

Akron Airdock PCB Exterior Remediation Strategy

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1. Introduction

This remediation plan addresses exterior cleanup activities at the Akron Airdock facility, a historic airship hangar located on the former Lockheed Martin Corporation (LMC) property at 1210 Massillon Road in Akron, Ohio. This documents supplements the “Airdock Exterior Remediation Plan and Schedule” that was submitted to United States Environmental Protection Agency (U.S. EPA) on June 8, 2005.

In 2003, the unusual non-liquid polychlorinated biphenyl (PCB) Aroclor 1268 was discovered to have been a component of the Airdock’s original roof and siding. PCBs apparently had been included in the coating of the roofing and siding material to serve as a fire retardant. Since the initial PCB discovery in 2003 and continuing to the present, Lockheed Martin has successfully planned and implemented a voluntary remediation program to manage the Robertson Protected Metal (RPM) roofing and siding material that contains Aroclor 1268.

The exterior of the Airdock and its associated 19-acre parcel are undergoing voluntary remediation under two regulatory programs: the federal Toxic Substances Control Act (TSCA) and the State of Ohio Environmental Protection Agency (Ohio EPA) Voluntary Action Program (VAP). Cleanup and continued use of the interior of the Airdock under TSCA proceeds under a May 5, 2005, Consent Agreement and Final Order (CAFO) between U. S. EPA and LMC, and risk-based approvals granted by U. S. EPA pursuant to 40 C.F.R. 761(c). VAP cleanup is under the Clean Ohio Revitalization Fund (CORF) program, involving a state Brownfields grant agreement between the current property owner, Summit County Port Authority, and development partner, LMC.

The remaining exterior remediation work scheduled from 2007 to 2009 will require a closely coordinated and unified approach between the risk-based TSCA and VAP programs.

2. Remedial Objectives

The overall goal of the project is to prevent unreasonable risks to human health and the environment by controlling sources of PCB Aroclor 1268 on or emanating from the Airdock parcel and the affected media so as to meet applicable TSCA and VAP standards. The Airdock parcel itself will be restricted, through an Environmental Covenant, to industrial land use as part of the overall site remedy. The TSCA exterior remediation program focuses on source control of the RPM siding itself; and assessment and, where appropriate, remediation of releases from the RPM siding (specifically Aroclor 1268). At the same time, the VAP remediation program focuses on remediating a chlorinated solvent groundwater plume and releases to environmental media (soil, subsurface soil, and indoor air) from RPM and other sources on the property. Historical impacts of PCBs or

other legacy discharges to Haley's Ditch are not addressed under the VAP remediation program.

The current risk to industrial workers associated with PCBs in the soil, excluding the area for which the presumptive soil removal activity described in Section 5.2 is planned, is 2E-06, with a calculated hazard of 0.17.

Cumulative risk goals for adjoining off-parcel areas from multiple contaminants (including PCBs) across multiple pathways are: (1) an upper bound lifetime cancer risk of 1 in 100,000 (10^{-5} or 1E-05) and (1) a hazard index less than or equal to 1.

3. Background

3.1 Ownership History

Built by Goodyear in 1929 as a facility for constructing rigid airships, the Airdock became part of LMC in 1997 when Loral Corporation merged into LMC. Loral had purchased assets of Goodyear Aerospace Corporation—including the Airdock—in 1987. The Airdock is undergoing redevelopment to return use of the facility to its original purpose of manufacturing and housing large airships and other inflatable structures for the U.S. Department of Defense and other customers.

Ownership of the Airdock was transferred to Summit County Port Authority in 2005. Summit County Port Authority and development partner LMC were awarded a CORF grant to support remediation of the Airdock for redevelopment in 2006. The CAFO was amended on December 23, 2005, to add the Summit County Port Authority as a party.

Figure 1 is an aerial photograph of the Airdock and surrounding area.

3.2 PCBs in Airdock Siding

The RPM material consists of five components: steel sheet metal, asphalt, asbestos felt, bitumen (impregnated with a fire-retardant, Aroclor 1268), and aluminum paint. Exfoliation of the RPM coating over time apparently resulted from the following factors: asphalt and steel with mismatched coefficients of thermal expansion, significant asphalt oxidation, dryness from more than 75 years of aging, and seasonal temperature fluctuations.

