental condition of the site was required.

January 2019 Soils Investigation by McDowell & Associates

McDowell & Associates (McDowell) conducted a geotechnical soil investigation of the proposed brownfield site in January 2019. McDowell & Associates' soil investigation consisted of the completion of four soil borings (borings 1 through 4). McDowell noted that on January 7 and 8, 2019, Borings 1 and 2, which were originally drilled in 2016, were extended from their 2016 depths of 15.5 feet and 20 feet down to depths of 60.5 feet and 30 feet below ground surface (bgs), respectively. Additionally, borings 3 and 4 were drilled in 2016 down to depths of 15.5 feet and 20.5 feet bgs, respectively. McDowell noted that the borings generally encountered foundry sand type fill soils over highly organic peat and marl swamp type soils, which in turn, overlie native granular soils. Groundwater was encountered in all four of the borings at depths of ranging from 4 feet to 6 feet bgs.

McDowell concluded that the fill soils, consisted mostly of foundry sand over highly organic soils were found in the borings down to 18.5 feet bgs. McDowell also noted that the site was reported to have been used as an overflow parking area for the former Silverdome sports arena, which was constructed in the 1970s, and thus it appears the site soils have been in place for at least 30-40 years.

February 2019 Phase II ESA by Applied Environmental

Applied Environmental (Applied)conducted a subsurface investigation of the site in February 2019. The purpose of Applied's investigation was to determine the absence/presence of subsurface contamination associated with foundry sand documented in geotechnical borings completed in January 2019. Applied's subsurface investigation consisted of the completion of three soil borings to the maximum depth of 12 feet bgs.

During the completion of the soil borings groundwater was encountered in all three soil boring locations at depths ranging from 7 to 8 feet bgs. A total of four soil samples and two groundwater samples were submitted for laboratory analysis for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PNAs), polychlorinated biphenyls (PCBs), and 10 Michigan metals. The investigation was intended to determine the absence or presence of contamination associated with the foundry sand material discovered at the Site. The investigation summarized the following results relative to PCB contamination:

- Soil analytical results indicated that chromium total was detected at concentrations above Michigan Department of Environment, Great Lakes, and Energy (EGLE)Generic Residential Drinking Water Protection (DWP) Criteria and Groundwater Surface Water Interface Protection (GSIP) Criteria. Additionally, Applied Environmental noted that PCBs were detected at concentrations above the federal Toxic Substances Control Act (TSCA) screening levels, however they did not indicate which screening levels they compared the PCBs to.
- Groundwater analytical results indicated that PCBs were detected at concentrations above Generic Residential EGLE Drinking Water (DW) Criteria and Groundwater Surface Water Interface (GSI) Criteria.

May 2019 through December 2019 Summary of Evaluation Activities by AKT Peerless

AKT Peerless completed an initial PCB evaluation of the proposed brownfield site between May 30, 2019 and December 12, 2019. On May 30, 2019 and May 31, 2019 AKT Peerless visually surveyed the northern and central portions of the site and placed boring location markers throughout the site based on the survey maps for the Site. Many of locations were placed in the northern portion of the site based on a development plan for the site that has since been abandoned. Nonetheless, the spatial distribution of the borings were deemed adequate to evaluate this area of the site. The following is a summary of the boring and sampling plan:

- June 3, 2019 - a total of 27 borings were advanced, AKT-1 through AKT-27, on the northern portion of the Site. A total of 54 soil samples were submitted for laboratory analysis for PCBs and 2 soil samples were submitted for unleaded gasoline parameters (ULGs). The analysis of ULGs was based on an “odor” identified by the geotechnical engineer in the same location of these borings. A gasoline station operates just north and upgradient of the Site.
- June 4, 2019 - a total of 41 borings were advanced, AKT-28 through AKT-68, on the northern portion of the Site. A total of 54 soil samples were submitted for laboratory analysis for PCBs and 2 soil samples were submitted for ULGs. The rational for the ULG analysis is the same as the above. All four samples analyzed for ULGs were in the general location of the geotechnical boring which exhibited an “odor” or were placed closer to the adjoining gasoline station.
- June 5, 2019 - a total of 41 borings were advanced, AKT-69 through AKT-109, on the central portion of the Site. A total of 41 soil samples were submitted for laboratory analysis for PCBs.
- June 6, 2019 - a total of 28 borings were advanced, AKT-110 through AKT-137, on the central portion of the Site. A total of 28 soil samples were submitted for laboratory analysis for PCBs.
- June 7, 2019 - a total of 4 borings were advanced, AKT-138 through AKT-141, and 3 temporary monitoring wells were installed, AKT-138/TW through AKT-140/TW, on the central portion of the Site. Additionally, AKT Peerless collected 5 sediment samples, Sed-1 through Sed-5, from the Clinton River which runs through the Site. A total of 7 soil samples, 3 groundwater samples, and 5 sediment samples were submitted for laboratory analysis for PCBs.
- November 18, 2019 - a total of 24 borings were advanced, AKT-142 through AKT-165, and 9 semi-permanent monitoring wells were installed, AKT-142/TW, AKT-146/TW, AKT-151/TW, AKT-156/TW, and AKT-161/TW though AKT-165/TW, on the central portion of the Site. Additionally, a total of 5 borings, AKT-1-S through AKT-5-S were advanced, and 5 semi-permanent monitoring wells, AKT-1-S/TW through AKT-5-S/TW, were installed on the southern portion of the Site. On the central portion of the Site, a total of 27 soil samples (including 3 duplicate samples), were submitted for laboratory analysis. Ten samples were submitted for laboratory analysis for PCBs, PNAs, target 23 metals, and hexavalent chromium; ten samples were submitted for laboratory analysis for PCBs; six samples were submitted for laboratory analysis for PCBs, PNAs, and priority 23 metals; and one

soil sample was submitted for laboratory analysis for PCBs, PNAs, Priority 23 metals, and hexavalent chromium. On the southern portion of the Site, a total of 6 soil samples (including 1 duplicate sample) were submitted for laboratory analysis. Five samples were submitted for laboratory analysis for PCBs, PNAs, and priority 23 metals and one sample was submitted for laboratory analysis for PCBs, PNAs, priority 23 metals, and hexavalent chromium.

- On November 19, 2019 - a total of 34 borings were advanced, AKT-7-S through AKT-15-S, AKT-18-S, AKT-35-S through AKT-48-S, AKT-55-S through AKT-71-S, and AKT 78-S, and 3 semi-permanent monitoring wells, AKT-11-S/TW, AKT-44-S/TW, and AKT-55-S/TW, were installed on the southern portion of the Site. A total of 39 soil samples, (including 5 duplicate samples) were submitted for laboratory analysis. 11 samples were submitted for laboratory analysis for PCBs, PNAs, priority 23 metals, and hexavalent chromium and 28 samples were submitted for laboratory analysis for PCBs. Furthermore, a total of 10 groundwater samples (including 1 duplicate) from the central portion of the Site were submitted for laboratory analysis of PCBs, PNAs, and priority 23 metals.
- November 20, 2019 - a total of 7 borings were advanced, AKT-49-S through AKT-54-S, and AKT 73-S, on the southern portion of the Site. A total of 8 soil samples (including 1 duplicate sample) were submitted for laboratory analysis. Two samples were submitted for laboratory analysis for PCBs, PNAs, priority 23 metals, and hexavalent chromium; five samples were submitted for laboratory analysis for PCBs; and one sample was submitted for laboratory analysis for PCBs, PNAs, and priority 23 metals. A total of 9 groundwater samples (including 1 duplicate) from the southern portion of the Site were submitted for laboratory analysis for PCBs, PNAs, and priority 23 metals.
- December 12, 2019 - a total of 32 borings were advanced, AKT-6-S, AKT-16-S, AKT-17-S, AKT-19-S through AKT 34-S, AKT-61-S through AKT-64-S, AKT-66-S through AKT-68-S, AKT-70-S, AKT-72-S, and AKT-74S through AKT-77-S, and 3 semi-permanent monitoring wells, AKT-6-S/TW, AKT-21-S/TW, and AKT-32-S/TW, were installed on the southern portion of the Site. A total of 36 soil samples (including 4 duplicate samples) were submitted for laboratory analysis. Six samples were submitted for laboratory analysis for PCBs, PNAs, target 23 metals, and hexavalent chromium; 26 samples were submitted for laboratory analysis for PCB; three samples were submitted for laboratory analysis for PCBs, PNAs, and target 23 metals; and one sample was submitted for laboratory analysis for PCBs and target 23 metals. A total of 4 groundwater samples (including 1 duplicate) from the southern portion of the Site were submitted for laboratory analysis of PCBs, PNAs, and target 23 metals.

Based on review of the data collected for the northern portion of the Site, PCBs were identified within 4 soil samples at concentrations exceeding the EPA Action Level for Low Occupancy (AKT-17 (6'-7'), AKT-35 (3-4'), AKT-40 (1.5'-2.5'), and AKT-50 (1-2')). For the central portion of the Site, PCBs were identified within 3 soil samples at concentrations exceeding the EPA Action Level for Low Occupancy (AKT-71 (0.5'-1.5'), AKT-143 (0.5-2.5’), and AKT-162 (2-3’)). Additionally, PCBs were identified within 4 groundwater samples at concentrations exceeding the EPA Navigable Water Cleanup Levels (AKT-138/TW, AKT-139/TW, AKT-161/TW, and AKT-162/TW).

Furthermore, aluminum, arsenic, cobalt, iron, manganese, nickel, selenium, and silver were identified in soil samples above EGLE non-residential cleanup criteria (NRCC) for DWP and/or GSIP criterion. Aluminum, barium, cadmium, copper, iron, lead, magnesium, nickel, sodium, and zinc were identified in groundwater samples above the EGLE NRCC for DW criteria and/or GSI criteria and PCBs were identified in groundwater samples above the EGLE GSI criteria.

For the southern portion of the Site, PCBs were not identified within soil samples at concentrations exceeding the EPA Action Level for Low Occupancy. PCBs were identified within 3 groundwater samples at

concentrations exceeding the EPA Navigable Water Cleanup Levels (AKT-2-S/TW, AKT-3-S/TW, and AKT-44-S/TW). Furthermore, aluminum, antimony, arsenic, cadmium, cobalt, iron, magnesium, manganese, total mercury, nickel, selenium, and silver were identified in soil samples above the EGLE NRCC for DWP and/or GSIP criteria. Aluminum, barium, cadmium, copper, iron, lead, magnesium, nickel, silver, sodium, and zinc were identified in groundwater samples above the EGLE NRCC for DW criteria and/or GSI criteria and PCBs were identified in groundwater samples above the EGLE GSI criteria.

Because the concentrations of PCBs in soil exceed the federal TSCA, Subpart D Cleanup Standards (25,000 µg/kg for low occupancy), AKT Peerless recommended a self-implementing cleanup including excavation and disposal of PCB contaminated soils, as well as, capping of certain areas of the Site in accordance with the requirements of 40 CFR §761.61(a).

June 2021 AKT Peerless' Limited Subsurface Investigation

AKT Peerless conducted a limited subsurface investigation on the Site to delineate several areas of PCB impacted areas above EGLE direct contact criteria. 60 soil borings on the northern, central, and southern portions of the site were advanced. Each area (hot spot) was delineated to the north, south, east, and west with the exception of the hot spots along the Clinton River where delineation north and south was not accessible. 167 soil samples were collected from the northern portion of the site, 84 soil samples from the central portion of the site, and 30 soil samples from the southern portion of the site. All samples were submitted for laboratory analysis for PCBs. Listed below are each hot spot that had a PCB exceedance above EGLE direct contact criteria (i.e.: 16,000 µg/kg) for non-residential properties and the corresponding soil borings that were drilled in an effort to delineate each hot spot.

Southern portion of the site:

- Hot spot AKT-3-S/Dup-1-S: Soil borings AKT-3-S/TWA, AKT-170, AKT-171, AKT-172 were drilled to12 feet bgs where foundry sand, silt, and sand were encountered.
- Hot spot AKT-16-S: Soil borings AKT-16-SA, AKT-166, AKT-167, AKT-168, AKT-169 were drilled to12 feet bgs where clay, silt, and sand were encountered.

Central portion of the site:

- Hot spot AKT-162/TW: Soil borings AKT-162/TWA, AKT-209, AKT-210, AKT-211 were drilled to 16 bgs where clay, foundry sand, sand, and peat were encountered.
- Hot spot AKT-153: Soil borings AKT-153A, AKT-173, AKT-174, AKT-175, AKT-176 were drilled 12 feet to 16 feet bgs where clay, gravel, foundry sand, sand, and peat were encountered.
- Hot spot AKT-100: Soil borings AKT-100A, AKT-177, AKT-178, AKT-179, AKT-180 were drilled to 12 feet bgs where gravel, sand, and foundry sand were encountered.
- Hot spot AKT-143: Soil borings AKT-143A, AKT-187, AKT-188, AKT-189, AKT-71A were drilled to 12 feet bgs where clay, sand, and foundry sand were encountered.
- Hot spot AKT-71: Soil borings AKT-71A, AKT-143A, AKT-190, AKT-145A, AKT-186 were drilled to 12 feet bgs where sand and foundry sand were encountered.
- Hot spot AKT-145: Soil borings AKT-145A, AKT-71A, AKT-185, AKT-186, AKT-190 were drilled to 12 feet bgs where sand and foundry sand were encountered.

Northern portion of the site:

- Hot spot AKT-50: Soil borings AKT-50A, AKT-186, AKT-191, AKT-192, AKT-193 were drilled 12 feet to 16 feet bgs where clay, foundry sand, and sand were encountered.

- Hot spot AKT-26: Soil borings AKT-26A, AKT-181, AKT-182, AKT-183, AKT-184 were drilled 12 feet to 16 feet bgs where gravel, sand, peat, and foundry sand were encountered.
- Hot spot AKT-17: Soil borings AKT-17A, AKT-194, AKT-195, AKT-196, AKT-197 were drilled 16 feet to 20 feet bgs where silt, sand, clay, peat, cobbles, and foundry sand were encountered.
- Hot spot AKT-35: Soil borings AKT-35A, AKT-199, AKT-201, AKT-202, AKT-203 were drilled 20 feet to 24 feet bgs where silt, peat, marl, clay, and foundry sand were encountered.
- Hot spot AKT-40: Soil borings AKT-40A, AKT-198, AKT-204, AKT-205, AKT-208 were drilled 20 feet to 24 feet bgs where silt, peat, clay, marl, and foundry sand were encountered.
- Hot spot AKT-39: Soil borings AKT-39A, AKT-199, AKT-AKT-200, AKT-205, AKT-206, AKT-207 were drilled 20 feet to 28 feet bgs where silt, clay, peat, marl, gravel, and foundry sand were encountered.

Refer to **Figures 3 to 22** for cross-sections with analytical results and Table 1 for a summary of the PCB soil analytical results.

2.4 Current Environmental Concerns

Environmental investigations conducted at the site have identified 10 separate areas of the proposed brownfield site that have been impacted by soil contaminated by PCBs. The sampling data collected from the proposed brownfield site was sufficient to horizontally and vertically delineate the impacted areas. In total, approximately 1,030 tons of PCB contaminated soil have been identified within these 10 areas at concentrations that exceed the TSCA standard of 50 parts per million (ppm) and therefore is considered a hazardous material. An additional 9,315 tons of PCB contaminated soil has also been identified at concentrations below 50 ppm which is the concentration threshold that exceeds TSCA's Subpart D Cleanup Standards and is considered as non-hazardous material.

3.0 Proposed Cleanup Objectives

The City intends to market and sell the property to a developer once cleanup activities have been completed. Preliminary conceptual plans include construction of a mixed-use development that includes 100 new, affordable senior housing units and 26,500 square feet of ground floor commercial space on the northern portion of the proposed brownfield site, and a kayak launch, walking path, and park on the southern portion of the site. Stormwater detention basin will be constructed using sustainable best management practices intended to offset climate change effects. Specifically, the detention area will reduce the effects of peak stormwater discharges during wet-weather rain events, reducing the effects of channel degradation of the nearby Huron River. In addition, the basin will be stabilized with native wetland vegetation that has high transpiration rates, provides habitat for area wildlife, and a water quality benefit by filtering non-point source pollutants commonly associated with urban stormwater runoff.

Specific cleanup activities to accomplish brownfield redevelopment for this Project include:

- Preparing the required grant documentation which includes the finalization of the analysis of brownfield cleanup alternatives, preparation of a community involvement plan, the conducting of an endangered species and historic property review, the establishment of an administrative record, and the preparation of a self-implementing TSCA Subpart D cleanup plan.
- The excavation, transportation, and disposal of PCB contaminated soil
- The import, placement and compaction of clean backfill

- Field oversight, sampling and reporting to verify and document the achievement of cleanup goals and objectives
- Final reporting

Response activities are necessary given the site conditions, the nature of the hazardous substances on-site, and the proposed redevelopment plan. Actual or threatened releases of hazardous substances at the property, if not addressed by implementing the response action(s) proposed below, may present an imminent and substantial endangerment to public health, welfare, and/or the environment.

3.1 Applicable Regulations and Cleanup Standards

Laws and regulations that apply to this cleanup include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Brownfields Utilization, Investment, and Local Development (BUILD) Act, and the Federal Davis-Bacon Act. Federal, state, and local laws regarding the procurement of contractors to conduct the cleanup will be followed. As described herein, all cleanup activities will be in accordance with TSCA Subpart D Cleanup Standards and the State of Michigan regulations, as applicable. All applicable permits and documentation will be obtained before the work commences, and all work will be conducted in accordance with the conditions for approval.

Remediation activities will be undertaken in a manner compliant with protocols established by EGLE pursuant to Part 201 of NREPA, federal Occupational Safety and Health Administration (OSHA), and/or Michigan Occupational Safety and Health Administration (MIOSHA), as applicable.

Soil impacts were identified at the subject property and compared to TSCA Subpart D standards. These standards are:

Standard	Criteria	No Action	Cap with Deed Restriction	Removal Required
High-Occupancy	Greater than 335 hours annually	Less than 1 ppm	Greater than 1 ppm, less than 10 ppm	Greater than 10 ppm
Low-Occupancy	Less than 335 hours annually	Less than 25 ppm (with deed restriction)	Greater than 25 ppm, less than 100 ppm	Greater than 100 ppm

3.2 Cleanup Alternatives

To verify that the use of the USEPA Brownfield Cleanup Grant funds for the Project is appropriate and warranted, the City of Auburn Hills and AKT Peerless conducted an evaluation of the proposed development activities to ensure that they are the best and appropriate environmental activities based on a combination of efficacy, implementation, and cost.

Remedial alternatives included in this portion of the ABCA were developed based on the nature and extent of contamination, planned development activities and schedule, and technological feasibility.

3.2.1 Alternative No. 1 – No Action

The “no action” alternative is included as a baseline comparison to other remedial alternatives. The “no action” alternative assumes no action is taken and is not a valid option for the subject property.

A “no action” alternative would be the lowest cost; however, the “no action” option does not reduce the threat of potential undue exposure to the identified contamination and potential additionally identified

soil contamination encountered during site redevelopment activities. Therefore, the "no action" option is not recommended, as it is not compatible with due care obligations and the needs of development and reuse of the proposed brownfield site.

Effectiveness

The "no action" option is not appropriate for this project. Contaminated soil generated during site development activities must be managed in accordance with all applicable rules and regulations. In addition, if contaminated soil is not removed from the site and/or the exposures are controlled, it infers that no special management is required. This does not protect public health, the community or workers at the site, or the environment.

Ability to Implement

This alternative would be the simplest to implement; however, is not technically feasible because residuals generated during the redevelopment activities would not be managed in a manner which: (1) conforms to Federal, State, and local solid waste and environmental response laws; (2) protects workers and the general public from unacceptable exposure to the residuals; and (3) reduces the potential for exacerbation of environmental conditions at the subject property.

Cost

There are no direct costs associated with this alternative; however, due care responsibilities would not be addressed, which may result in additional management costs during development and future use.

3.2.2 Alternative No. 2 – Cleanup of PCB Contaminated Soils

This alternative involves removal of all PCB contaminated soil via excavation, transport, and offsite disposal at an appropriate landfill facility for soil that exceeds TSCA Subpart D Standards for high occupancy uses. Additionally, the excavation area would be backfilled with clean imported backfill, compacted, and graded to match surrounding grades. This removal option would eliminate the presence of PCB soil contamination within the proposed brownfield site cleanup area and facilitate target area redevelopment.

Effectiveness

The removal of PCB contaminated soil to the high occupancy standard would eliminate the presence of known PCB contaminated soils within the proposed brownfield site and would allow redevelopment activities to proceed. This alternative would also be protective of public health, the community, or workers at the site and would improve the general environmental quality of the proposed brownfield site by removing the contaminated media; however, this alternative has some drawbacks over the other alternatives, including (1) creating potential off-site safety concerns associated with transportation of waste materials and (2) using landfill capacity.

The removal and disposal of known PCB contaminated soils to the high occupancy standard will mitigate the threat to human health and the environment, will not require long term operation and maintenance, and will support future development of the subject property. Therefore, this alternative is the most effective option for this Project.

Ability to Implement

Aspects of this alternative are routinely used and easily implemented. The proposed brownfield site is accessible for field equipment, personnel, and disposal facilities that are licensed to accept the

contaminated soil are located a reasonable distance from the proposed brownfield site. This alternative can be completed in a timely manner; however, additional health and safety concerns will need to be addressed for management, monitoring, and construction worker exposure to the contaminated soil. In addition, open excavations will need to be properly maintained and barricaded to protect the surrounding areas and prevent undue access to the property.

Cost

The volume of contaminated soil that would need to be removed from the proposed brownfield site is estimated at 165,000 tons based on an 11.1-acre area at an average excavation depth of 6 feet. The estimated cost of excavation, transportation, and disposal of the contaminated soil at a licensed facility, in addition to the import of clean backfill and the requisite management, sampling, and monitoring activities, is estimated to be between $20 million and $25 million, which exceeds the total funding the City has procured for this project.

3.2.3 Alternative No. 3 – Targeted Cleanup of PCB Contaminated Soils

This alternative involves targeted removal of PCB contaminated soil via excavation, transport, and offsite disposal at an appropriate landfill facility for soil that meets the TSCA Subpart D Standards for high occupancy used for the northern portion of the site, and low occupancy uses for the southern portion of the site. Cleanup to these standards would facilitate the reuse of the proposed brownfield site. Once the contaminated soil has been removed, clean backfill will be imported to the site.

Effectiveness

The targeted removal of PCB contaminated soil to the high and low occupancy standards (as applicable) and subsequent backfill with clean imported fill would significantly reduce the presence of contaminated soils within the proposed brownfield site. Cleanup to the low occupancy standard at the southern portion of the site would be sufficient to redevelop the proposed brownfield site into passive uses (i.e. parks).

Cleanup to the high occupancy standard would be sufficient to facilitate the redevelopment of the northern portion of the site for residential use. This alternative would still be protective of public health, the community, or workers at the site.

Like Alternative No. 2, drawbacks include: (1) creating potential off-site safety concerns associated with transportation of waste materials and (2) using landfill capacity. In addition, engineering controls that include a detention basin liner and demarcation barrier may be required within the low occupancy use areas, which require periodic inspection and long-term operation and maintenance.

Ability to Implement

Aspects of this alternative are routinely used and implemented. The proposed brownfield site is accessible for field equipment, personnel, and disposal facilities that are licensed to accept the contaminated soil are located a reasonable distance from the proposed brownfield site. This alternative can be completed in a timely manner; however, additional health and safety concerns will need to be addressed for management, monitoring, and construction worker exposure to the contaminated soil. In addition, open excavations will need to be properly maintained and barricaded to protect the surrounding areas and prevent undue access to the property.

Cost

The estimated cost of excavating, transporting, and disposing of the targeted contaminated soil at a licensed facility, the import of clean backfill, and the requisite management, sampling, and monitoring activities estimated to be $2.1 million based on site characterization data obtained from the proposed brownfield site.

4.0 Recommended Cleanup Alternatives

The Cleanup Alternatives for environmental activities related to contaminated soil at the subject property were evaluated based on effectiveness, ability to implement, cost, and the proposed redevelopment of the subject property. The results of the analyses of each of these factors for each option were evaluated as a whole and between options to arrive at the recommendation presented below.

The "no action" alternative was included in this ABCA for comparative purposes only and is not a feasible option for managing PCB contamination at the subject property. It does not address concerns to human health, safety, welfare and the environment. Further, the proposed property redevelopment cannot be completed without remediation measures. Consequently, the "no action" option was eliminated from further discussion.

With respect to cost feasibility, the recommended alternative is Alternative 3: Targeted Cleanup of PCB Contaminated Soils, which will achieve the applicable standards under TSCA Subpart D. The costs associated with Alternative 2 are not economical as the total remediation costs are estimated to be greater than the property's value. The targeted cleanup of PCB contaminated soil to TSCA Subpart D Standards would utilize EPA Brownfield Cleanup funding to address some remedial activities needed, allowing the leveraging of state brownfield tax-increment financing (TIF) incentives to assist with redevelopment of the proposed brownfield site. Neither program would provide enough funding to fully address the PCB contamination's cleanup and due care response activities on their own. Following the implementation of cleanup activities, The City will submit a TSCA Closure Report to EPA documenting compliance with TSCA subpart D which would include requirements for post-closure actions, including inspections and operation and maintenance activities, as applicable.

5.0 Signatures of Environmental Professionals

This ABCA was prepared by the following individuals:

Ryan Higuchi
Senior Project Manager
AKT Peerless
Farmington, Michigan
Phone: (248) 615-1333

Megan Napier, PE
Partner
AKT Peerless
Farmington, Michigan
Phone: (248) 615-1333

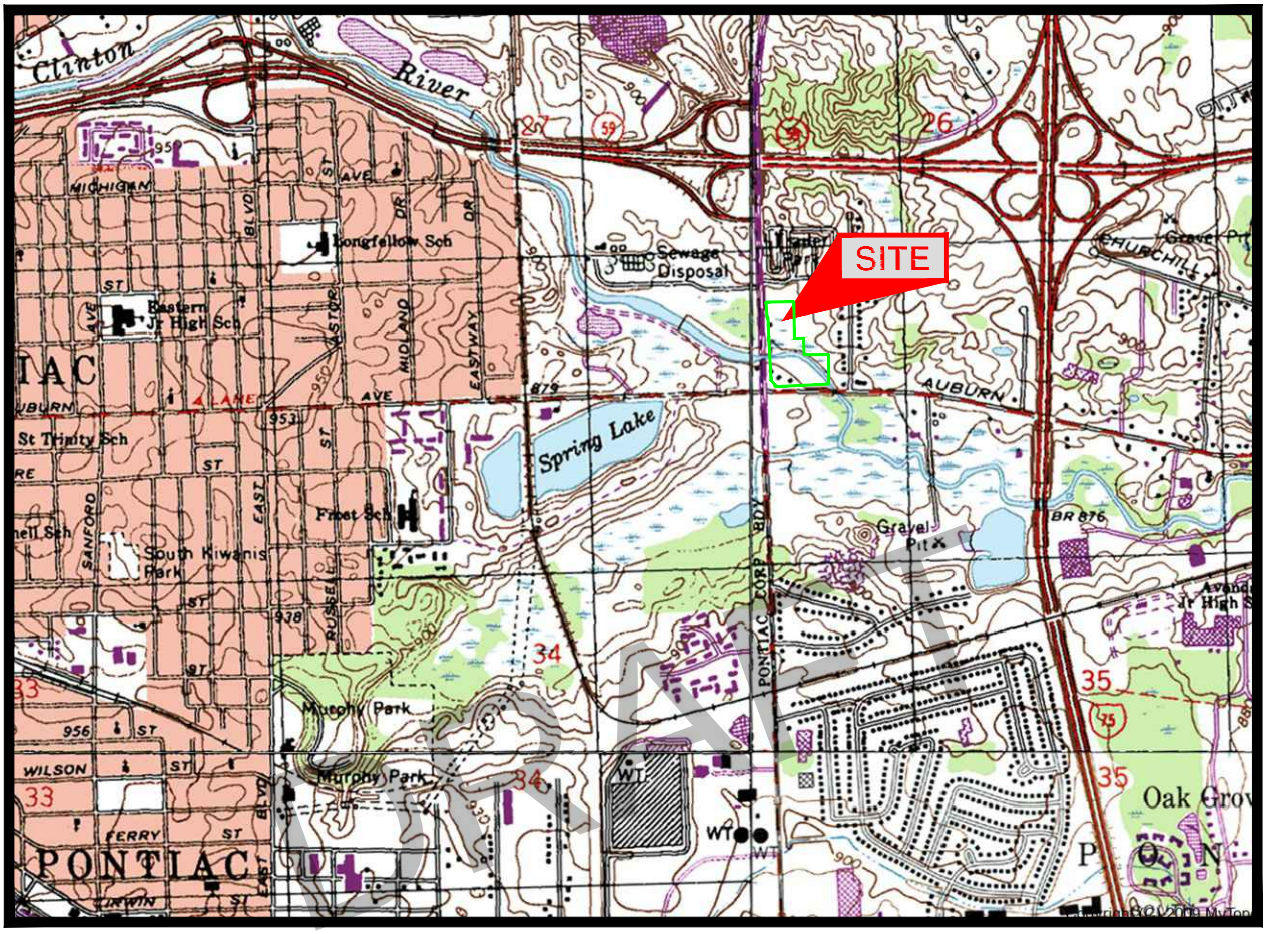
AKT PEERLESS
ENVIRONMENTAL SERVICES

Figures

PONTIAC NORTH QUADRANGLE

MICHIGAN - OAKLAND COUNTY

7.5 MINUTE SERIES (TOPOGRAPHIC)



T.3 N.-R.10 E.

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0 1 KILOMETER

MICHIGAN
QUADRANGLE LOCATION

IMAGE TAKEN FROM 1997 U.S.G.S. TOPOGRAPHIC MAP

AKTPEERLESS
ENVIRONMENTAL SERVICES

www.aktpeerless.com

TOPOGRAPHIC LOCATION MAP

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

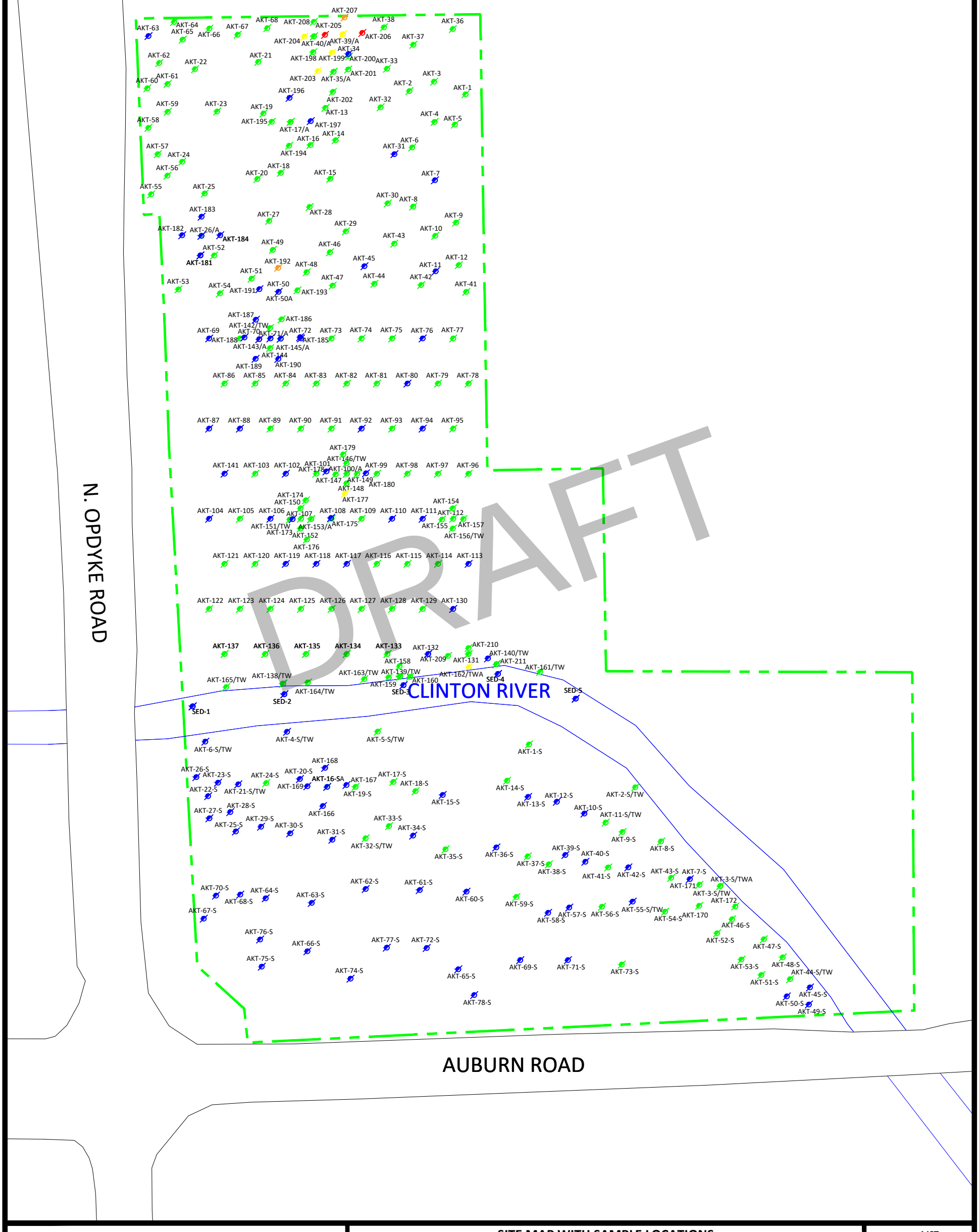
DRAWN BY: MST
DATE: 11/16/2021

FIGURE 1

LEGEND

= AKT PEERLESS SAMPLE LOCATIONS
= EXCEEDS 100,000 µg/Kg
= EXCEEDS 50,000 µg/Kg
= EXCEEDS 25,000 µg/Kg
= EXCEEDS 1,000 µg/Kg
= PROPERTY LINE

N
W E
S



AKTPEERLESS

www.aktpeerless.com

SITE MAP WITH SAMPLE LOCATIONS

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

DRAWN BY: MST
DATE: 07/29/2021

0 50 100
SCALE: 1" = 100'± 0

FIGURE 2

AKT-1 (7-8')	
06/03/2019	
Polychlorinated biphenyls	4,700 µg/Kg (3)

AKT-3 (6-7')	
06/03/2019	
Polychlorinated biphenyls	5,100 µg/Kg (3)

AKT-4 (3-4')	
06/03/2019	
Polychlorinated biphenyls	4,600 µg/Kg (3)

AKT-5 (2-3')	
06/03/2019	
Polychlorinated biphenyls	7,700 µg/Kg (3)

AKT-6 (2-3')	
06/03/2019	
Polychlorinated biphenyls	4,800 µg/Kg (3)

AKT-13 (2-3')	
06/03/2019	
Polychlorinated biphenyls	6,600 µg/Kg (3)

AKT-13 (7-8')	
06/03/2019	
Polychlorinated biphenyls	14,000 µg/Kg (3)

AKT-15 (3-4')	
06/03/2019	
Polychlorinated biphenyls	5,200 µg/Kg (3)

AKT-17 (2-3')	
06/03/2019	
Polychlorinated biphenyls	8,200 µg/Kg (3)

AKT-17 (6-7')	
06/03/2019	
Polychlorinated biphenyls	34,000 µg/Kg (3,4)

AKT-18 (2-3')	
06/03/2019	
Polychlorinated biphenyls	3,400 µg/Kg (3)

AKT-19 (1-2')	
06/03/2019	
Polychlorinated biphenyls	4,500 µg/Kg (3)

AKT-19 (4-5')	
06/03/2019	
Polychlorinated biphenyls	3,700 µg/Kg (3)

AKT-21 (1-2')	
06/03/2019	
Polychlorinated biphenyls	6,900 µg/Kg (3)

AKT-21 (3-4')	
06/03/2019	
Polychlorinated biphenyls	4,800 µg/Kg (3)

AKT-22 (0.5-1.5')	
06/03/2019	
Polychlorinated biphenyls	7,100 µg/Kg (3)

AKT-22 (3-4')	
06/03/2019	
Polychlorinated biphenyls	4,900 µg/Kg (3)

AKT-23 (3-4')	
06/03/2019	
Polychlorinated biphenyls	4,800 µg/Kg (3)

AKT-24 (1-2')	
06/03/2019	
Polychlorinated biphenyls	10,000 µg/Kg (3)

AKT-24 (3-4')	
06/03/2019	
Polychlorinated biphenyls	3,900 µg/Kg (3)

AKT-25 (3-4')	
06/03/2019	
Polychlorinated biphenyls	3,200 µg/Kg (3)

AKT-26 (1-2')	
06/03/2019	
Polychlorinated biphenyls	22,000 µg/Kg (3)

AKT-26 (3-4')	
06/03/2019	
Polychlorinated biphenyls	3,900 µg/Kg (3)

AKT-27 (0.5-1.5')	
06/03/2019	
Polychlorinated biphenyls	11,000 µg/Kg (3)

AKT-27 (3-4')	
06/03/2019	
Polychlorinated biphenyls	15,000 µg/Kg (3)

AKT-28 (3-4')	
06/04/2019	
Polychlorinated biphenyls	5,600 µg/Kg (3)

AKT-29 (1-2')	
06/04/2019	
Polychlorinated biphenyls	3,300 µg/Kg (3)

AKT-29 (3-4')	
06/04/2019	
Polychlorinated biphenyls	3,700 µg/Kg (3)

AKT-30 (3-4')	
06/04/2019	
Polychlorinated biphenyls	5,300 µg/Kg (3)

AKT-32 (0.5-1.5)	
06/04/2019	
Polychlorinated biphenyls	3,800 µg/Kg (3)

AKT-33 (3-4')	
06/04/2019	
Polychlorinated biphenyls	3,400 µg/Kg (3)

AKT-34 (0.5-1.5')	
06/04/2019	
Polychlorinated biphenyls	5,400 µg/Kg (3)

AKT-34 (3-4')	
06/04/2019	
Polychlorinated biphenyls	11,000 µg/Kg (3)

AKT-34 (0.5-1.5')	
06/04/2019	
Polychlorinated biphenyls	5,400 µg/Kg (3)

AKT-34 (3-4')	
06/04/2019	
Polychlorinated biphenyls	11,000 µg/Kg (3)

AKT-35 (1-2')	
06/04/2019	
Polychlorinated biphenyls	6,600 µg/Kg (3)

AKT-35 (3-4')	
06/04/2019	
Polychlorinated biphenyls	29,000 µg/Kg (3,4)

AKT-37 (1-2')	
06/03/2019	
Polychlorinated biphenyls	12,000 µg/Kg (3)

AKT-38 (1.5-2.5')	
06/03/2019	
Polychlorinated biphenyls	7,800 µg/Kg (3)

AKT-39 (1-2')	
06/03/2019	
Polychlorinated biphenyls	17,000 µg/Kg (3)

AKT-40 (1.5-2.5')	
06/03/2019	
Polychlorinated biphenyls	120,000 µg/Kg (3,4)

AKT-41 (0.5-0.5')	
06/04/2019	
Polychlorinated biphenyls	5,400 µg/Kg (3)

AKT-42 (1-2')	
06/04/2019	
Polychlorinated biphenyls	3,600 µg/Kg (3)

AKT-44 (0.5-1.5')	
06/04/2019	
Polychlorinated biphenyls	13,000 µg/Kg (3)

AKT-47 (1-2')	
06/04/2019	
Polychlorinated biphenyls	3,200 µg/Kg (3)

AKT-48 (1.5-2.5')	
06/04/2019	
Polychlorinated biphenyls	3,400 µg/Kg (3)

AKT-49 (0.5-1.5')	
06/04/2019	
Polychlorinated biphenyls	8,500 µg/Kg (3)

AKT-50 (1-2')	
06/04/2019	
Polychlorinated biphenyls	36,000 µg/Kg (3,4)

AKT-51 (1-2')	
06/04/2019	
Polychlorinated biphenyls	14,000 µg/Kg (3)

AKT-53 (0.5-1.5')	
06/04/2019	

AKT-54 (1-2')	
06/04/2019	
Polychlorinated biphenyls	3,400 µg/Kg (3)

AKT-55 (1.5-2.5')	
06/04/2019	
Polychlorinated biphenyls	8,300 µg/Kg (3)

AKT-57 (1.5-2.5')	
06/04/2019	
Polychlorinated biphenyls	13,000 µg/Kg (3)

AKT-58 (1-2')	
06/04/2019	
Polychlorinated biphenyls	6,500 µg/Kg (3)

AKT-58 (3-4')	
06/04/2019	
Polychlorinated biphenyls	6,700 µg/Kg (3)

AKT-62 (1-2')	
06/04/2019	
Polychlorinated biphenyls	4,700 µg/Kg (3)

AKT-65 (0.5-1.5')	
06/04/2019	
Polychlorinated biphenyls	5,800 µg/Kg (3)

AKT-66 (1-2')	
06/04/2019	
Polychlorinated biphenyls	3,900 µg/Kg (3)

AKT-67 (1.5-2.5')	
06/04/2019	
Polychlorinated biphenyls	12,000 µg/Kg (3)

AKT-67 (3-4')	
06/04/2019	
Polychlorinated biphenyls	4,500 µg/Kg (3)

AKT-68 (0.5-1.5')	
06/04/2019	
Polychlorinated biphenyls	3,400 µg/Kg (3)