The PCB found in the RPM, Aroclor 1268, is solid at room temperature and nearly insoluble in water. Its mobility in the exterior environment therefore is extremely limited; it is present only as a constituent of variously sized small, solid particles. Following an initial phase of sampling in 2003, Aroclor 1268 was discovered in samples of dust, surface debris, exposed soil, and catch basin sediment.

3.3 Regulatory Coordination

Prior to the CORF agreement, in early September 2005, the U.S. EPA Region 5 Toxics Division and the Ohio EPA VAP discussed project coordination and agreed in principle to support LMC and Summit County Port Authority, the new owner of the property, with regulation of the ongoing remediation project (Ohio EPA 2005). Support would be provided by establishing a general programmatic division of cleanup rules to coordinate the remediation process: TSCA – interior portions of the Airdock and Haley’s Ditch, and VAP – portions of the Airdock parcel exterior to the Airdock.

Cleanup of the Airdock interior is being conducted pursuant to the CAFO and risk-based approvals granted by U.S. EPA pursuant to 40 Code of Federal Regulations (C.F.R.) 761.61(c). Cleanup under VAP is addressing the entire 19-acre Airdock parcel exterior to the Airdock (although the vapor intrusion to indoor air pathway is also part of this work), including a plume of chlorinated solvents in groundwater underlying the parcel.

The VAP remedy is driven by a property-specific risk assessment for human health exposure under a restricted land use scenario. The risk assessment evaluates potential exposure to two receptor populations: industrial workers and workers involved with construction and excavation. Cumulative risk goals for the property from multiple contaminants (including PCBs) across multiple pathways are: (1) an upper bound lifetime cancer risk of 1 in 10,000 (10^{-4}) and (2) a hazard index less than or equal to 1. Additionally, the VAP risk assessment process requires demonstrations that off-property receptors are protected by showing that post-remedy releases, if any, meet certain risk goals.

The VAP property-specific risk assessment was conducted during implementation of remedial actions at various areas of the property. The findings of the property-specific risk assessment are being used to focus remediation of certain remaining areas by developing risk-based cleanup targets. Once confirmatory samples are collected after remediation, the property-specific risk assessment will be re-visited to demonstrate compliance with standards in support of the VAP No Further Action Letter (NFA) and Covenant Not to Sue (CNS) from Ohio EPA. The VAP property-specific risk assessment should also form the basis for a finding by U.S. EPA pursuant to 40 C.F.R. § 761.61(c) that the conditions remaining after the exterior cleanup will not pose an unreasonable risk to human health or the environment.

The NFA and CNS will apply only to the 19-acre Airdock parcel. Cleanup of Haley’s Ditch will be conducted independently of the VAP NFA and CNS, and will not be a condition for grant of CNS by Ohio EPA.

4. Remediation Conducted From 2003-Present

Since the initial discovery of non-liquid PCB at the Airdock in 2003 and continuing to the present, LMC has successfully planned and implemented a voluntary remediation program to manage the RPM roofing and siding material that contains Aroclor 1268. In conjunction with the appropriate regulatory notification and approval process, the voluntary remedial approach has focused on: (1) source control to prevent releases of PCBs from the roof and siding material and removal of concentrated areas of PCBs on the grounds, and (2) cleanup of PCBs from the stormwater conveyance and discharge systems.

The general conceptual approach appeared in Lockheed Martin's June 8, 2005, submittal to U.S. EPA Region 5: "Airdock Exterior Remediation Plan and Schedule." Initial remedial measures included removing visible siding debris from the ground surface surrounding the Airdock, cleaning all accessible storm drain catch basins and visually inspecting the storm drain pipes, and installing and maintaining filter fabric on all storm drain catch basins.

More detailed descriptions of the activities conducted to date have been reported to U.S. EPA Region 5 in various approval requests, work plans, and progress reports. At this time midway through the project, the following portions of the site remedy and further investigations have been completed.