AKT-186 (0.5-2.5')	
06/17/2021	
Polychlorinated biphenyls	3,700 µg/Kg (3)

AKT-192 (1-3')	
06/17/2021	
Polychlorinated biphenyls	75,000 µg/Kg (3,4)

AKT-193 (1-3')	
06/17/2021	
Polychlorinated biphenyls	4,400 µg/Kg (3)

AKT-17A (6-8')	
06/17/2021	
Polychlorinated biphenyls	10,000 µg/Kg (3)

AKT-194 (2-4')	
06/17/2021	
Polychlorinated biphenyls	4,100 µg/Kg (3)

AKT-195 (2-4')	
06/17/2021	
Polychlorinated biphenyls	4,100 µg/Kg (3)

AKT-195 (6-8')	
06/17/2021	
Polychlorinated biphenyls	3,100 µg/Kg (3)

AKT-195 (10-12')	
06/17/2021	
Polychlorinated biphenyls	8,900 µg/Kg (3)

AKT-196 (2-4')	
06/18/2021	
Polychlorinated biphenyls	4,200 µg/Kg (3)

AKT-39A (1-3')	
06/21/2021	
Polychlorinated biphenyls	47,000 µg/Kg (3,4)

AKT-35A (4-6')	
06/21/2021	
Polychlorinated biphenyls	11,000 µg/Kg (3)

AKT-35A (8-10')	
06/21/2021	
Polychlorinated biphenyls	3,700 µg/Kg (3)

AKT-40A (1-3')	
06/21/2021	
Polychlorinated biphenyls	12,000 µg/Kg (3)

AKT-40A (4-6')	
06/21/2021	
Polychlorinated biphenyls	3,300 µg/Kg (3)

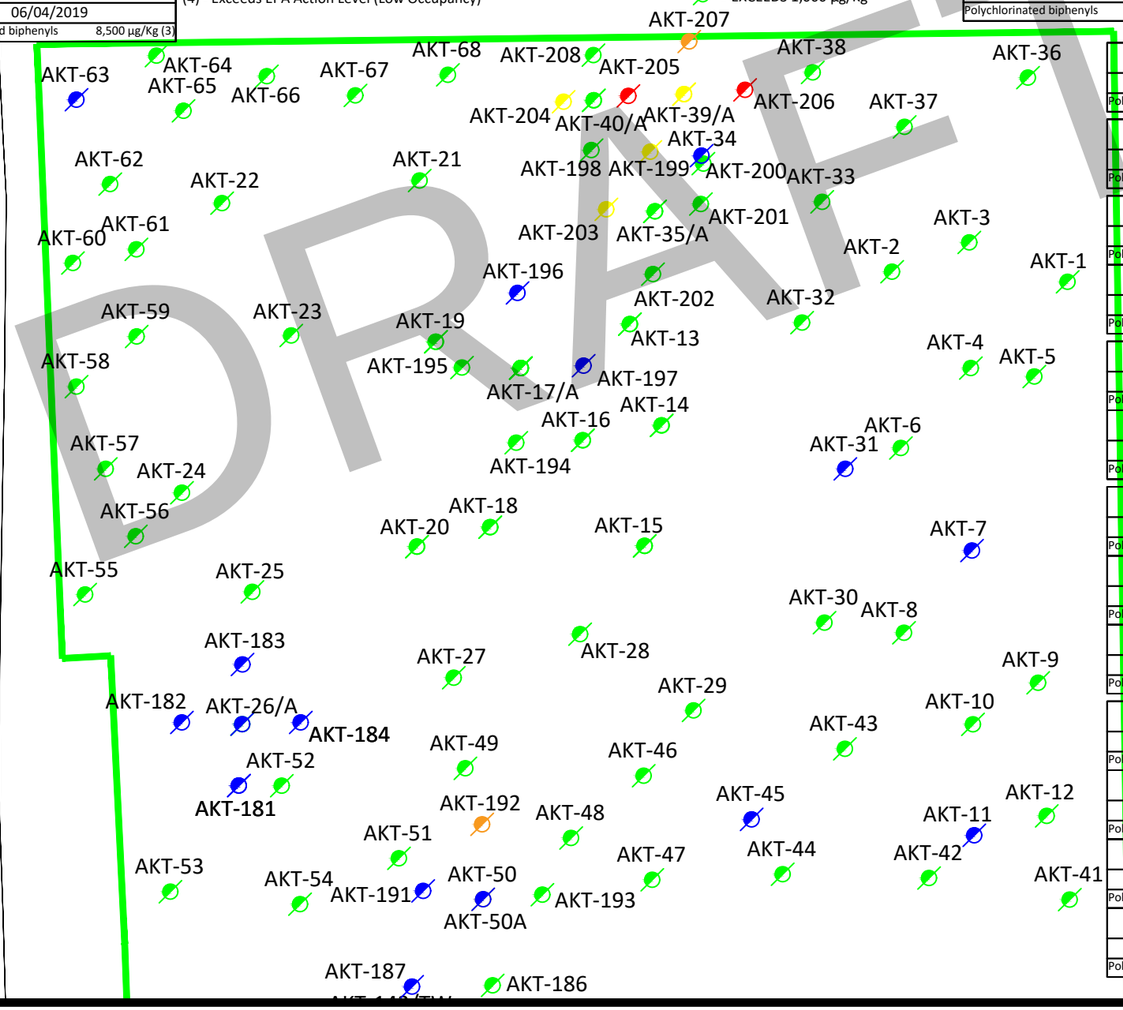
AKT-40A (8-10')	
06/21/2021	
Polychlorinated biphenyls	21,000 µg/Kg (3)

CRITERIA NOTE

(1) - Exceeds Non-Residential Drinking Water Protection Criteria & RBSLs
(2) - Exceeds Groundwater Surface Water Interface Protection Criteria & RBSLs
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level
(4) - Exceeds EPA Action Level (Low Occupancy)

LEGEND

= AKT PEERLESS SAMPLE LOCATIONS
= EXCEEDS 100,000 µg/Kg
= EXCEEDS 50,000 µg/Kg
= EXCEEDS 25,000 µg/Kg
= EXCEEDS 1,000 µg/Kg



AKT-198 (1-3')	
06/21/2021	
Polychlorinated biphenyls	6,300 µg/Kg (3)

AKT-199 (4-6')	
06/21/2021	
Polychlorinated biphenyls	38,000 µg/Kg (3,4)

AKT-200 (12-14')	
06/21/2021	
Polychlorinated biphenyls	3,800 µg/Kg (3)

AKT-200 (16-18')	
06/21/2021	
Polychlorinated biphenyls	3,500 µg/Kg (3)

AKT-201 (4-6')	
06/21/2021	
Polychlorinated biphenyls	4,900 µg/Kg (3)

AKT-201 (8-10')	
06/21/2021	
Polychlorinated biphenyls	4,900 µg/Kg (3)

AKT-202 (1-3')	
06/21/2021	
Polychlorinated biphenyls	7,700 µg/Kg (3)

AKT-202 (4-6')	
06/21/2021	
Polychlorinated biphenyls	5,600 µg/Kg (3)

AKT-202 (8-10')	
06/21/2021	
Polychlorinated biphenyls	3,200 µg/Kg (3)

AKT-203 (1-3')	
06/22/2021	
Polychlorinated biphenyls	3,600 µg/Kg (3)

AKT-203 (4-6')	
06/22/2021	
Polychlorinated biphenyls	4,800 µg/Kg (3)

AKT-203 (8-10')	
06/22/2021	
Polychlorinated biphenyls	6,200 µg/Kg (3)

AKT-203 (12-14')	
06/22/2021	
Polychlorinated biphenyls	49,000 µg/Kg (3,4)

AKT-204 (1-3')	
06/22/2021	
Polychlorinated biphenyls	43,000 µg/Kg (3,4)

AKT-204 (4-6')	
06/22/2021	
Polychlorinated biphenyls	10,000 µg/Kg (3)

AKT-204 (8-10')	
06/22/2021	
Polychlorinated biphenyls	5,100 µg/Kg (3)

AKT-204 (12-14')	
06/22/2021	
Polychlorinated biphenyls	4,000 µg/Kg (3)

AKT-204 (16-18')	
06/22/2021	
Polychlorinated biphenyls	7,700 µg/Kg (3)

AKT-205 (1-3')	
06/22/2021	
Polychlorinated biphenyls	120,000 µg/Kg (3,4)

AKT-205 (4-6')	
06/22/2021	
Polychlorinated biphenyls	9,900 µg/Kg (3)

AKT-206 (1-3')	
06/22/2021	
Polychlorinated biphenyls	4,300 µg/Kg (3)

AKT-206 (4-6')	
06/22/2021	
Polychlorinated biphenyls	130,000 µg/Kg (3,4)

AKT-206 (8-10')	
06/22/2021	
Polychlorinated biphenyls	28,000 µg/Kg (3,4)

AKT-207 (1-3')	
06/22/2021	
Polychlorinated biphenyls	89,000 µg/Kg (3,4)

AKT-207 (4-6')	
06/22/2021	
Polychlorinated biphenyls	61,000 µg/Kg (3,4)

AKT-208 (1-3')	
06/22/2021	
Polychlorinated biphenyls	16,000 µg/Kg (3)

N
W E
S

DRAWN BY: MST
DATE: 07/29/2021

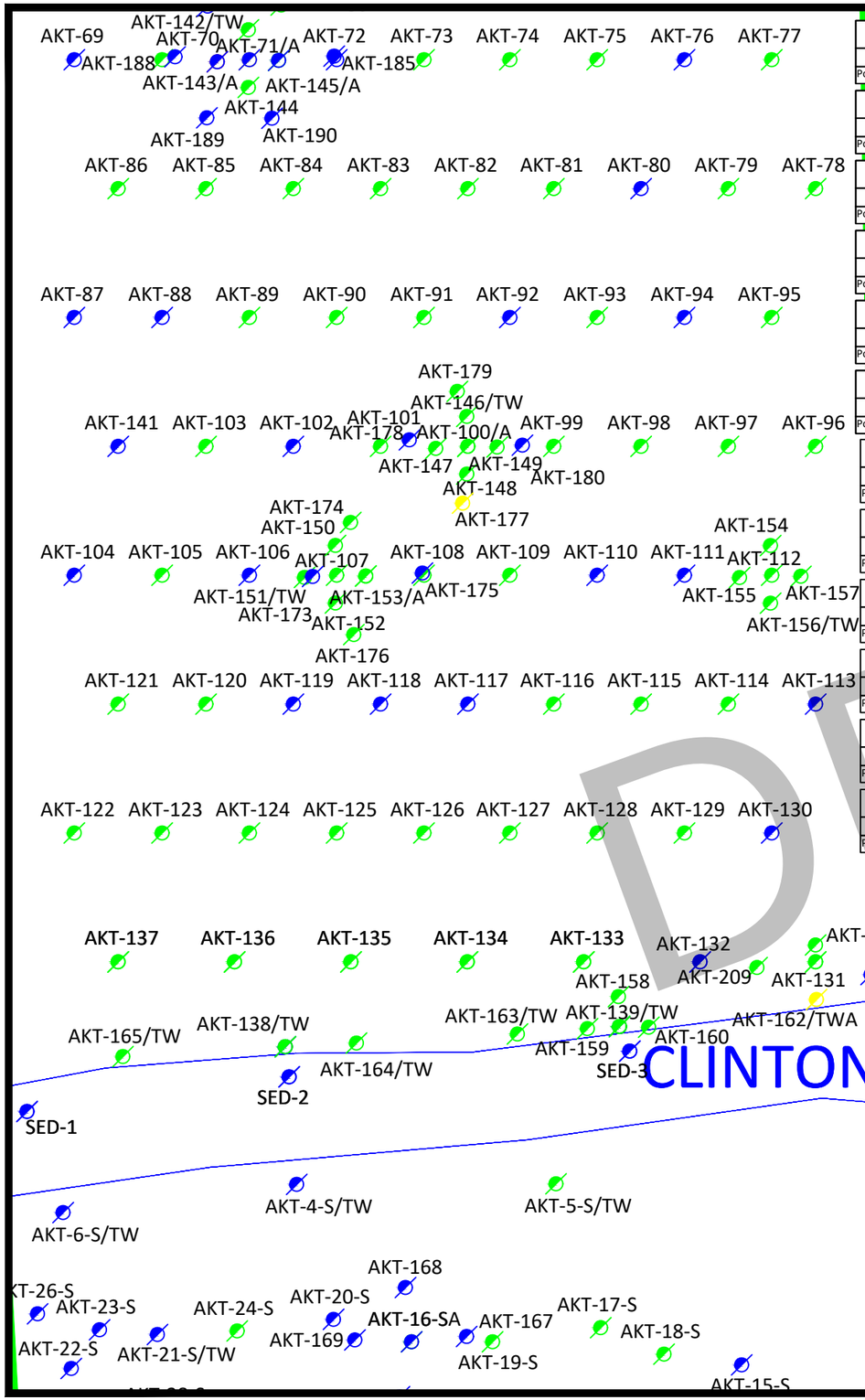
SCALE: 1" = 40' ±0
0 20 40

FIGURE 3a

NORTHERN PORTION OF THE SUBJECT PROPERTY WITH TEMPORARY MONITORING WELL LOCATIONS AND EGLE GNRCC AND EPA GROUNDWATER EXCEEDANCES

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
www.aktpeerless.com



AKT-71 (0.5-1.5')
06/05/2019
Polychlorinated biphenyls 44,000 µg/Kg (3,4)

AKT-73 (0.5-1.5')
06/05/2019
Polychlorinated biphenyls 3,800 µg/Kg (3)

AKT-78 (0.5-1.5')
06/05/2019
Polychlorinated biphenyls 6,700 µg/Kg (3)

AKT-83 (1-2')
06/05/2019
Polychlorinated biphenyls 3,200 µg/Kg (3)

AKT-86 (0.5-1.5')
06/05/2019
Polychlorinated biphenyls 7,400 µg/Kg (3)

AKT-85 (1-2')
06/05/2019
Polychlorinated biphenyls 3,500 µg/Kg (3)

AKT-100 (1.5-2.5')
06/05/2019
Polychlorinated biphenyls 18,000 µg/Kg (3)

AKT-101 (1-2')
06/05/2019
Polychlorinated biphenyls 7,300 µg/Kg (3)

AKT-103 (1-2')
06/05/2019
Polychlorinated biphenyls 6,200 µg/Kg (3)

AKT-107 (1-2')
06/05/2019
Polychlorinated biphenyls 8,800 µg/Kg (3)

AKT-108 (1.5-2.5')
06/05/2019
Polychlorinated biphenyls 6,300 µg/Kg (3)

AKT-112 (1-2')
06/06/2019
Polychlorinated biphenyls 11,000 µg/Kg (3)

AKT-122 (1-2')
06/06/2019
Polychlorinated biphenyls 4,900 µg/Kg (3)

AKT-124 (0.5-1.5')
06/06/2019
Polychlorinated biphenyls 3,100 µg/Kg (3)

AKT-131 (0.5-1.5')
06/06/2019
Polychlorinated biphenyls 3,500 µg/Kg (3)

AKT-133 (0.5-1.5')
06/06/2019
Polychlorinated biphenyls 4,900 µg/Kg (3)

AKT-134 (1-2')
06/06/2019
Polychlorinated biphenyls 4,500 µg/Kg (3)

AKT-138 (3-4')
06/07/2019
Polychlorinated biphenyls 3,900 µg/Kg (3)

AKT-139 (0.5-1.5')
06/07/2019
Polychlorinated biphenyls 11,000 µg/Kg (3)

AKT-139 (3-4')
06/07/2019
Polychlorinated biphenyls 7,700 µg/Kg (3)

AKT-140 (3-4')
06/07/2019
Polychlorinated biphenyls 3,700 µg/Kg (3)

AKT-142 (0.5-2.5')
11/18/2019

Aluminum	1,600,000 µg/Kg (1)
Cobalt	2,800 µg/Kg (1,2)
Iron	25,000,000 µg/Kg (1)
Manganese	470,000 µg/Kg (1)

AKT-143 (0.5-2.5')
11/18/2019

Aluminum	2,100,000 µg/Kg (1)
Arsenic	6,200 µg/Kg (1,2)
Cobalt	2,100 µg/Kg (1,2)
Iron	22,000,000 µg/Kg (1)
Manganese	220,000 µg/Kg (1)
Polychlorinated biphenyls	58,000 µg/Kg (3,4)

AKT-144 (0.5-2.5')
11/18/2019
Polychlorinated biphenyls 7,100 µg/Kg (3)

AKT-145 (0.5-2.5')
11/18/2019
Polychlorinated biphenyls 20,000 µg/Kg (3)

AKT-146 (0.5-2.5')
11/18/2019

Aluminum	8,200,000 µg/Kg (1)
Arsenic	7,500 µg/Kg (1,2)
Cobalt	3,700 µg/Kg (1,2)
Iron	47,000,000 µg/Kg (1)
Manganese	2,500,000 µg/Kg (1,2)
Selenium	660 µg/Kg (2)
Silver	130 µg/Kg (2)
Zinc	130,000 µg/Kg
Polychlorinated biphenyls	4,100 µg/Kg (3)

AKT-147 (0.5-2.5')
11/18/2019
Polychlorinated biphenyls 4,800 µg/Kg (3)

AKT-149 (0.5-2.5')
11/18/2019

Aluminum	3,800,000 µg/Kg (1)
Arsenic	9,200 µg/Kg (1,2)
Cobalt	5,300 µg/Kg (1,2)
Iron	67,000,000 µg/Kg (1)
Manganese	930,000 µg/Kg (1)
Polychlorinated biphenyls	4,400 µg/Kg (3)

AKT-151 (0.5-2.5')
11/18/2019

Aluminum	2,400,000 µg/Kg (1)
Cobalt	3,300 µg/Kg (1,2)
Iron	40,000,000 µg/Kg (1)
Manganese	460,000 µg/Kg (1)
Polychlorinated biphenyls	3,600 µg/Kg (3)

AKT-152 (0.5-2.5')
11/18/2019

Aluminum	1,300,000 µg/Kg (1)
Cobalt	1,900 µg/Kg (1,2)
Iron	22,000,000 µg/Kg (1)
Manganese	270,000 µg/Kg (1)
Polychlorinated biphenyls	4,000 µg/Kg (3)

AKT-153 (0.5-2.5')
11/18/2019
Polychlorinated biphenyls 23,000 µg/Kg (3)

AKT-155 (0.5-2.5')
11/18/2019

Aluminum	1,400,000 µg/Kg (1)
Cobalt	2,200 µg/Kg (1,2)
Iron	28,000,000 µg/Kg (1)
Manganese	320,000 µg/Kg (1)
Polychlorinated biphenyls	3,100 µg/Kg (3)

AKT-156 (0.5-2.5')
11/18/2019

Aluminum	3,300,000 µg/Kg (1)
Arsenic	11,000 µg/Kg (1,2)
Cobalt	3,800 µg/Kg (1,2)
Iron	30,000,000 µg/Kg (1,2)
Manganese	300,000 µg/Kg (1)

AKT-158 (0.5-2.5')
11/18/2019

Aluminum	2,500,000 µg/Kg (1)
Cobalt	2,200 µg/Kg (1,2)
Iron	24,000,000 µg/Kg (1)
Manganese	420,000 µg/Kg (1)
Polychlorinated biphenyls	15,000 µg/Kg (3)

AKT-159 (0.5-2.5')
11/18/2019

Aluminum	5,400,000 µg/Kg (1)
Arsenic	6,400 µg/Kg (1,2)
Cobalt	4,600 µg/Kg (1,2)
Iron	51,000,000 µg/Kg (1)
Manganese	1,400,000 µg/Kg (1,2)
Polychlorinated biphenyls	3,100 µg/Kg (3)

AKT-161 (0.5-2.5')
11/18/2019

Aluminum	1,700,000 µg/Kg (1)
Iron	11,000,000 µg/Kg (1)
Manganese	200,000 µg/Kg (1)
Polychlorinated biphenyls	12,000 µg/Kg (3)

AKT-162 (0.5-2.5')
11/18/2019

Aluminum	940,000 µg/Kg (1)
Iron	17,000,000 µg/Kg (1)
Manganese	230,000 µg/Kg (1,2)
Polychlorinated biphenyls	28,000 µg/Kg (3,4)

AKT-163 (0.5-2.5')
11/18/2019

Aluminum	1,100,000 µg/Kg (1)
Arsenic	8,100 µg/Kg (1,2)
Cobalt	5,500 µg/Kg (1,2)
Iron	85,000,000 µg/Kg (1)
Manganese	540,000 µg/Kg (1)

AKT-164 (2-3')
11/18/2019

Aluminum	10,000,000 µg/Kg (1)
Arsenic	8,400 µg/Kg (1,2)
Cobalt	5,000 µg/Kg (1,2)
Iron	55,000,000 µg/Kg (1)
Manganese	4,700,000 µg/Kg (1,2)
Selenium	640 µg/Kg (2)
Silver	210 µg/Kg (2)
Polychlorinated biphenyls	4,100 µg/Kg (3)

AKT-165 (2-3')
11/18/2019

Aluminum	1,500,000 µg/Kg (1)
Cobalt	2,600 µg/Kg (1,2)
Iron	29,000,000 µg/Kg (1)
Manganese	230,000 µg/Kg (1,2)
Polychlorinated biphenyls	4,600 µg/Kg (5,6)

AKT-153A (0.5-2.5')
06/15/2021
Polychlorinated biphenyls 5,100 µg/Kg (3)

AKT-174 (0.5-2.5')
06/15/2021
Polychlorinated biphenyls 3,800 µg/Kg (3)

AKT-176 (0.5-2.5')
06/15/2021
Polychlorinated biphenyls 3,100 µg/Kg (3)

AKT-100A (1-3')
06/15/2021
Polychlorinated biphenyls 14,000 µg/Kg (3)

AKT-177 (1-3')
06/15/2021
Polychlorinated biphenyls 32,000 µg/Kg (3,4)

AKT-179 (1-3')
06/15/2021
Polychlorinated biphenyls 7,100 µg/Kg (3)

AKT-180 (10-12')
06/15/2021
Polychlorinated biphenyls 11,000 µg/Kg (3)

AKT-143A (0.5-2.5')
06/16/2021
Polychlorinated biphenyls 5,000 µg/Kg (3)

AKT-145A (0.5-2.5')
06/16/2021
Polychlorinated biphenyls 3,800 µg/Kg (3)

AKT-186 (0.5-2.5')
06/17/2021
Polychlorinated biphenyls 3,700 µg/Kg (3)

AKT-188 (0.5-2.5')
06/17/2021
Polychlorinated biphenyls 5,100 µg/Kg (3)

AKT-189 (0.5-2.5')
06/17/2021
Polychlorinated biphenyls 6,500 µg/Kg (3)

AKT-209 (2-3')
06/23/2021
Polychlorinated biphenyls 6,500 µg/Kg (3)

AKT-209 (4-6')
06/23/2021
Polychlorinated biphenyls 9,600 µg/Kg (3)

AKT-210 (2-3')
06/23/2021
Polychlorinated biphenyls 11,000 µg/Kg (3)

AKT-210 (4-6')
06/23/2021
Polychlorinated biphenyls 3,500 µg/Kg (3)

AKT-162/TWA (2-3')
06/23/2021
Polychlorinated biphenyls 8,600 µg/Kg (3)

AKT-209 (2-3')
06/23/2021
Polychlorinated biphenyls 11,000 µg/Kg (3)

N
W E
S

LEGEND
- = AKT PEERLESS SAMPLE LOCATIONS
- = EXCEEDS 100,000 µg/Kg PCBs
- = EXCEEDS 50,000 µg/Kg PCBs
- = EXCEEDS 25,000 µg/Kg PCBs
- = EXCEEDS 1,000 µg/Kg PCBs

CRITERIA NOTE

(1) - Exceeds Non-Residential Drinking Water Protection Criteria & RBSLs
(2) - Exceeds Groundwater Surface Water Interface Protection Criteria & RBSLs
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level
(4) - Exceeds EPA Action Level (Low Occupancy)

DRAWN BY: MST
DATE: 07/29/2021

SCALE: 1" = 50' ±0
0 25 50

FIGURE 3b

CENTRAL PORTION OF THE SUBJECT PROPERTY WITH TEMPORARY MONITORING WELL LOCATIONS AND EGLE GNRCC AND EPA GROUNDWATER EXCEEDANCES

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
www.aktpeerless.com

AKT-1-S (2-3')	
11/18/2019	
Aluminum	3,600,000 µg/Kg (1)
Cobalt	4,300 µg/Kg (1,2)
Iron	26,000,000 µg/Kg (1)
Manganese	370,000 µg/Kg (1)
Mercury	56 µg/Kg (2)

AKT-2-S (3-4')	
11/18/2019	
Aluminum	5,900,000 µg/Kg (1)
Arsenic	8,900 µg/Kg (1,2,4)
Cobalt	5,300 µg/Kg (1,2)
Iron	16,000,000 µg/Kg (1)
Manganese	370,000 µg/Kg (1)
Mercury	920 µg/Kg (2)
Selenium	2,100 µg/Kg (2)
Silver	5,100 µg/Kg (2)
Polychlorinated biphenyls	8,000 µg/Kg (3)

AKT-3-S (4-5')	
11/18/2019	
Aluminum	1,100,000 µg/Kg (1)
Cobalt	2,300 µg/Kg (1,2)
Iron	17,000,000 µg/Kg (1)
Manganese	150,000 µg/Kg (1)
Polychlorinated biphenyls	3,700 µg/Kg (3)

AKT-4-S (2-3')	
11/18/2019	
Aluminum	4,900,000 µg/Kg (1)
Arsenic	5,100 µg/Kg (1,2)
Cobalt	3,300 µg/Kg (1,2)
Iron	20,000,000 µg/Kg (1)
Manganese	840,000 µg/Kg (1)
Mercury	71 µg/Kg (2)
Silver	180 µg/Kg (2)

AKT-5-S (2-3')	
11/18/2019	
Aluminum	6,000,000 µg/Kg (1)
Arsenic	7,600 µg/Kg (1,2)
Cobalt	4,200 µg/Kg (1,2)
Iron	24,000,000 µg/Kg (1)
Manganese	1,500,000 µg/Kg (1,2)
Mercury	150 µg/Kg (2)
Selenium	510 µg/Kg (2)
Silver	240 µg/Kg (2)
Polychlorinated biphenyls	4,300 µg/Kg (3)

AKT-6-S (0.5-2')	
12/12/2019	
Aluminum	4,400,000 µg/Kg (1)
Arsenic	8,000 µg/Kg (1,2)
Cobalt	4,500 µg/Kg (1,2)
Iron	14,000,000 µg/Kg (1)
Manganese	420,000 µg/Kg (1)

AKT-7-S (0.5-2')	
11/19/2019	
Aluminum	1,900,000 µg/Kg (1)
Arsenic	1,500 µg/Kg (1,2)
Cobalt	13,000,000 µg/Kg (1)
Iron	14,000,000 µg/Kg (1)
Manganese	420,000 µg/Kg (1)

AKT-9-S (0.5-2')	
11/19/2019	
Polychlorinated biphenyls	5,900 µg/Kg (3)

AKT-11-S (0.5-2')	
11/19/2019	
Aluminum	5,700,000 µg/Kg (1)
Arsenic	7,800 µg/Kg (1,2)
Cobalt	5,200 µg/Kg (1,2)
Iron	14,000,000 µg/Kg (1)
Manganese	320,000 µg/Kg (1)

AKT-14-S (0.5-2')	
11/19/2019	
Polychlorinated biphenyls	15,000 µg/Kg (3)

AKT-16-S (0.5-2')	
12/12/2019	
Polychlorinated biphenyls	19,000 µg/Kg (3)

AKT-17-S (0.5-2')	
12/12/2019	
Polychlorinated biphenyls	5,200 µg/Kg (3)

AKT-18-S (0.5-2')	
11/19/2019	
Aluminum	3,200,000 µg/Kg (1)
Arsenic	6,700 µg/Kg (1,2)
Cobalt	7,000 µg/Kg (1,2)
Iron	97,000,000 µg/Kg (1)
Manganese	1,400,000 µg/Kg (1,2)
Polychlorinated biphenyls	15,000 µg/Kg (3)

AKT-19-S (0.5-2')	
12/12/2019	
Polychlorinated biphenyls	7,600 µg/Kg (3)

AKT-21-S (0.5-2')	
12/12/2019	
Aluminum	4,200,000 µg/Kg (1)
Arsenic	5,000 µg/Kg (1,2)
Cobalt	3,000 µg/Kg (1,2)
Iron	12,000,000 µg/Kg (1)
Manganese	570,000 µg/Kg (1)

AKT-24-S (0.5-2')	
12/12/2019	
Polychlorinated biphenyls	6,380 µg/Kg (3)

AKT-26-S (0.5-2')	
12/12/2019	
Aluminum	4,600,000 µg/Kg (1)
Arsenic	6,900 µg/Kg (1,2)
Cobalt	3,000 µg/Kg (1,2)
Iron	12,000,000 µg/Kg (1)
Manganese	450,000 µg/Kg (1)

AKT-30-S (0.5-2')	
12/12/2019	
Aluminum	6,000,000 µg/Kg (1)
Arsenic	7,400 µg/Kg (1,2)
Cobalt	5,300 µg/Kg (1,2)
Iron	16,000,000 µg/Kg (1)
Manganese	350,000 µg/Kg (1)

AKT-32-S (0.5-2')	
12/12/2019	
Aluminum	17,000,000 µg/Kg (1)
Arsenic	14,000 µg/Kg (1,2)
Cobalt	9,700 µg/Kg (1,2)
Iron	110,000,000 µg/Kg (1)
Manganese	740,000,000 µg/Kg (1,2)
Selenium	1,100 µg/Kg (2)
Silver	1,500 µg/Kg (2)

AKT-33-S (0.5-2')	
12/12/2019	
Polychlorinated biphenyls	3,540 µg/Kg (3)

AKT-35-S (0.5-2')	
11/19/2019	
Polychlorinated biphenyls	4,600 µg/Kg (3)

AKT-36-S (0.5-2')	
11/19/2019	
Aluminum	4,600,000 µg/Kg (1)
Arsenic	11,000 µg/Kg (1,2)
Cobalt	4,300 µg/Kg (1,2)
Iron	12,000,000 µg/Kg (1)
Manganese	320,000 µg/Kg (1)

AKT-37-S (0.5-2')	
11/19/2019	
Polychlorinated biphenyls	12,000 µg/Kg (3)

AKT-38-S (0.5-2')	
11/19/2019	
Polychlorinated biphenyls	5,500 µg/Kg (3)

AKT-40-S (0.5-2')	
11/19/2019	
Aluminum	7,400,000 µg/Kg (1)
Arsenic	9,700 µg/Kg (1,2)
Cobalt	5,700 µg/Kg (1,2)
Iron	14,000,000 µg/Kg (1)
Manganese	310,000 µg/Kg (1)
Mercury	110 µg/Kg (2)
Selenium	460 µg/Kg (2)
Silver	160 µg/Kg (2)

AKT-42-S (0.5-2')	
11/19/2019	
Aluminum	6,900,000 µg/Kg (1)
Arsenic	8,500 µg/Kg (1,2,3)
Cobalt	6,300 µg/Kg (1,2)
Iron	15,000,000 µg/Kg (1)
Manganese	360,000 µg/Kg (1)

AKT-44-S (0.5-2')	
11/19/2019	
Aluminum	7,600,000 µg/Kg (1)
Arsenic	6,800 µg/Kg (1,2,3)
Cobalt	6,300 µg/Kg (1,2)
Iron	15,000,000 µg/Kg (1)
Manganese	770,000 µg/Kg (1)
Polychlorinated biphenyls	3,100 µg/Kg (3)

AKT-43-S (0.5-2')	
11/19/2019	
Polychlorinated biphenyls	7,000 µg/Kg (5,6)

AKT-47-S (0.5-2')	
11/19/2019	
Polychlorinated biphenyls	3,400 µg/Kg (5,6)

AKT-49-S (0.5-2')	
11/19/2019	
Aluminum	5,500,000 µg/Kg (1)
Arsenic	6,500 µg/Kg (1,2)
Cobalt	6,100 µg/Kg (1,2)
Iron	14,000,000 µg/Kg (1)
Manganese	340,000 µg/Kg (1)

AKT-52-S (0.5-2')	
11/20/2019	
Aluminum	5,400,000 µg/Kg (1)
Arsenic	6,200 µg/Kg (1,2)
Cobalt	3,600 µg/Kg (1,2)
Iron	23,000,000 µg/Kg (1)
Manganese	360,000 µg/Kg (1)

AKT-53-S (0.5-2')	
11/20/2019	
Polychlorinated biphenyls	4,100 µg/Kg (5,6)

AKT-55-S (0.5-2')	
11/19/2019	
Aluminum	6,200,000 µg/Kg (1)
Arsenic	7,400 µg/Kg (1,2)
Cobalt	6,400 µg/Kg (1,2)
Iron	16,000,000 µg/Kg (1)
Manganese	390,000 µg/Kg (1)

AKT-56-S (0.5-2')	
11/19/2019	
Polychlorinated biphenyls	3,600 µg/Kg (5,6)

AKT-58-S (0.5-2')	
11/19/2019	
Aluminum	5,800,000 µg/Kg (1)
Arsenic	7,600 µg/Kg (1,2)
Cobalt	5,100 µg/Kg (1,2)
Iron	15,000,000 µg/Kg (1)
Manganese	700,000 µg/Kg (1)

AKT-59-S (0.5-2')	
11/19/2019	
Polychlorinated biphenyls	16,000 µg/Kg (5,6)

AKT-61-S (0.5-2')	
12/12/2019	
Aluminum	5,300,000 µg/Kg (1)
Arsenic	6,000 µg/Kg (1,2)
Cobalt	3,400 µg/Kg (1,2)
Iron	18,000,000 µg/Kg (1)
Manganese	760,000 µg/Kg (1)

AKT-64-S (0.5-2')	
12/12/2019	
Aluminum	4,900,000 µg/Kg (1)
Cobalt	2,900 µg/Kg (1,2)
Iron	13,000,000 µg/Kg (1)
Manganese	780,000 µg/Kg (1)

AKT-64-S (0.5-2')	
12/12/2019	
Aluminum	6,000,000 µg/Kg (1)
Arsenic	5,000 µg/Kg (1,2)
Cobalt	2,400 µg/Kg (1,2)
Iron	17,000,000 µg/Kg (1)
Manganese	1,100,000 µg/Kg (1)

AKT-65-S (0.5-2')	
11/19/2019	
Aluminum	2,700,000 µg/Kg (1)
Cobalt	1,200 µg/Kg (1,2)
Iron	3,900,000 µg/Kg (1)
Manganese	290,000 µg/Kg (1)

AKT-67-S (0.5-2')	
12/12/2019	
Aluminum	4,800,000 µg/Kg (1)
Arsenic	9,000 µg/Kg (1,2)
Cobalt	3,100 µg/Kg (1,2)
Iron	12,000,000 µg/Kg (1)
Manganese	570,000 µg/Kg (1)

AKT-73-S (0.5-2')	
11/20/2019	
Polychlorinated biphenyls	10,000 µg/Kg (5,6)

AKT-3S/TWA (4-6')	
06/14/2021	
Polychlorinated biphenyls	3,700 µg/Kg (3)

AKT-170 (1-3')	
06/14/2021	
Polychlorinated biphenyls	5,900 µg/Kg (3)

AKT-170 (4-5')	
06/14/2021	
Polychlorinated biphenyls	7,400 µg/Kg (3)

AKT-171 (1-3')	
06/14/2021	
Polychlorinated biphenyls	7,000 µg/Kg (3)

AKT-171 (4-5')	
06/14/2021	
Polychlorinated biphenyls	7,900 µg/Kg (3)

AKT-172 (1-3')	
06/14/2021	
Polychlorinated biphenyls	3,700 µg/Kg (3)

AKT-172 (4-5')	
06/14/2021	
Polychlorinated biphenyls	6,900 µg/Kg (3)

AKT-4-S/TW
AKT-5-S/TW
AKT-6-S/TW
AKT-1-S
AKT-26-S
AKT-23-S
AKT-24-S
AKT-20-S
AKT-168
AKT-16-SA
AKT-167
AKT-17-S
AKT-18-S
AKT-169
AKT-22-S
AKT-21-S/TW
AKT-19-S
AKT-14-S
AKT-15-S
AKT-12-S
AKT-13-S
AKT-2-S/TW
AKT-10-S
AKT-11-S/TW
AKT-27-S
AKT-28-S
AKT-166
AKT-25-S
AKT-29-S
AKT-30-S
AKT-31-S
AKT-33-S
AKT-34-S
AKT-32-S/TW
AKT-9-S
AKT-8-S
AKT-35-S
AKT-36-S
AKT-39-S
AKT-40-S
AKT-37-S
AKT-38-S
AKT-41-S
AKT-42-S
AKT-43-S
AKT-7-S
AKT-171
AKT-3-S/TWA
AKT-3-S/TW
AKT-172
AKT-70-S
AKT-64-S
AKT-68-S
AKT-63-S
AKT-62-S
AKT-61-S
AKT-60-S
AKT-59-S
AKT-67-S
AKT-58-S
AKT-57-S
AKT-56-S
AKT-55-S/TW
AKT-54-S
AKT-170
AKT-46-S
AKT-52-S
AKT-47-S
AKT-76-S
AKT-66-S
AKT-77-S
AKT-72-S
AKT-75-S
AKT-69-S
AKT-71-S
AKT-73-S
AKT-53-S
AKT-48-S
AKT-44-S/TW
AKT-74-S
AKT-65-S
AKT-51-S
AKT-45-S
AKT-50-S
AKT-49-S
AKT-78-S

AUBURN ROAD

CRITERIA NOTE

(1) - Exceeds Non-Residential Drinking Water Protection Criteria & RBSLs
(2) - Exceeds Groundwater Surface Water Interface Protection Criteria & RBSLs
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level
(4) - Exceeds EPA Action Level (Low Occupancy)

LEGEND

= AKT PEERLESS SAMPLE LOCATIONS
= EXCEEDS 100,000 µg/Kg PCBs
= EXCEEDS 50,000 µg/Kg PCBs
= EXCEEDS 25,000 µg/Kg PCBs
= EXCEEDS 1,000 µg/Kg PCBs

N
W E
S

DRAWN BY: MST/PHH
DATE: 08/01/2019

0 15 30
SCALE: 1" = 30' ±0

FIGURE 3c

SOUTHERN PORTION OF THE SUBJECT PROPERTY WITH TEMPORARY MONITORING WELL LOCATIONS AND EGLE GNRCC AND EPA GROUNDWATER EXCEEDANCES

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
www.aktpeerless.com

LEGEND

= AKT PEERLESS SAMPLE LOCATIONS
= PROPERTY LINE
A ——— A' = CROSS-SECTION DESCRIPTOR

N
W E
S

R AKT-207
AKT-68 AKT-208 AKT-205 AKT-38
Q AKT-204 AKT-40A AKT-39A AKT-206 Q'
AKT-198 AKT-199 AKT-200
AKT-203 AKT-35A AKT-201
R' AKT-202
AKT-196
P
AKT-195 O' AKT-197
O AKT-17A
P' AKT-194

AKT-25
N
AKT-183
AKT-182 M' AKT-184
M AKT-26A
N' AKT-181

L
AKT-192
AKT-191 AKT-193
AKT-50A
AKT-187 AKT-186
AKT-71A K'
AKT-188 AKT-185
K AKT-143A AKT-145A
AKT-189 AKT-190
L'

AKT-179
J
AKT-178 I' AKT-180
I AKT-100A
J' AKT-177
AKT-174 H
G G' AKT-175
AKT-173 AKT-153A
H' AKT-176

AKT-210 F
E E' AKT-211
AKT-209 AKT-162/TWA
F'

C'
AKT-168
AKT-169 AKT-16-SA D'
D AKT-167
C
AKT-166

A B'
AKT-171 AKT-3-S/TWA
B A'
AKT-170 AKT-172

N. OPDYKE ROAD

CLINTON RIVER

AUBURN ROAD

AKTPEERLESS ENVIRONMENTAL SERVICES
www.aktpeerless.com

SITE MAP WITH SAMPLE LOCATIONS AND CROSS-SECTION LOCATIONS (JUNE 2021)