4.1 Roof Membrane

The roof of the Airdock consists of 12 round arch segments and four end doors. The first 24 feet of the walls of the Airdock up to the rain gutter are vertical, as is approximately the first 30 feet of all four main doors. Above the vertical walls, the roof begins and arches up to the top of the building. The roof is defined as all of the non-vertical surfaces of the main structure of the Airdock and the four main clam-shell doors. The total roof area is 693,000 square feet.

Except for the four doors covered with foam since 1985, the roof has been encapsulated with a rolled rubber membrane, completed in 2005. In 2005, the rolled rubber membrane material was applied over the four doors, including the rear-facing lip of each door. A portion of the northeast door rear lip was damaged in 2006; repairs to this area are being completed during the second quarter of 2007.

4.2 Gutters

The Airdock gutters and downspouts needed repair to prevent rainwater from washing down the vertical siding and windows. Replacement of the west side and east side gutter and downspout systems was completed in 2005. All removed gutters, downspouts, and associated debris were disposed of as PCB waste in accordance with 40 CFR 761.61(b).

4.3 Siding Replacement

The Airdock roof membrane ends at the gutter approximately 24 feet above the ground. The bottom 24 feet of the Airdock exterior is vertical and consists of windows, doors, siding, and associated structures and equipment. On the Airdock doors, the rubber roof membrane ends just above the vertical translucent panels. Between 2005 and 2006, all of the Airdock's vertical siding panels were replaced below the gutter on the arched segments, including all translucent panels and exposed siding on the doors. Also replaced (because these materials were RPM) were the siding and roofing material for two of the four door motor buildings and the electrical substation building. The new siding is corrugated painted aluminum with translucent fiberglass reinforced plastic (FRP) panels.

U.S. EPA received the specific technical plans for the siding replacement on August 11, 2005. All siding was disposed of as PCB and asbestos waste.

4.4 Soil and Sediment Sampling

LMC has conducted several phases of soil sampling in areas not previously investigated and where additional information was needed to delineate the extent of potential impacts. This effort included collecting soil samples on LMC property, on the grass-covered field north of the Airdock on City of Akron airport property, and on LMC property at the storm drain outfall to Haley's Ditch. Soil and sediment samples were collected on Goodyear property along Haley's Ditch, and from various private properties along Haley's Ditch south of Seiberling Street. Results of these various sampling efforts were reported to U.S. EPA Region 5 in 2005, 2006, and 2007.

4.5 Pavement Sampling

LMC has conducted several phases of pavement sampling of the tarmac surrounding the Airdock to delineate the extent of potential impacts. The analytical results of 34 pavement core samples ranged from <0.033 to 1.9 mg/kg total PCBs, with an average concentration of 0.18 mg/kg. LMC has also sampled soil beneath the pavement at 16 locations surrounding the Airdock. Results from the sub-pavement sampling activity were reported to U.S. EPA Region 5 in August 2006 (LMC 2006).

4.6 Interior Cleanup

LMC has been cleaning up the interior of the Airdock in accordance with various U.S. EPA approvals. The most recent U.S. EPA approval, dated December 22, 2006, describes the plan for cleaning and coating the interior of the Airdock siding and superstructure. The plan, which includes requirements for post-cleanup sampling and monitoring, is intended to provide effective source control

of PCBs from the interior of the Airdock. LMC has already begun to implement the interior cleanup, which is scheduled to be completed by the end of 2007.

5. Remaining Exterior Remediation Plan

Areas subject to the remaining elements of the exterior remediation plan are depicted on Figure 2. The general concepts outlined in the remaining plan are consistent with the June 8, 2005, *Airdock Exterior Remediation Plan*. The VAP risk assessment (Tetra Tech 2007) provides support for a risk-based disposal application under §761.61 (c) for exterior areas with PCB impacts. Remaining remedial activities and the applicable cleanup standards, as appropriate, for each activity are described below. Details of certain remedy elements will be presented in future risk-based approvals.

5.1 Source Control Activities

This section describes activities to control sources of PCBs or to limit exposure to PCBs.

5.1.1 Remaining RPM Replacement

The remaining two motor houses outside the north end of the Airdock and the fire pump house building will be renovated in 2007. Two door pin enclosures on the roof of the Airdock were also constructed with RPM. The remaining exposed RPM from the pin houses will be replaced once the Airdock interior cleaning has been completed. The pin house renovation is planned for Spring 2008. The RPM and associated debris will be disposed of as PCB remediation waste.