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

DRAWN BY: MST
DATE: 11/16/2021
0 50 100
SCALE: 1" = 100'± 0

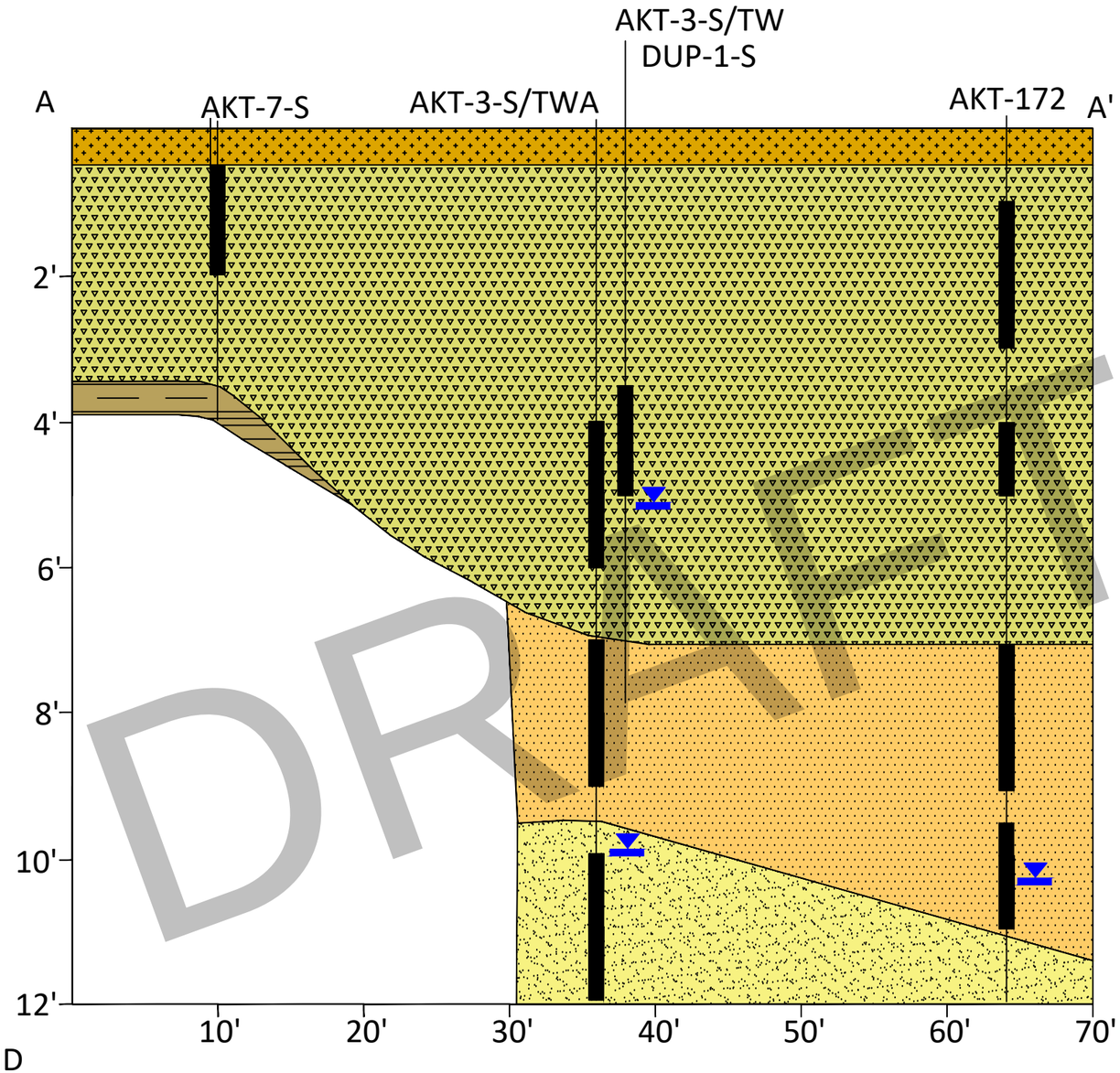
FIGURE 4

AKT-3-S (4'-5')	
11/18/2019	
Aluminum	1,100,000 µg/Kg (2)
Antimony	720 µg/Kg
Arsenic	2,000 µg/Kg
Barium	4,900 µg/Kg
Chromium III	30,000 µg/Kg
Cobalt	2,300 µg/Kg (2)
Copper	24,000 µg/Kg
Iron	17,000,000 µg/Kg (2)
Lead	3,400 µg/Kg
Magnesium	340,000 µg/Kg
Manganese	150,000 µg/Kg (2)
Nickel	16,000 µg/Kg
Sodium	38,000 µg/Kg
Vanadium	3,400 µg/Kg
Zinc	7,700 µg/Kg
PCBs	3,700 µg/Kg

AKT-172 (1-3')	
06/14/2021	
PCBs	3,700 µg/Kg (3)

AKT-172 (4-5')	
06/14/2021	
PCBs	6,900 µg/Kg (3)

AKT-172 (7-9')	
06/14/2021	
PCBs	270 µg/Kg



AKT-3-S/TWA (4-6')	
06/14/2021	
PCBs	3,700 µg/Kg (3)

AKT-3-S/TWA (7-9')	
06/14/2021	
PCBs	3,700 µg/Kg (3)

AKT-3-S/TWA (10-12')	
06/14/2021	
PCBs	3,700 µg/Kg (3)

AKT-3-S/TW (4-5')/DUP-1-S	
11/18/2019	
PCBs	21,000 µg/Kg (3)

AKT-7-S (0.5'-2')	
11/19/2019	
Aluminum	1,900,000 µg/Kg (2)
Antimony	390 µg/Kg
Arsenic	2,000 µg/Kg
Barium	12,000 µg/Kg
Cadmium	57 µg/Kg
Chromium III	24,000 µg/Kg
Cobalt	1,500 µg/Kg
Copper	14,000 µg/Kg (2)
Iron	13,000,000 µg/Kg
Lead	4,700 µg/Kg
Magnesium	420,000 µg/Kg
Manganese	370,000 µg/Kg (2)
Nickel	9,300 µg/Kg
Sodium	41,000 µg/Kg
Vanadium	3,500 µg/Kg
Zinc	11,000 µg/Kg
PCBs	1,000 µg/Kg

LEGEND

= TOPSOIL

= FOUNDRY SAND

= SILT

= SAND

= CLAY

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 5

CROSS SECTION A-A'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-3-S (4'-5')	
11/18/2019	
Aluminum	1,100,000 µg/Kg (2)
Antimony	720 µg/Kg
Arsenic	2,000 µg/Kg
Barium	4,900 µg/Kg
Chromium III	30,000 µg/Kg
Cobalt	2,300 µg/Kg (2)
Copper	24,000 µg/Kg
Iron	17,000,000 µg/Kg (2)
Lead	3,400 µg/Kg
Magnesium	340,000 µg/Kg
Manganese	150,000 µg/Kg (2)
Nickel	16,000 µg/Kg
Sodium	38,000 µg/Kg
Vanadium	3,400 µg/Kg
Zinc	7,700 µg/Kg
PCBs	3,700 µg/Kg

AKT-170 (1-3')	
06/14/2021	
PCBs	5,900 µg/Kg (3)

AKT-170 (4-5')	
06/14/2021	
PCBs	7,400 µg/Kg (3)

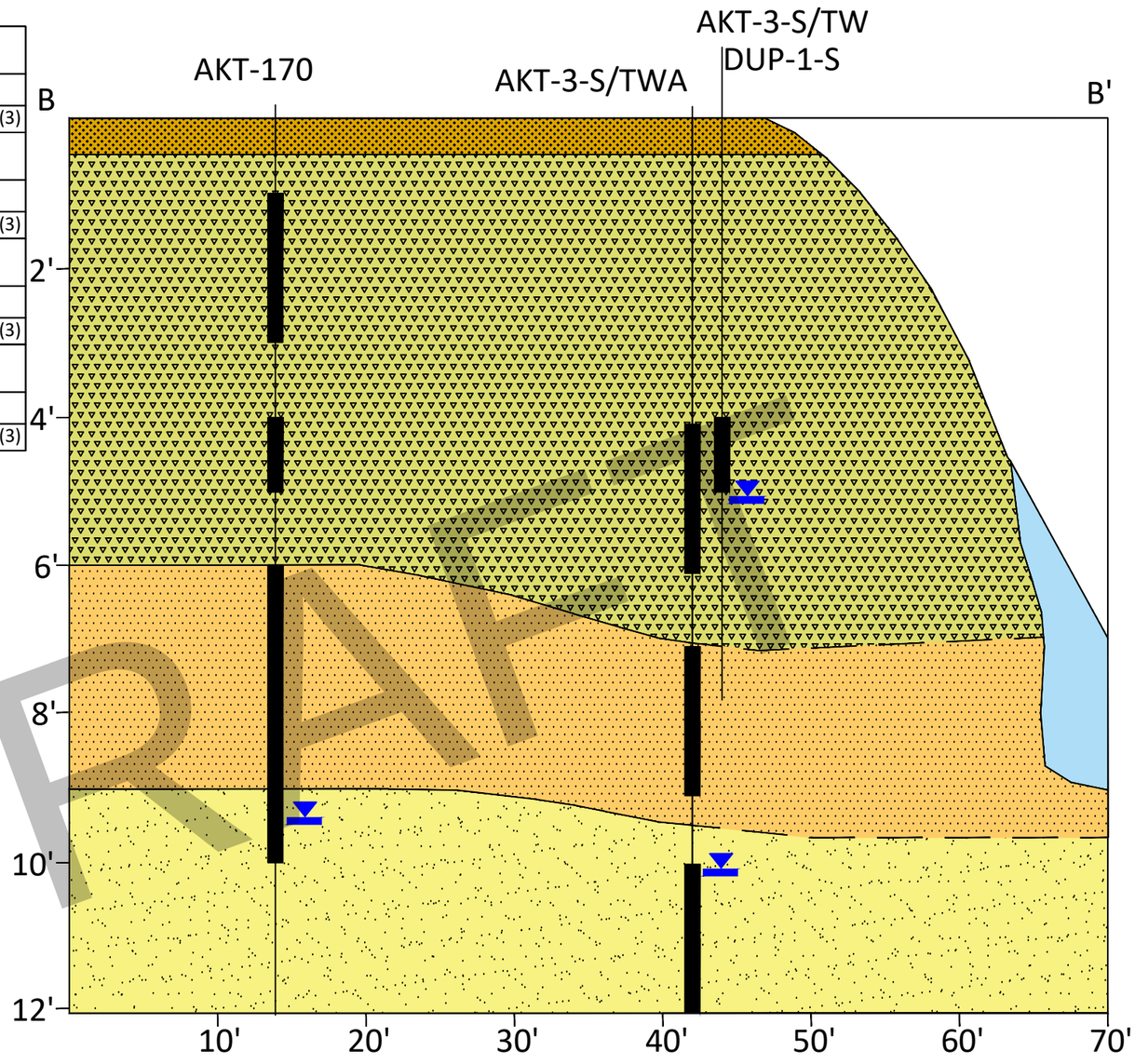
AKT-170 (6-8')	
06/14/2021	
PCBs	970 µg/Kg

AKT-3-S/TWA (4-6')	
06/14/2021	
PCBs	3,700 µg/Kg (3)

AKT-3-S/TWA (7-9')	
06/14/2021	
PCBs	3,700 µg/Kg (3)

AKT-3-S/TWA (10-12')	
06/14/2021	
PCBs	3,700 µg/Kg (3)

AKT-3-S/TW (4-5')/DUP-1-S	
11/18/2019	
PCBs	21,000 µg/Kg (3)



LEGEND

= TOPSOIL

= FOUNDRY SAND

= SILT

= SAND

= RIVER

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 6

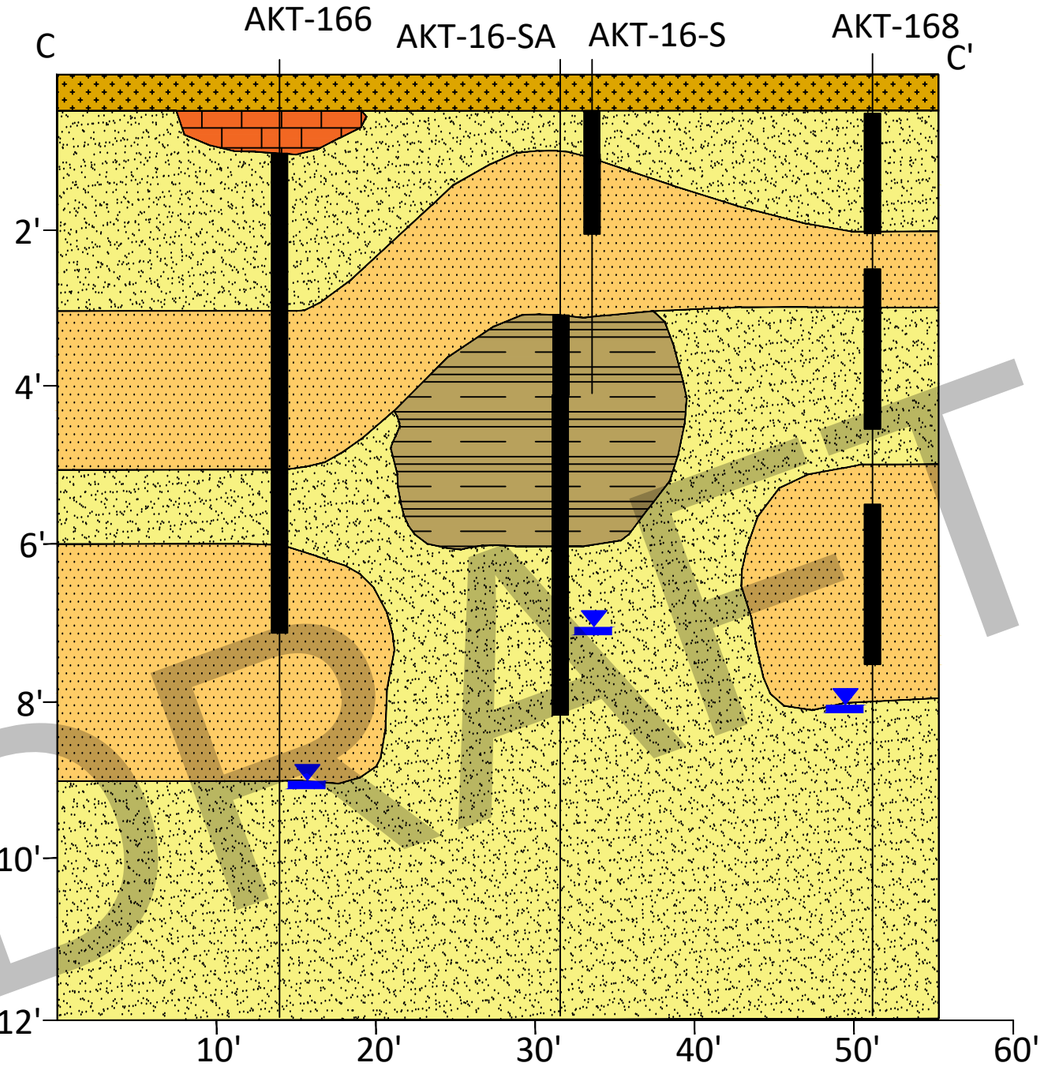
CROSS SECTION B-B'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-16-S (0.5'-2')	
12/12/2019	
PCBs	19,000 µg/Kg (1,3)

AKT-168 (0.5-2')	
06/14/2021	
PCBs	210 µg/Kg
AKT-168 (2.5-4.5')	
06/14/2021	
PCBs	6,100 µg/Kg (3)



LEGEND

= TOPSOIL
= CLAY
= SILT
= SAND
= FILL
= SAMPLE INTERVAL
= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

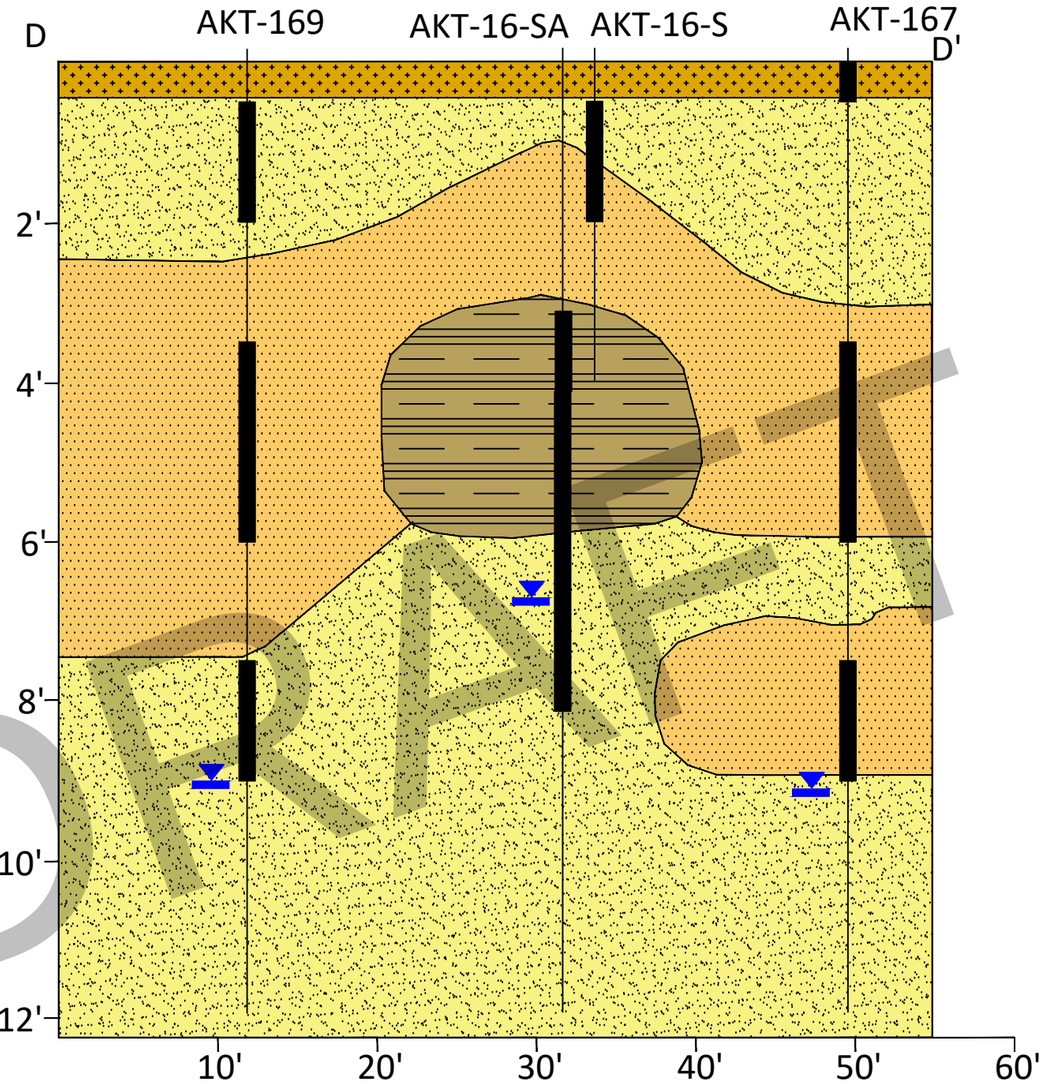
FIGURE 7

CROSS SECTION C-C'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-16-S (0.5'-2')	
12/12/2019	
PCBs	19,000 µg/Kg (1,3)



LEGEND

= TOPSOIL

= CLAY

= SILT

= SAND

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 8

CROSS SECTION D-D'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-209 (2-3')	
06/23/2021	
PCBs	6,600 µg/Kg (3)

AKT-209 (4-6')	
06/14/2021	
PCBs	9,600 µg/Kg (3)

AKT-209 (6-7')	
06/14/2021	
PCBs	990 µg/Kg

AKT-209 (7-9')	
06/14/2021	
PCBs	320 µg/Kg

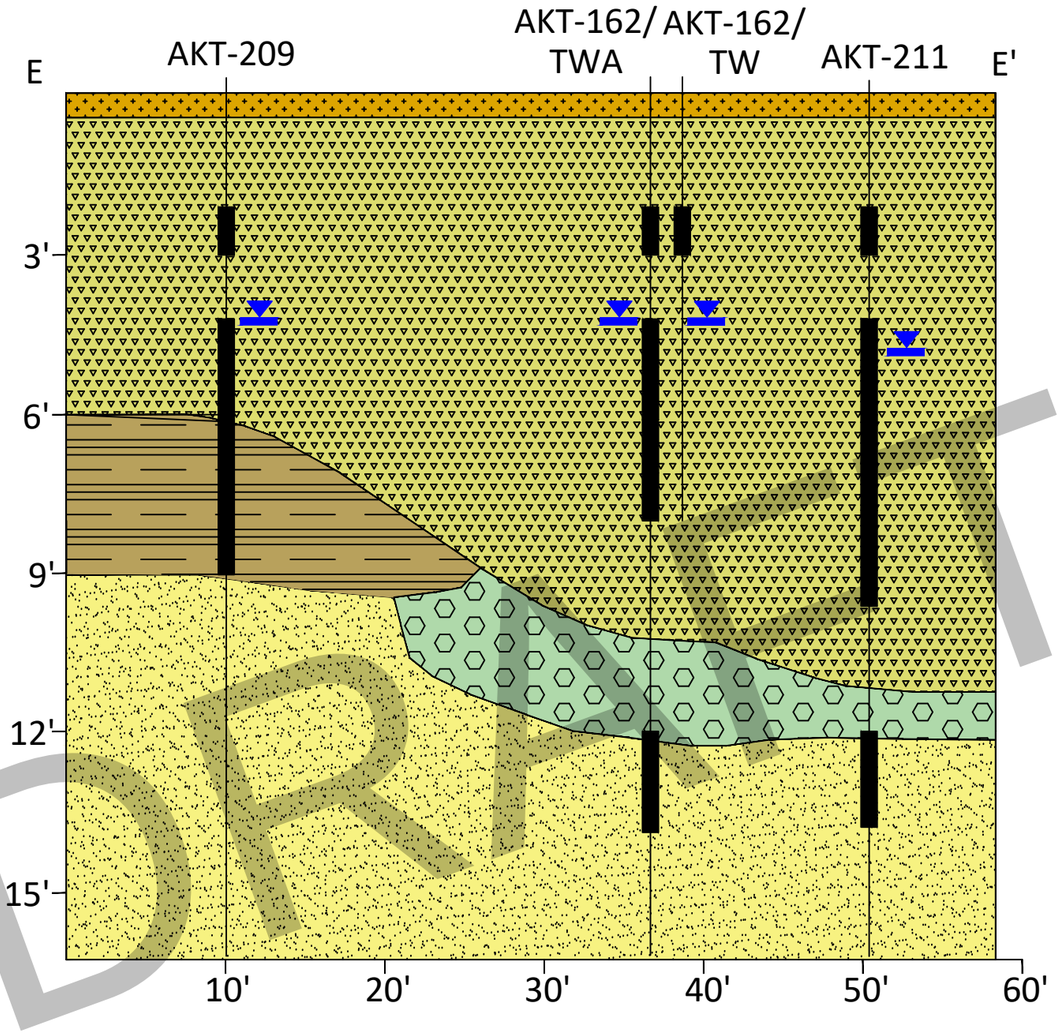
AKT-211 (2-3')	
06/23/2021	
PCBs	11,000 µg/Kg (3)

AKT-211 (4-6')	
06/23/2021	
PCBs	930 µg/Kg

AKT-211 (6-8')	
06/23/2021	
PCBs	2,500 µg/Kg

AKT-211 (8-10')	
06/23/2021	
PCBs	2,900 µg/Kg

AKT-211 (12-14')	
06/23/2021	
PCBs	150 µg/Kg



AKT-162/TWA (2-3')	
06/23/2021	
PCBs	8,600 µg/Kg (3)

AKT-162/TWA (4-6')	
06/23/2021	
PCBs	1,700 µg/Kg

AKT-162/TWA (6-8')	
06/23/2021	
PCBs	1,200 µg/Kg

AKT-162/TW (2-3')	
11/18/2019	
PCBs	28,000 µg/Kg (1,3)

AKT-162 (2'-3')	
11/18/2019	
Aluminum	940,000 µg/Kg (2)
Antimony	660 µg/Kg
Arsenic	2,300 µg/Kg
Barium	6,300 µg/Kg
Cadmium	87 µg/Kg
Chromium III	31,000 µg/Kg
Cobalt	1,900 µg/Kg
Copper	29,000 µg/Kg
Iron	17,000,000 µg/Kg (2)
Lead	7,200 µg/Kg
Magnesium	390,000 µg/Kg
Manganese	230,000 µg/Kg (2)
Nickel	17,000 µg/Kg
Sodium	25,000 µg/Kg
Vanadium	3,400 µg/Kg
Zinc	13,000 µg/Kg
PCBs	28,000 µg/Kg (1)

LEGEND

= TOPSOIL

= CLAY

= FOUNDRY SAND

= SAND

= PEAT

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

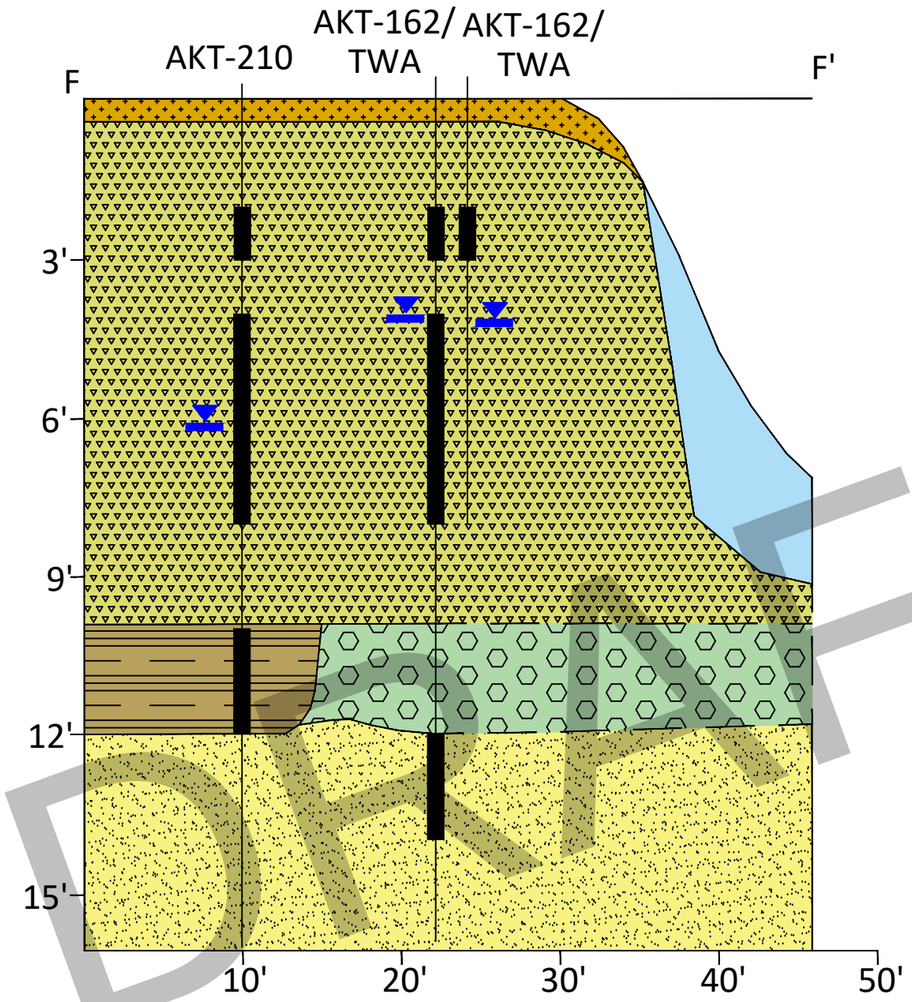
FIGURE 9

CROSS SECTION E-E'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-210 (2-3')	
06/23/2021	
PCBs	11,000 µg/Kg (3)
AKT-210 (4-6')	
06/23/2021	
PCBs	3,500 µg/Kg (3)
AKT-210 (6-8')	
06/23/2021	
PCBs	1,100 µg/Kg
AKT-210 (10-12')	
06/23/2021	
PCBs	530 µg/Kg



AKT-162/TWA (2-3')	
06/23/2021	
PCBs	8,600 µg/Kg (3)
AKT-162/TWA (4-6')	
06/23/2021	
PCBs	1,700 µg/Kg
AKT-162/TWA (6-8')	
06/23/2021	
PCBs	1,200 µg/Kg
AKT-162/TW (2-3')	
11/18/2019	
PCBs	28,000 µg/Kg (1,3)

AKT-162 (2'-3')	
11/18/2019	
Aluminum	940,000 µg/Kg (2)
Antimony	660 µg/Kg
Arsenic	2,300 µg/Kg
Barium	6,300 µg/Kg
Cadmium	87 µg/Kg
Chromium III	31,000 µg/Kg
Cobalt	1,900 µg/Kg
Copper	29,000 µg/Kg
Iron	17,000,000 µg/Kg (2)
Lead	7,200 µg/Kg
Magnesium	390,000 µg/Kg
Manganese	230,000 µg/Kg (2)
Nickel	17,000 µg/Kg
Sodium	25,000 µg/Kg
Vanadium	3,400 µg/Kg
Zinc	13,000 µg/Kg
PCBs	28,000 µg/Kg (1)

LEGEND

= TOPSOIL
= CLAY
= FOUNDRY SAND
= SAND
= PEAT
= RIVER
= SAMPLE INTERVAL
= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

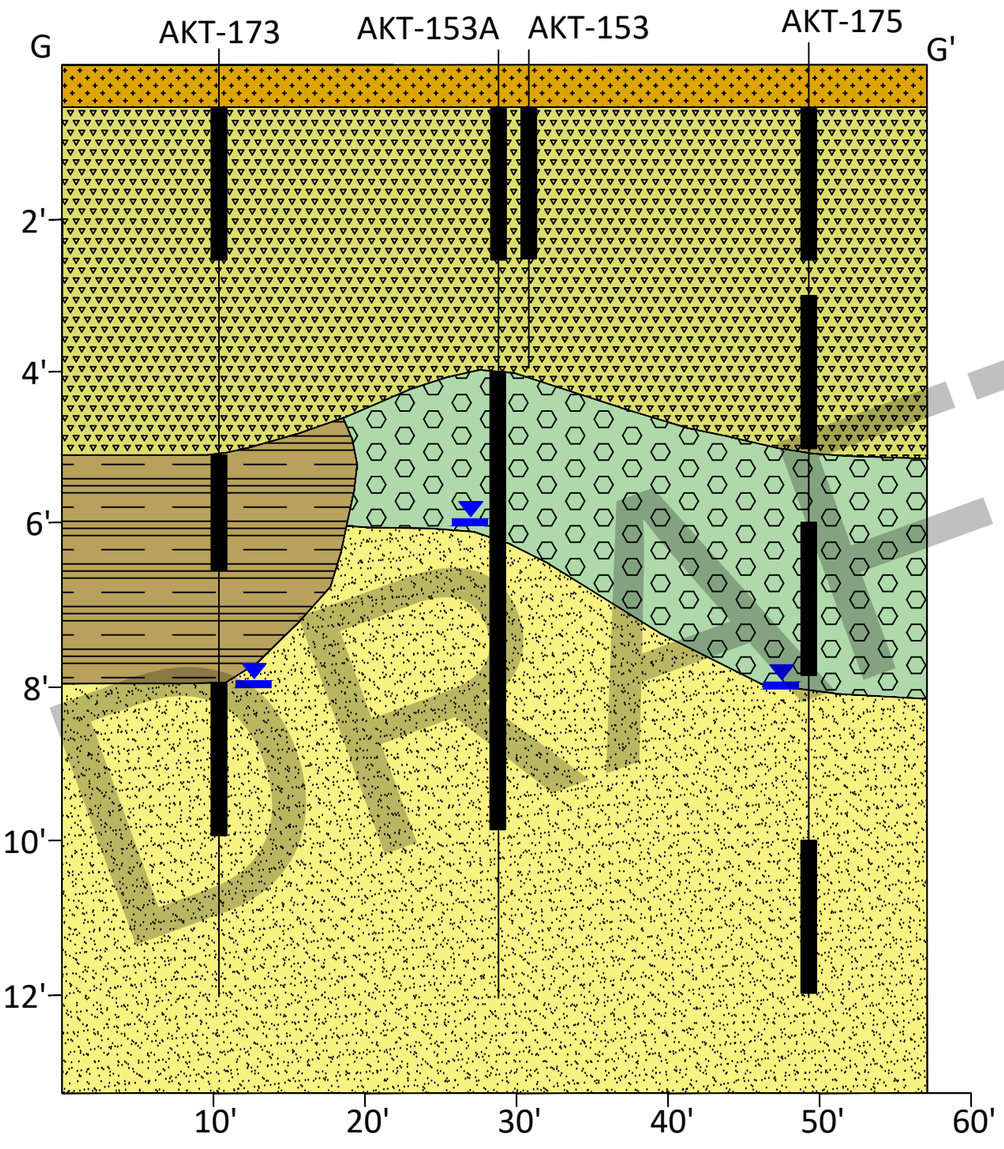
SCALE: AS SHOWN

FIGURE 10

CROSS SECTION F-F'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS ENVIRONMENTAL SERVICES
www.aktpeerless.com



AKT-153 (0.5-2.5')	
11/18/2019	
PCBs	23,000 µg/Kg (1,3)

LEGEND

= TOPSOIL

= CLAY

= FOUNDRY SAND

= SAND

= PEAT

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

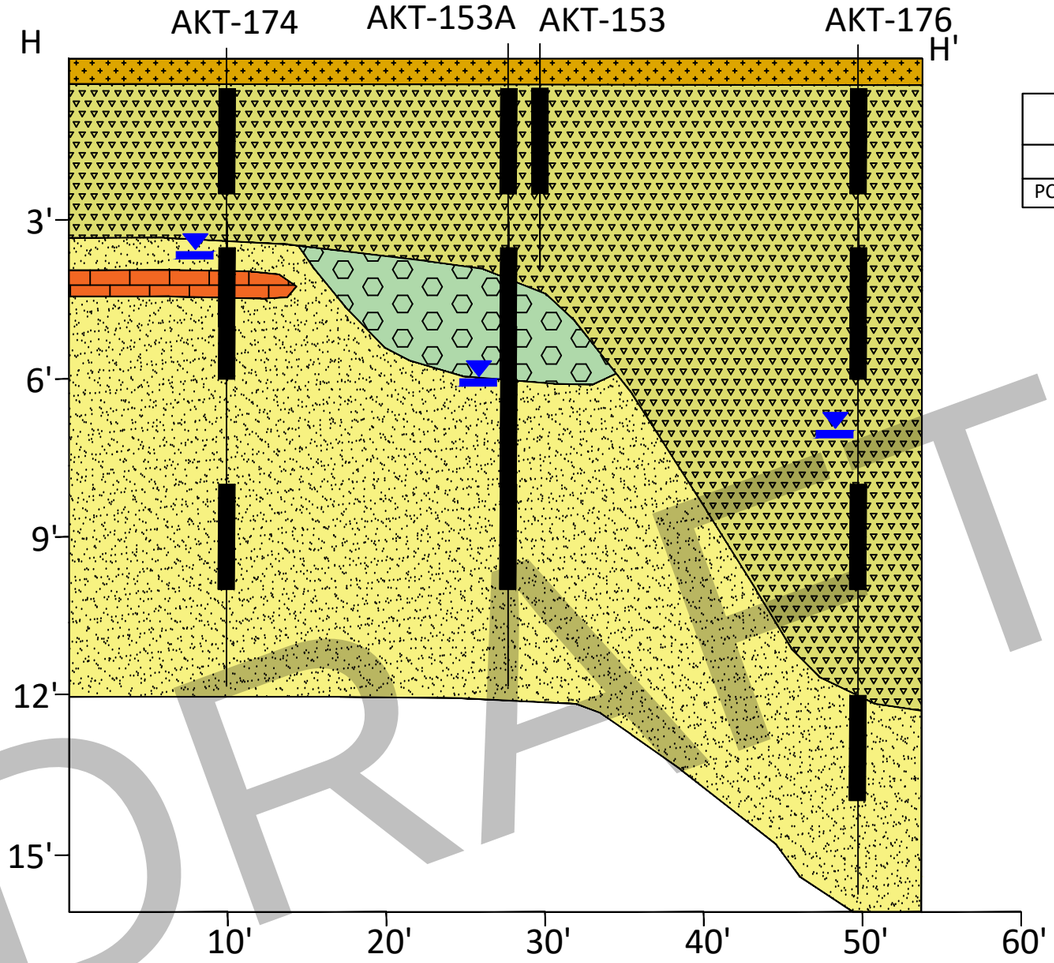
SCALE: AS SHOWN

FIGURE 11

CROSS SECTION G-G'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com



AKT-153 (0.5-2.5')	
11/18/2019	
PCBs	23,000 µg/Kg (1,3)

LEGEND

= TOPSOIL

= FILL

= FOUNDRY SAND

= SAND

= PEAT

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 12

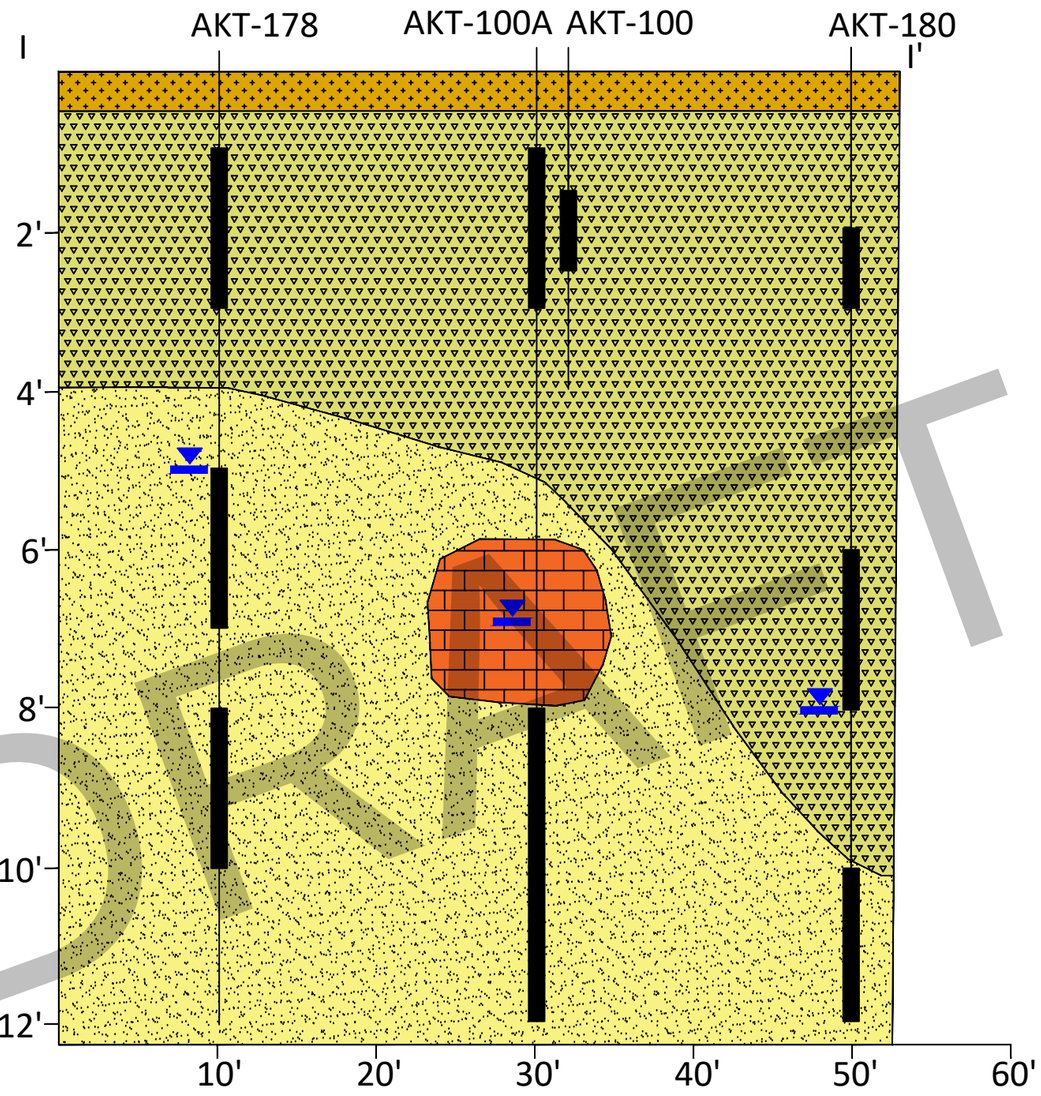
CROSS SECTION H-H'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-100A (1-3')	
06/15/2021	
PCBs	14,000 µg/Kg (3)
AKT-100 (1.5-2.5')	
06/05/2019	
PCBs	18,000 µg/Kg (1,3)

AKT-180 (10-12')	
06/15/2021	
PCBs	11,000 µg/Kg (3)