5.1.2 Amended CAFO

U.S. EPA and Lockheed Martin are negotiating a superseding CAFO to address continued use of the facility. The superseding CAFO will include operations, maintenance, inspection and monitoring procedures intended to verify the effectiveness of the interior PCB source control measures.

5.1.3 Activity and Use Restrictions

Certain activity and use restrictions will be established for the Airdock parcel as part of the overall site remedy. The Airdock parcel, legally defined as Summit County Tax Parcel No. 71-000064, is currently used for industrial purposes. A legal restriction to limit land use will be recorded through an Environmental Covenant. The restriction will apply to the entire 19-acre parcel as depicted in Figure 2.

Activity restrictions will be established through an Environmental Covenant for (1) the entire parcel and (2) specific portions of the parcel known as Identified Areas. The anticipated activity restrictions are:

(1) Parcel Restrictions:

- Notification through Airdock PCB Awareness Briefing
- Facility permitting plan for workers and contractors
- Prohibition on groundwater extraction and use for potable purposes

(2) Identified Area Restrictions:

- Risk Mitigation Plan for construction workers involved with subsurface activities at VAP Identified Area 1
- Risk Mitigation Plan for construction workers involved with subsurface activities at VAP Identified Area 9

In addition, the use of the Airdock will be limited by the restrictions contained in the superseding CAFO.

5.2 Soil Excavation and Disposal

Preliminary risk analysis of existing sampling data indicates that risk goals will be met following the excavation and removal of soil with PCB concentrations greater than 25 mg/kg in two areas: the Southeast Area and the SC-8 Hot Spot. A separate risk-based approval request will be submitted to EPA with details on the proposed removal action during the third quarter of 2007.

5.2.1 Southeast Area and Sample SC-8 Hot Spot (On-Parcel)

A soil removal action will occur in the grassy area directly outside the southeastern area of the Airdock (Figure 3) and from an isolated area below pavement on the northwest corner of the Airdock (designated with the box labeled F1 on Figure 2). Soil samples have been collected from 20 locations at different depth intervals and analyzed for PCBs, including Aroclor 1268. The sampling and analysis data show that PCB concentrations in soil decline rapidly with depth and distance away from the building, a pattern consistent with the non-mobility of the chemical.

The property-specific risk assessment (Tetra Tech 2007) demonstrates that removal of soil with PCBs from the 250- by 25-foot area and from isolated hot spot SC-8 will meet risk and hazard goals under the VAP, and consequently meet a risk-based cleanup approach under §761.61(c). Confirmatory soil samples will be collected from the excavated areas upon completion of the soil removal action in the Southeast Area and SC-8 Hot Spot area to confirm that the average PCB levels in soil meet the risk and hazard goals. Details of the risk analysis will be submitted in the risk-based approval request submitted to EPA during the third quarter of 2007.

5.2.2 Soil in Remaining On-Parcel Areas

No soil removal, capping, remediation, or additional sampling is required at remaining areas of the property—including soil beneath the existing pavement—based on existing characterization and delineation sampling and the property-specific risk assessment. An applicable standard for PCBs in soil for remaining on-property areas was established using a combination of property-specific risk assessment methods specified in OAC 3745-300-09 and generic direct contact standards for workers under industrial land use (OAC 3745-300-08). Two applicable standards for PCBs in soil were selected: a 95UCL for industrial workers and a maximum value of 25 mg/kg for construction workers. The 95 UCL for total PCBs based upon existing sampling data is 1.8 mg/kg (equivalent to a risk level of 2E-06 and a hazard of 0.17), which are well below the risk and hazard goals for the property. For construction/excavation workers, the EPC is 15 mg/kg (the maximum detected on-parcel PCB concentration outside of the planned excavation area, equivalent to a risk level of 1E-06 and a hazard of 0.61), which is below the risk and hazard goals for the property.

5.2.3 Soil in Adjoining Off-Parcel Areas

No soil removal, capping, remediation, or additional sampling is required at off-parcel areas, defined as the three properties adjoining the Airdock parcel: the airport, LMA Commerce, and ABSC (area F2 in Figure 2). An applicable standard for exposure to PCBs in soil for unrestricted land use at adjoining off-property areas was established using a combination of property-specific risk assessment methods specified in OAC 3745-300-09 and generic direct contact standards for residential land use (OAC 3745-300-08). The 95 UCL for total PCBs based on existing sampling data is 0.34 mg/kg and is equivalent to a risk level of 4E-07 and a hazard of 3.1E-02, which are well below the risk and hazard goals for adjoining off-parcel areas (area F2 in Figure 2).

For construction/excavation workers, the EPC is 1.7 mg/kg (the maximum detected PCB concentration at adjoining off-parcel areas) and is equivalent to a risk level of 1E-07 and a hazard of 7.0E-02, which are also well below the risk and hazard goals for adjoining off-parcel areas.

Finally, risks and hazards for hypothetical, future residential receptors potentially exposed to PCBs in soil at adjoining off-parcel areas are qualitatively characterized (there are currently no residential receptors on adjoining off-parcel areas). Specifically, the EPC for PCBs in soil (0.34 mg/kg) is compared to the residential GNS value of 1.1 mg/kg (OAC 3745-300-8). Because the EPC is less than the residential GNS value, the risks and hazards posed to potential residents at adjoining off-parcel areas are considered insignificant.

5.3 Pavement

5.3.1 Debris Removal and Pavement Cleaning

Following the siding replacement and soil removal actions, pavement cleaning will occur as a presumptive remedy to remove remaining loose siding and roofing debris and particles. The area to be cleaned includes all paved surfaces on the exterior Airdock parcel and a buffer zone of 100 feet beyond the parcel boundary (Figure 2, Area D). The 100-foot zone beyond the Airdock property line encompasses the drainage divide surrounding the Airdock. The cleaning activity will include sweeping, vacuuming, and power washing the paved surfaces using manual and mechanical means depending upon the condition of the pavement and access limitations. Cleaning will be conducted to a visual standard. Solids and liquids generated during the cleaning activity will be properly managed and disposed of.

5.3.2 Pavement Management

Consistent with the non-liquid nature of Aroclor 1268 and its insoluble properties, sampling data from 34 pavement cores collected across and adjoining the parcel demonstrate that PCB concentrations in pavement are insignificant, with an overall average concentration of 0.18 mg/kg and a maximum on-property concentration of 1.9 mg/kg. Based on these data—and considering that the entire 19-acre Airdock parcel, including the paved apron, will be subject to industrial land use and activity restrictions as described in Section 5.1.3—all existing pavement will be managed under the blanket assumption that it contains < 50 parts per million (ppm) PCBs. LMC advised U.S. EPA of this approach in a letter dated June 27, 2005

Pavement will be repaired, removed, and replaced according to facility plans as needed, with no additional sampling. Pavement waste generated during facility repairs and improvements will undergo one or more of the following:

- Disposal off site as non-PCB waste at a permitted Subtitle D disposal facility
- Storage on site without TSCA controls or time limitations
- Recycling on site (for example, as backfill).

None of the paved surfaces on the 19-acre Airdock parcel is considered a cap under TSCA. No operations and maintenance will be required for the paved surfaces on the parcel (other than the cleaning described in Section 5.3.1). No additional samples will be collected of removed pavement or of the ground beneath the removed pavement. No TSCA notification, storage, labeling, transportation, manifesting, or recordkeeping requirements will apply to the pavement on-property.

5.4 Storm Drainage System

Stormwater from the Airdock and surrounding area drains through a storm sewer system to Haley's ditch just beyond Triplett Boulevard approximately 1 mile north of the Airdock. Exterior portions of the Airdock parcel and adjoining parcels to the east and west are drained by a stormwater sewer system regulated under Ohio EPA National Pollution Discharge Elimination System (NPDES) General Permit (OHR000004), facility permit 3GR00733*DG, effective September 28, 2006. The permit holder is Valley Association Corporation. Parallel branch sections of the sewer system run north to the airport to join a trunk line that extends northwest to eventually discharge at a former retention pond known as the North Skimmer Pond, and continues to Haley's Ditch (Figure 1).