LEGEND

= TOPSOIL

= FOUNDRY SAND

= SAND

= FILL

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 13

CROSS SECTION I-I'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

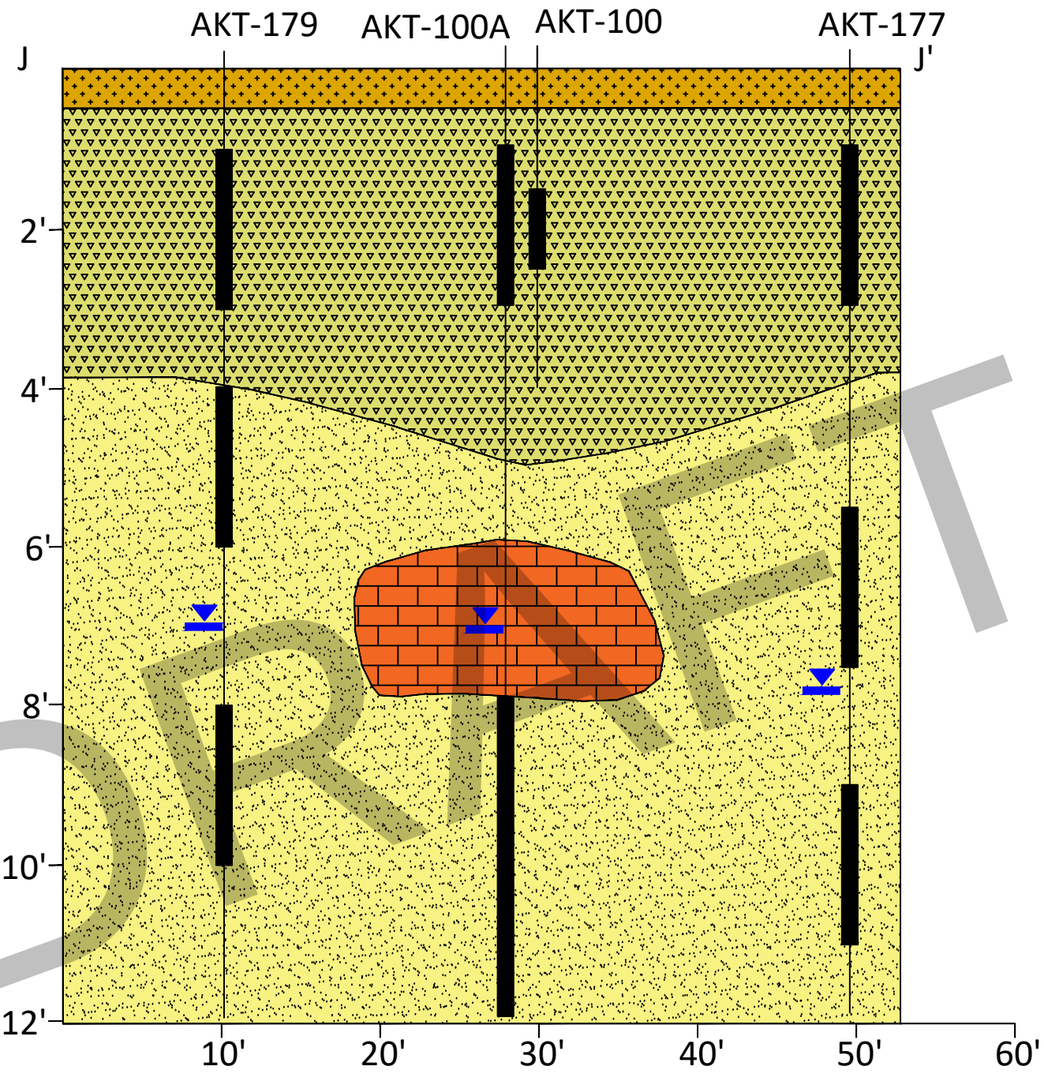
AKTPEERLESS ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-100A (1-3')
06/15/2021
PCBs 14,000 µg/Kg (3)

AKT-100 (1.5-2.5')
06/05/2019
PCBs 18,000 µg/Kg (1,3)

AKT-177 (1-3')
06/15/2021
PCBs 32,000 µg/Kg (1,3)

AKT-179 (1-3')
06/15/2021
PCBs 7,100 µg/Kg (3)



LEGEND

= TOPSOIL

= FOUNDRY SAND

= SAND

= FILL

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 14

CROSS SECTION J-J'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

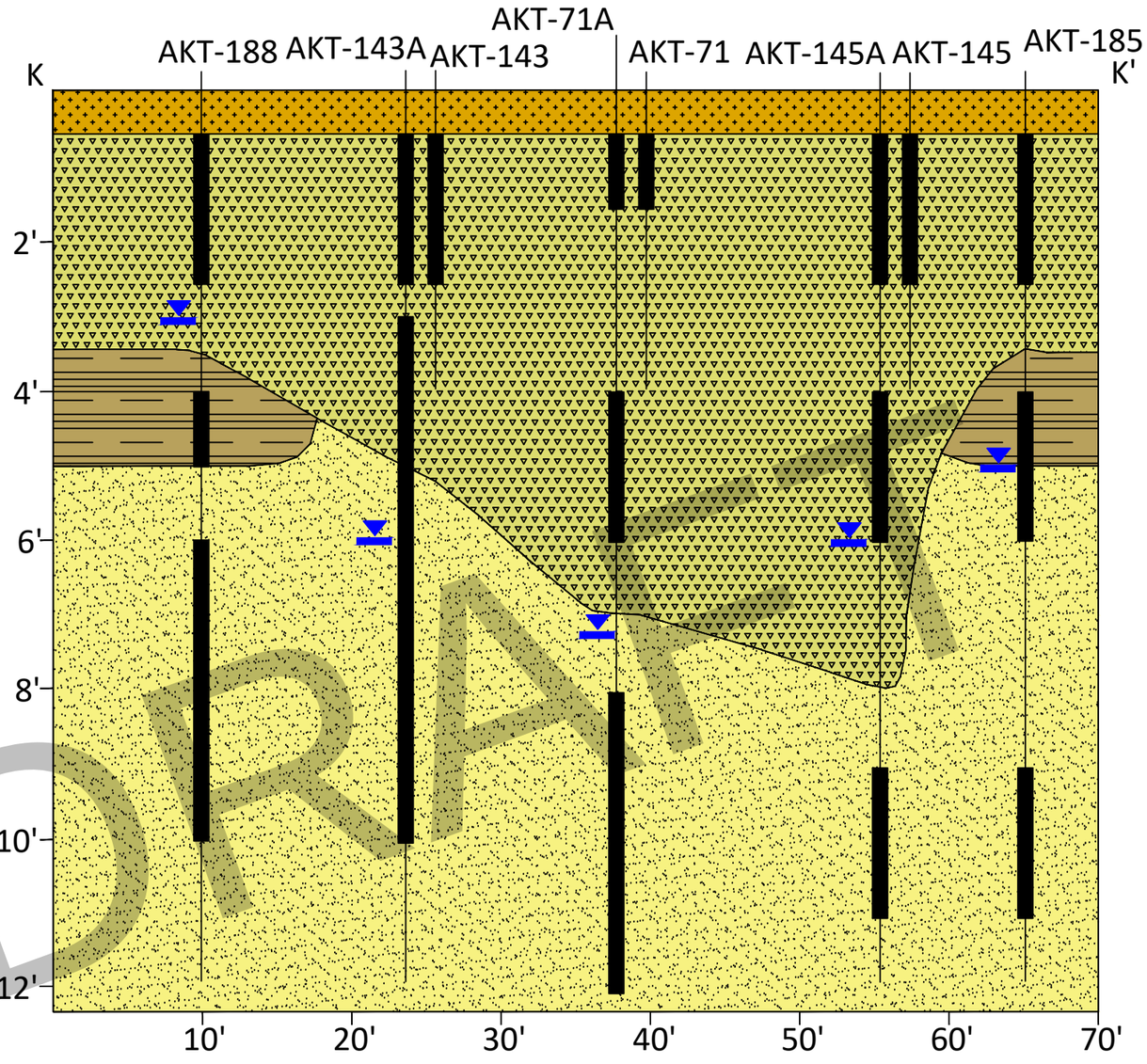
AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-71 (0.5-1.5')	
06/05/2019	
PCBs	44,000 µg/Kg (1,3)

AKT-143A (0.5-2.5')	
06/16/2021	
PCBs	5,000 µg/Kg (3)
AKT-143 (0.5-2.5')	
11/18/2019	
PCBs	58,000 µg/Kg (1,3)

AKT-145A (0.5-2.5')	
06/16/2021	
PCBs	3,800 µg/Kg (3)
AKT-145 (0.5-2.5')	
11/18/2019	
PCBs	20,000 µg/Kg (1,3)

AKT-188 (1-3')	
06/17/2021	
PCBs	5,100 µg/Kg (3)



LEGEND

= TOPSOIL

= FOUNDRY SAND

= SAND

= CLAY

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 15

CROSS SECTION J-J'

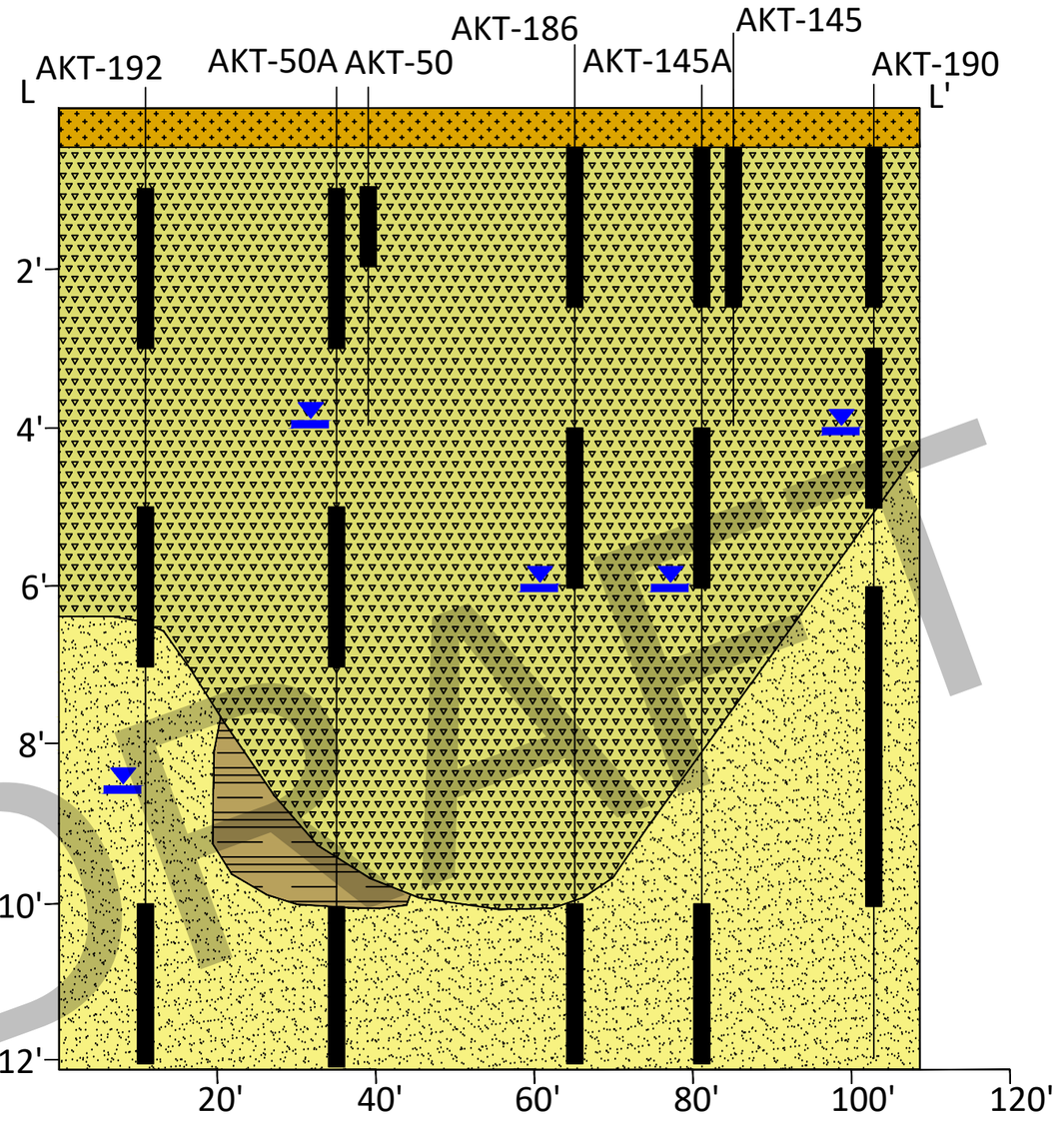
PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-50 (1-2')	
06/04/2019	
PCBs	36,000 µg/Kg (1,3)

AKT-145A (0.5-2.5')	
06/16/2021	
PCBs	3,800 µg/Kg (3)
AKT-145 (0.5-2.5')	
11/18/2019	
PCBs	20,000 µg/Kg (1,3)

AKT-192 (1-3')	
06/17/2021	
PCBs	75,000 µg/Kg (1,3)



LEGEND

= TOPSOIL

= FOUNDRY SAND

= SAND

= CLAY

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 16

CROSS SECTION L-L'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-182 (1-2')	
06/16/2021	
PCBs	12,000 µg/Kg (3)

AKT-182 (3-5')	
06/16/2021	
PCBs	15,000 µg/Kg (3)

AKT-26A (1-2')	
06/16/2021	
PCBs	33,000 µg/Kg (1,3)

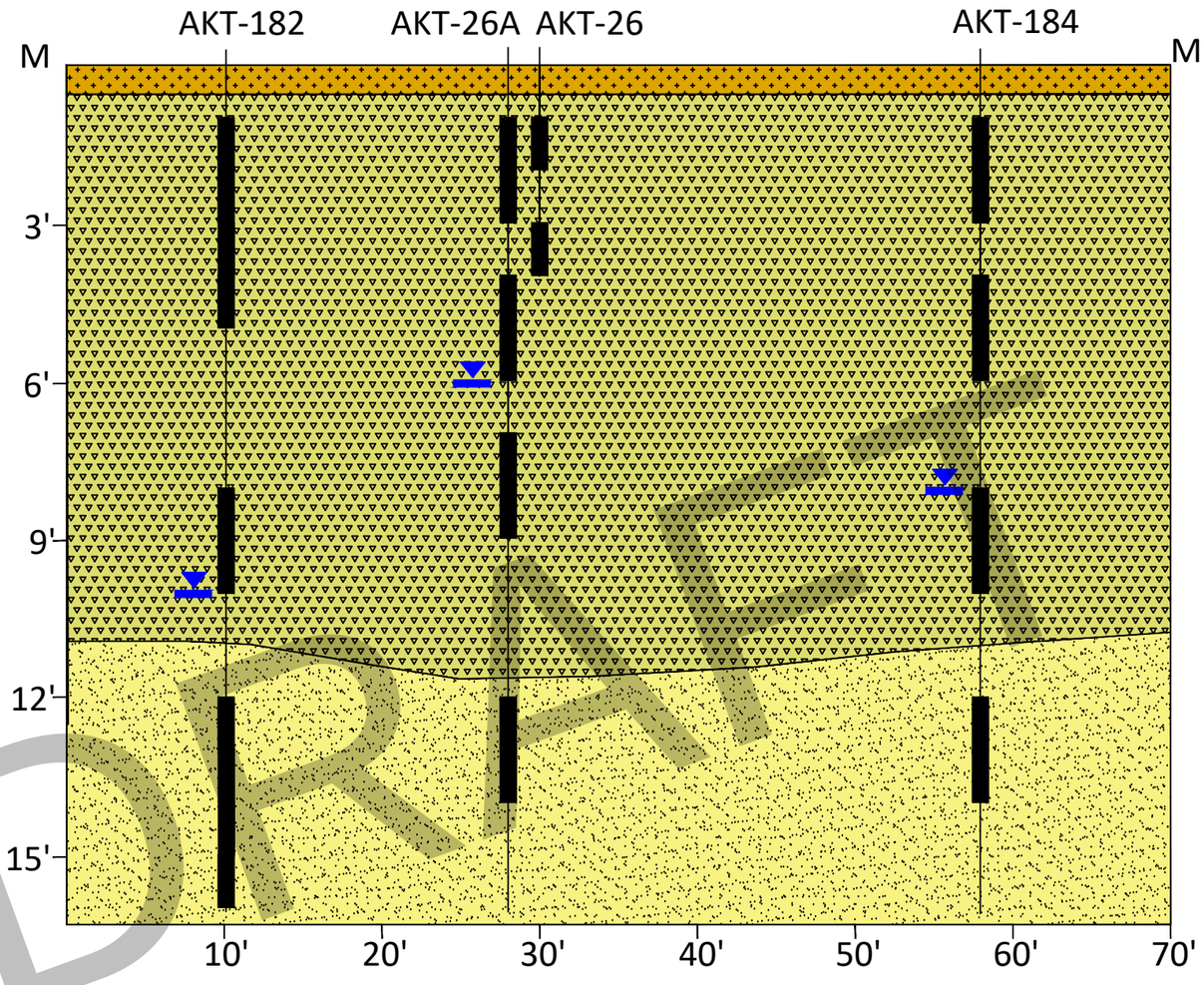
AKT-26A (3-5')	
06/16/2021	
PCBs	7,300 µg/Kg (3)

AKT-26A (7-9')	
06/16/2021	
PCBs	290 µg/Kg

AKT-26 (1-2')	
06/03/2019	
PCBs	22,000 µg/Kg (1,3)

AKT-26 (3-4')	
06/03/2019	
PCBs	3,900 µg/Kg (3)

AKT-184 (1-2')	
06/16/2021	
PCBs	14,000 µg/Kg (3)



LEGEND

= TOPSOIL

= FOUNDRY SAND

= SAND

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 17

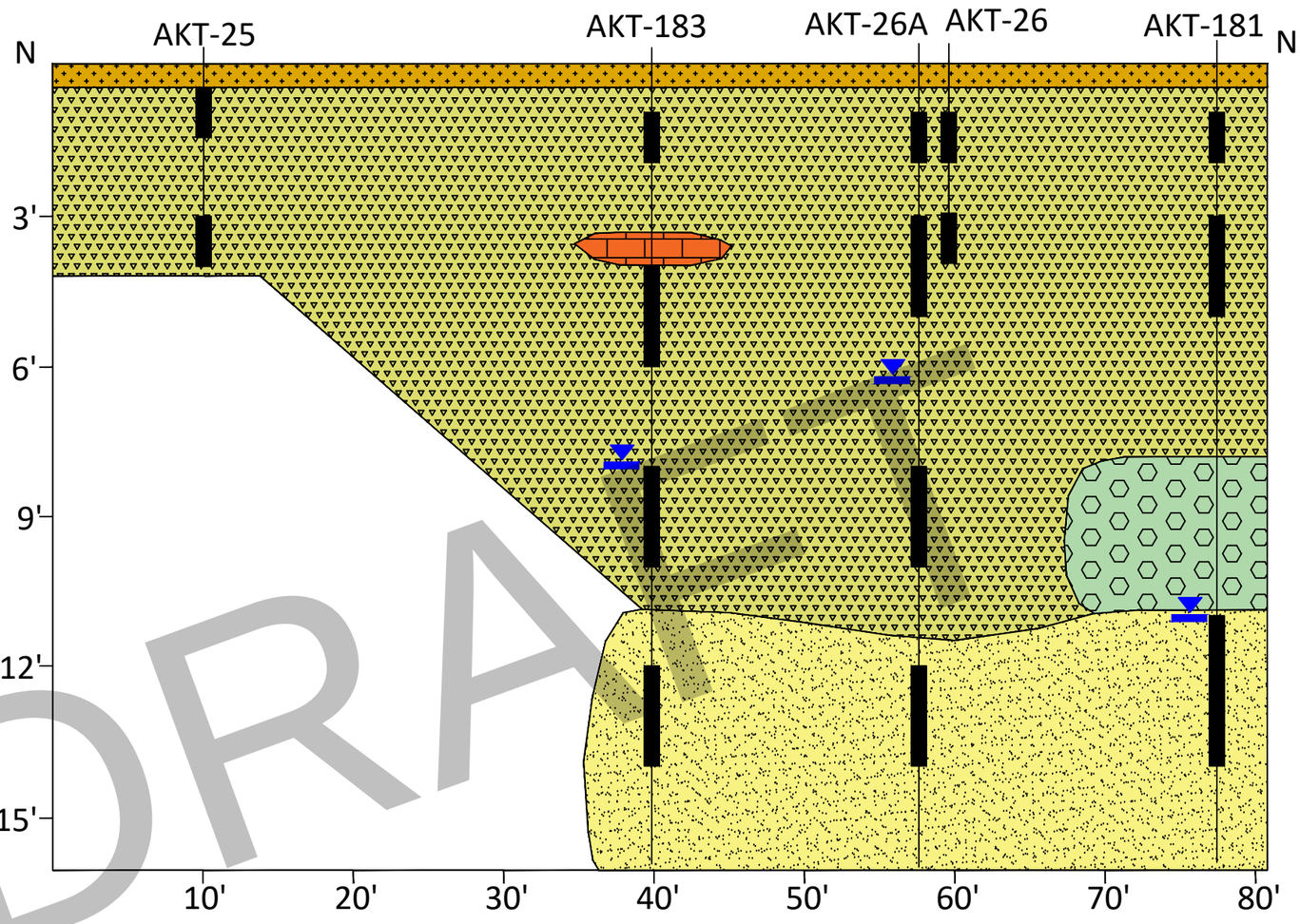
CROSS SECTION M-M'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-183 (1-2')	
06/16/2021	
PCBs	19,000 µg/Kg (1,3)
AKT-183 (4-6')	
06/16/2021	
PCBs	12,000 µg/Kg (3)
AKT-183 (8-10')	
06/16/2021	
PCBs	96,000 µg/Kg (1,3)

AKT-26A (1-2')	
06/16/2021	
PCBs	33,000 µg/Kg (1,3)
AKT-26A (3-5')	
06/16/2021	
PCBs	7,300 µg/Kg (3)
AKT-26A (7-9')	
06/16/2021	
PCBs	290 µg/Kg
AKT-26 (1-2')	
06/03/2019	
PCBs	22,000 µg/Kg (1,3)
AKT-26 (3-4')	
06/03/2019	
PCBs	3,900 µg/Kg (3)



AKT-25 (3-4')	
06/03/2021	
PCBs	3,200 µg/Kg (3)

LEGEND

= TOPSOIL

= FOUNDRY SAND

= SAND

= FILL

= PEAT

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

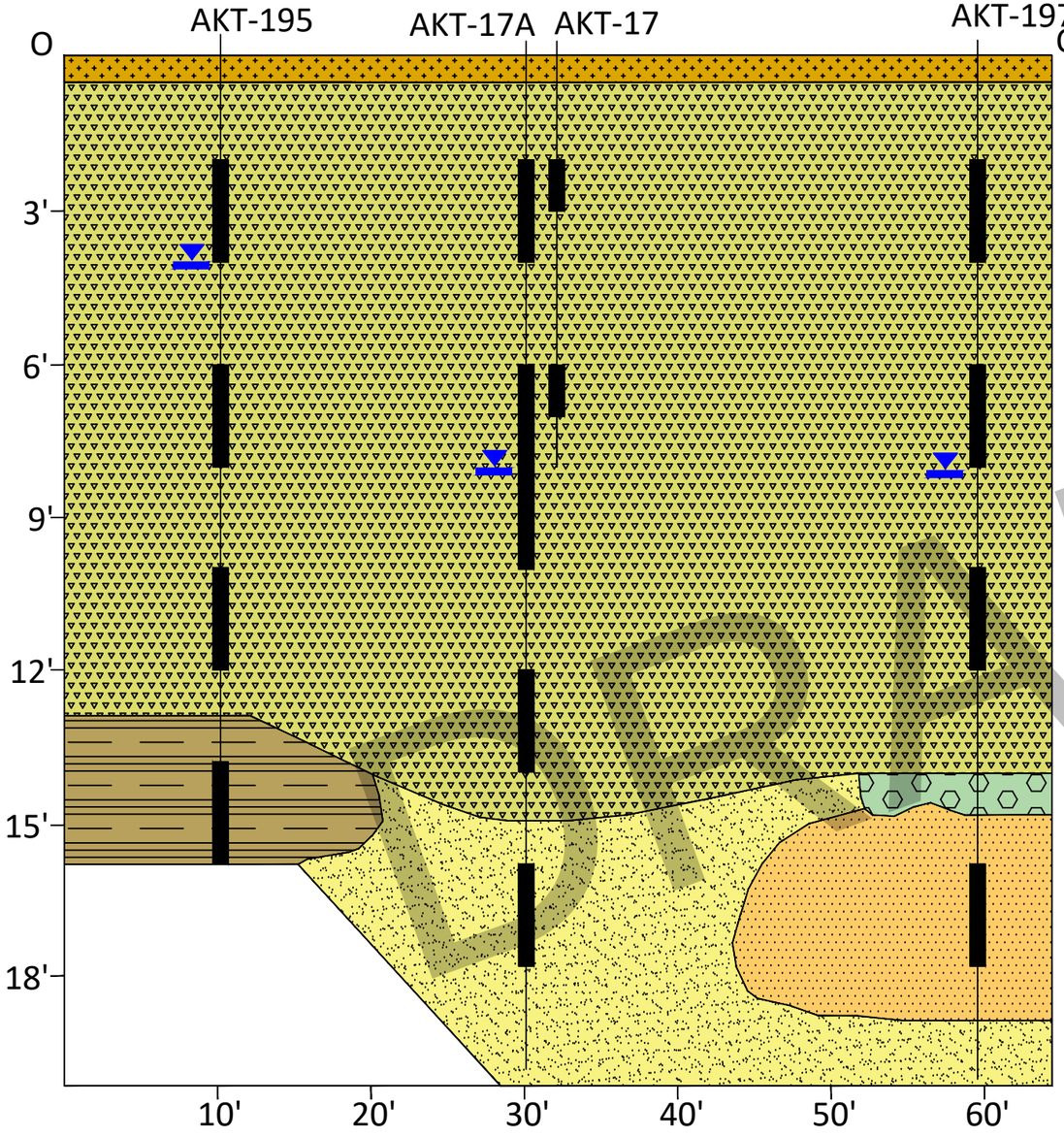
SCALE: AS SHOWN

FIGURE 18

CROSS SECTION N-N'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com



AKT-195 (2-4')	
06/18/2021	
PCBs	4,100 µg/Kg (3)

AKT-195 (6-8')	
06/18/2021	
PCBs	3,100 µg/Kg (3)

AKT-195 (10-12')	
06/18/2021	
PCBs	8,900 µg/Kg (3)

AKT-17A (6-8')	
06/18/2021	
PCBs	10,000 µg/Kg (3)

AKT-17 (2-3')	
06/03/2019	
PCBs	8,200 µg/Kg (3)

AKT-17 (6-7')	
06/03/2019	
PCBs	34,000 µg/Kg (1,3)

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

LEGEND

= SAMPLE INTERVAL
= WATER LEVEL
= TOPSOIL
= FOUNDRY SAND
= SAND
= SILT
= PEAT
= CLAY

DRAWN BY: MST
DATE: 03/14/2022

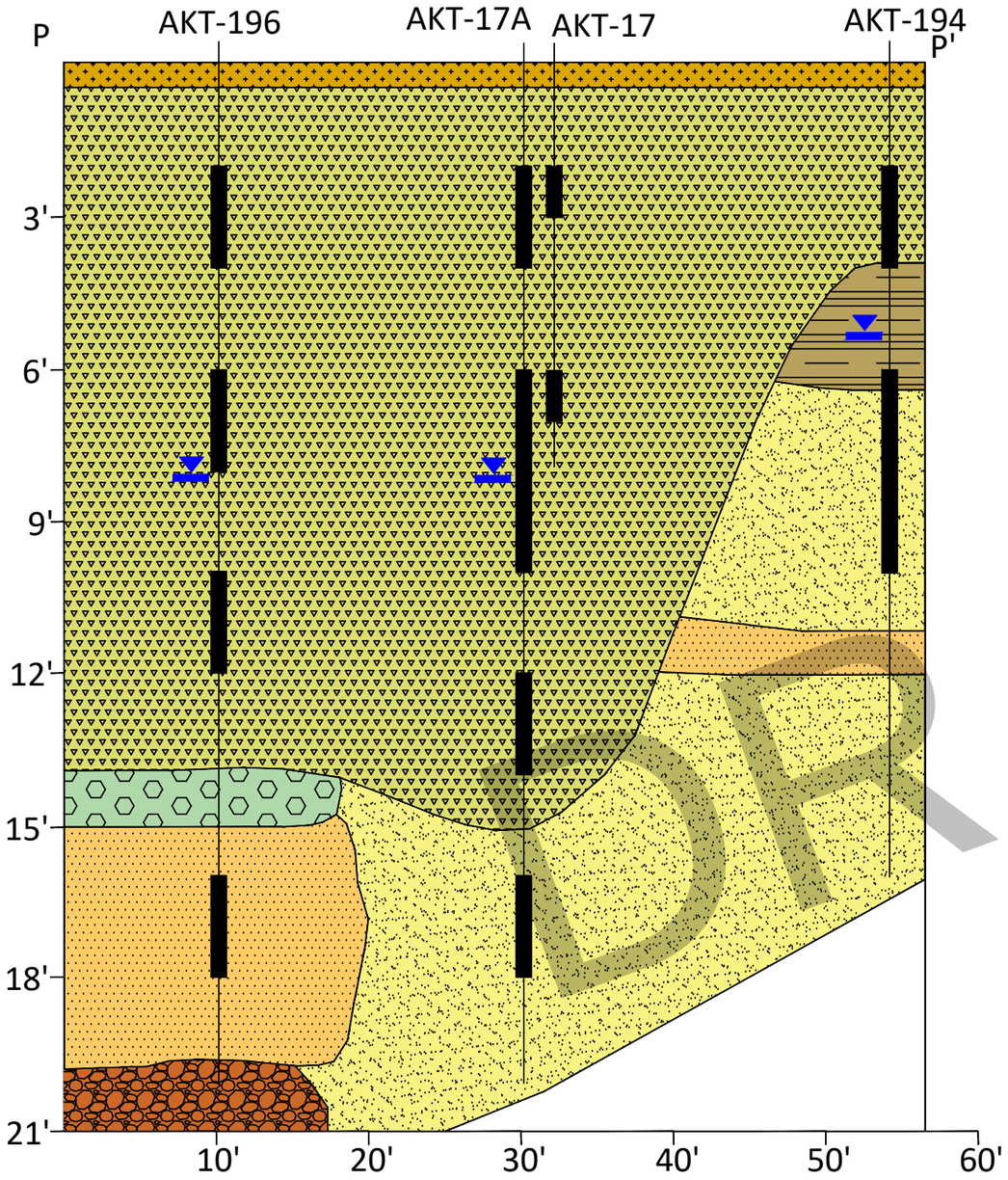
SCALE: AS SHOWN

FIGURE 19

CROSS SECTION O-O'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS ENVIRONMENTAL SERVICES
www.aktpeerless.com



AKT-194 (2-4')	
06/18/2021	
PCBs	4,100 µg/Kg (1)

AKT-196 (2-4')	
06/18/2021	
PCBs	4,200 µg/Kg (1,2)

AKT-17A (6-8')	
06/18/2021	
PCBs	10,000 µg/Kg (3)
AKT-17 (2-3')	
06/03/2019	
PCBs	8,200 µg/Kg (3)
AKT-17 (6-7')	
06/03/2019	
PCBs	34,000 µg/Kg (1,3)

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

LEGEND

= SAMPLE INTERVAL
= WATER LEVEL
= TOPSOIL
= FOUNDRY SAND
= SAND
= SILT
= PEAT
= CLAY
= GRAVEL

N
W E
S

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 20

CROSS SECTION P-P'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-68 (0.5-1.5')	
06/18/2021	
PCBs	3,400 µg/Kg (3)

AKT-205 (1-3')	
06/22/2021	
PCBs	120,000 µg/Kg (1,3)

AKT-205 (4-6')	
06/21/2021	
PCBs	9,900 µg/Kg (3)

AKT-204 (1-3')	
06/22/2021	
PCBs	43,000 µg/Kg (1,3)

AKT-204 (4-6')	
06/22/2021	
PCBs	10,000 µg/Kg (3)

AKT-204 (8-10')	
06/22/2021	
PCBs	5,100 µg/Kg (3)

AKT-204 (12-14')	
06/22/2021	
PCBs	4,000 µg/Kg (3)

AKT-204 (16-18')	
06/22/2021	
PCBs	7,700 µg/Kg (3)

AKT-40A (1-3')	
06/21/2021	
PCBs	12,000 µg/Kg (3)

AKT-40A (4-6')	
06/21/2021	
PCBs	3,300 µg/Kg (3)

AKT-40A (8-10')	
06/21/2021	
PCBs	21,000 µg/Kg (1,3)

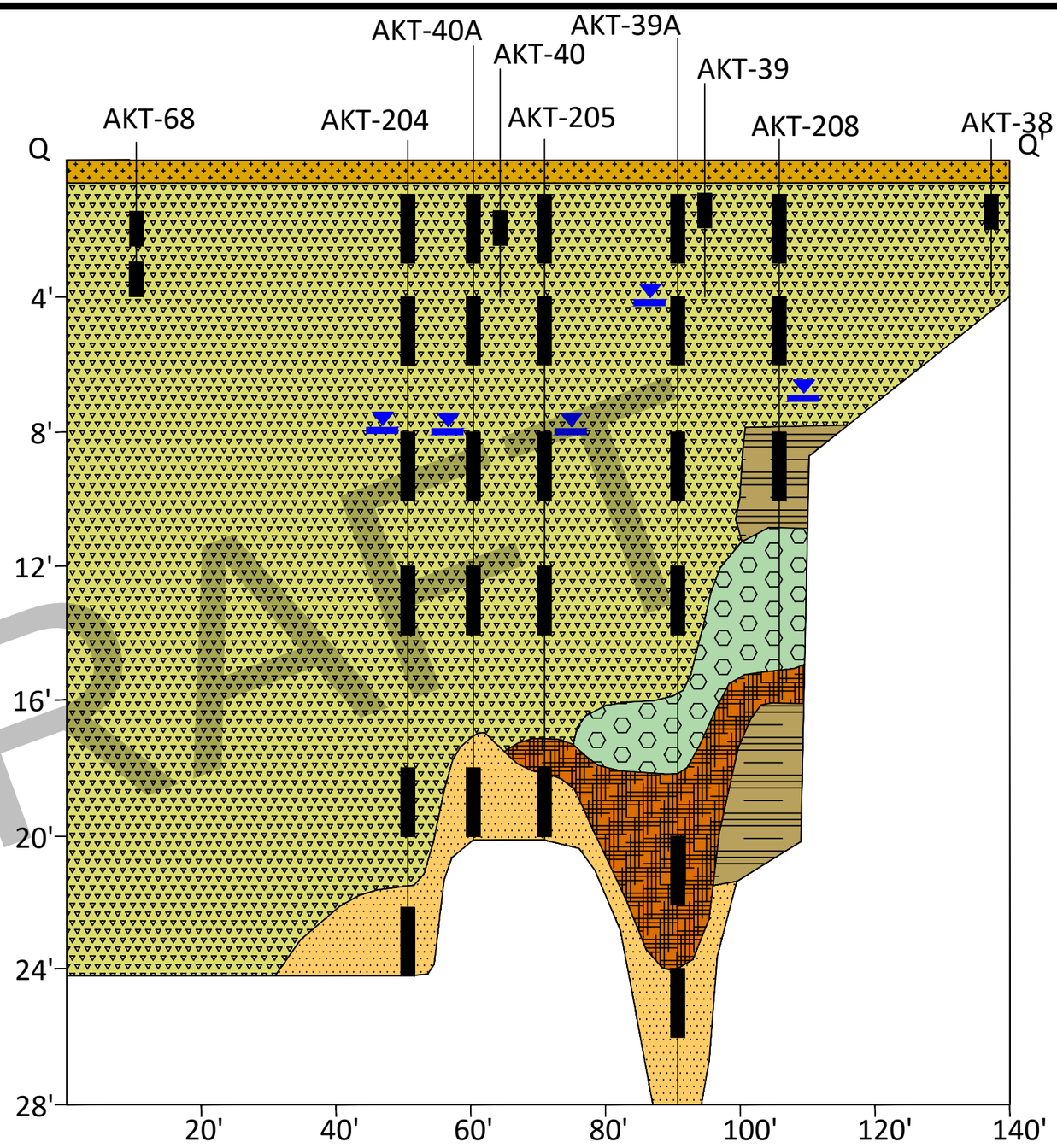
AKT-40 (1.5-2.5')	
06/03/2019	
PCBs	120,000 µg/Kg (1,3)

AKT-39A (1-3')	
06/21/2021	
PCBs	47,000 µg/Kg (1,3)

AKT-39 (1-2')	
06/03/2019	
PCBs	17,000 µg/Kg (1,3)

AKT-208 (1-3')	
06/22/2021	
PCBs	16,000 µg/Kg (1,3)

AKT-38 (1.5-2.5')	
06/03/2021	
PCBs	7,800 µg/Kg (3)



LEGEND

= TOPSOIL

= FOUNDRY SAND

= SILT

= PEAT

= CLAY

= MARL

= SAMPLE INTERVAL

= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 21

CROSS SECTION Q-Q'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com

AKT-207 (1-3')	
06/22/2021	
PCBs	89,000 µg/Kg (1,3)

AKT-207 (4-6')	
06/22/2021	
PCBs	61,000 µg/Kg (1,3)

AKT-39A (1-3')	
06/21/2021	
PCBs	47,000 µg/Kg (1,3)

AKT-39 (1-2')	
06/03/2019	
PCBs	17,000 µg/Kg (1,3)

AKT-199 (4-6')	
06/21/2021	
PCBs	38,000 µg/Kg (1,3)

AKT-35A (4-6')	
06/21/2021	
PCBs	11,000 µg/Kg (1)

AKT-35A (8-10')	
06/21/2021	
PCBs	3,700 µg/Kg (1)

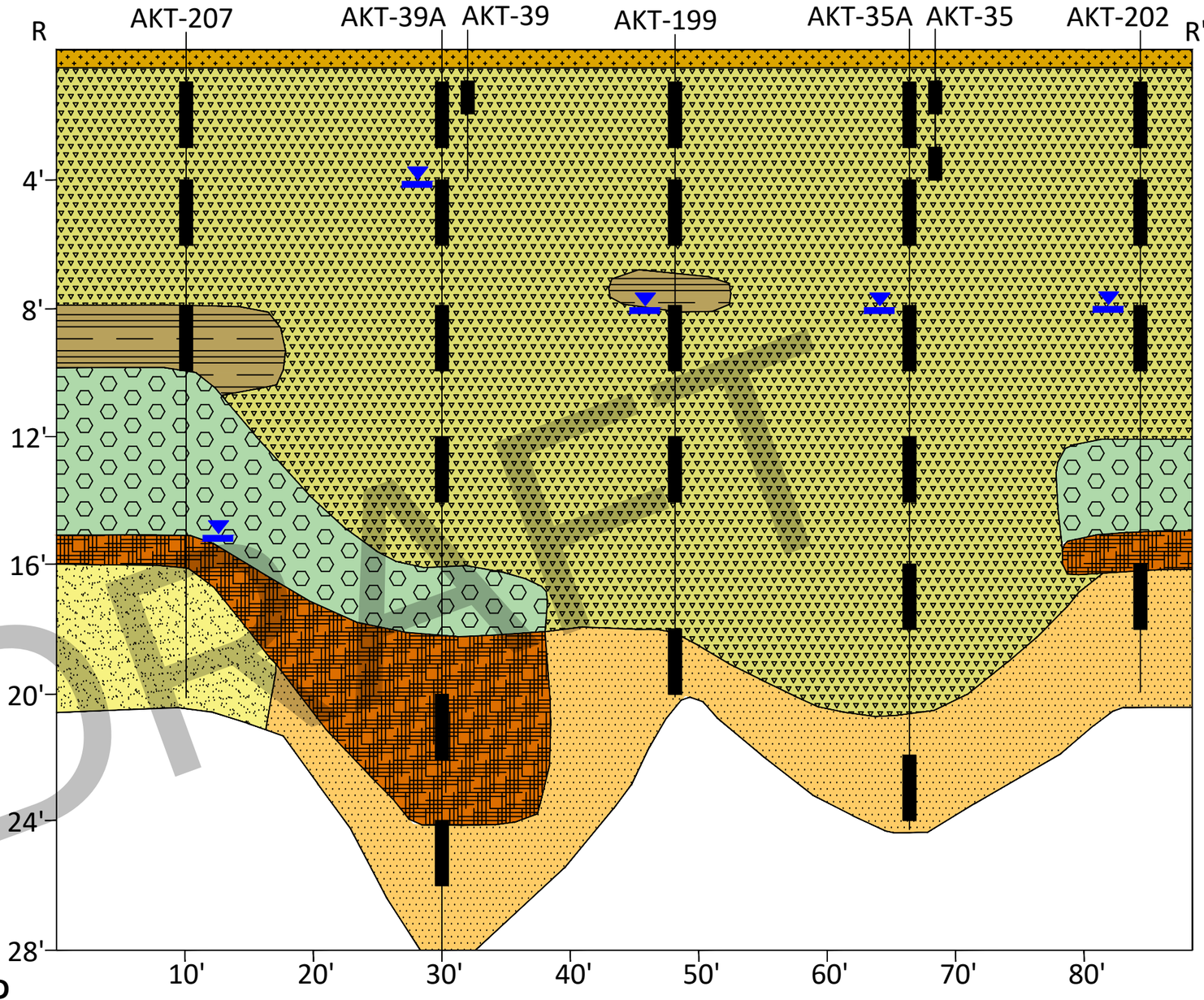
AKT-35 (1-2')	
06/03/2019	
PCBs	6,600 µg/Kg (3)

AKT-35 (3-4')	
06/03/2019	
PCBs	29,000 µg/Kg (1,3)

AKT-202 (1-3')	
06/22/2021	
PCBs	7,700 µg/Kg (1)

AKT-202 (4-6')	
06/22/2021	
PCBs	5,600 µg/Kg (1)

AKT-202 (8-10')	
06/22/2021	
PCBs	3,200 µg/Kg (1)



LEGEND

= SILT
= CLAY
= FOUNDRY SAND
= SAND
= MARL
= SAMPLE INTERVAL
= PEAT
= TOPSOIL
= WATER LEVEL

CRITERIA NOTE

(1) - Exceeds Non-Residential Direct Contact Criteria
(2) - Exceeds Non-Residential Drinking Water Protection Criteria
(3) - Exceeds EPA Residential Vapor Intrusion Screening Level

DRAWN BY: MST
DATE: 03/14/2022

SCALE: AS SHOWN

FIGURE 22

CROSS SECTION R-R'

PARCEL NO. 14-26-351-001
AUBURN HILLS, MICHIGAN
PROJECT NUMBER: 14306F-14-20

AKTPEERLESS
ENVIRONMENTAL SERVICES
www.aktpeerless.com