Three main sewer lines drain the Airdock parcel: (1) Plant A West (PAW) – 48-inch, (2) PAW – 24-30-inch, and (3) Plant A East (PAE) – 24-30-inch. PAW represents the west side storm sewer lines of the Airdock, and PAE represents the east side line. As shown on Figure 2, both the PAE and PAW lines receive drainage from off-property buildings, Plant B and Plant E, respectively. The trunk sewer line that runs beneath the airport property receives branch lines from the City of Akron, as well as lines from other industrial and commercial properties downstream from the Airdock.

5.4.1 Storm Drain Cleaning

Once the north Airdock doors and rear lips of all four doors are covered with the rubber membrane, and all of the Airdock and outbuilding vertical siding has been replaced, the storm drain system will be cleaned. This effort will include all catch basins and drain lines that originate at or are proximate to the Airdock. The plan is to use high-pressure water to scour the catch basins and drain pipes. The wash water and sediments will be collected at certain manholes and brought to a central segregation system on Lockheed Martin property. The system will segregate the sediments from the water. The water will be tested and discharged to the local sewer system in accordance with TSCA regulations and subject to appropriate approvals of the City of Akron. The sediment will be tested and properly disposed of.

The end of the City of Akron storm drain system is immediately north of Triplett Boulevard. At some time in the past, an apparently unauthorized extension of the storm drain system was installed on private property immediately north of Triplett Boulevard. This segment of sewer is approximately 200 feet long and ends near a parcel of property owned by LMC that was created in the early 1970s to serve as a retention basin. The land surface above the storm drain extension was paved and currently serves as a parking lot. The materials used and construction methods employed to construct the extension do not appear to meet current building standards. Several obstructions are within this segment of drain pipe and it does not perform properly.

Lockheed Martin has been in contact with the City of Akron to understand the legal and technical options for replacement and repair or removal of this storm drain extension. Once these issues have been resolved, negotiations with the private property owner will begin and a plan will be formulated to properly identify and remove accumulated sediments that may contain PCBs.

5.4.2 Stormwater Pollution Prevention Plan (SWP3) Update

A post-cleaning stormwater sampling point is anticipated as the northernmost manhole (point H(c)) of the Plant A West (PAW) 24-30-inch storm sewer depicted on Figure 2. Background sampling will also occur for possible PCB loading to the sewer system from legacy releases or from other active sources (see upstream manhole sampling points designated “H(d)” on Figure 2).

The sampling data will be used to evaluate compliance with the surface water criterion for PCBs (VAP) and also the TSCA decontamination standard for water discharging to navigable waters in accordance with §761.79 (b)(1)(ii). The sampling data will be used to evaluate the potential load of PCB 1268 to Haley’s Ditch through a mass balance approach.

5.5 *North Skimmer Pond and Haley’s Ditch*

Cleanup plans for releases of PCB 1268 and other PCB Aroclors in areas north of the storm sewer discharge point will be developed in the final phase of the remediation project. Several factors—including historical or “legacy” spills and releases, access, ownership, and drainage issues—require a coordinated approach with other stakeholders to developing a suitable cleanup plan.

The North Skimmer Pond was constructed in the early 1970s to serve as a retention basin and oil separator for treatment of industrial discharges draining from the northern end of the valley (areas including the Airdock, the airport, and the other plants on the north side of the drainage divide [Plants B, E, and F]), as well as other commercial and industrial properties in the watershed. The retention pond was part of a series of control measures by Goodyear Aerospace Corporation to mitigate pollution problems in Haley’s Ditch that originated from the north valley complex (Airdock plus Plants B, E, and F); spills and chronic pollution problems were documented in Ohio Department of Health records as early as 1966.

5.5.1 Fencing

Access to the southern portion of Haley’s Ditch—including the Lockheed Martin former North Skimmer Pond, City of Akron section, and Goodyear property—is

controlled by a fence. Access to the north portion of Haley's Ditch that was sampled in 2006 is not controlled (all of the lots in the investigation area are undeveloped). Lockheed Martin has secured access agreements with relevant private property owners to install a fence to restrict access to additional portions of Haley's Ditch. The proposed fence alignment is shown in Figure 4 and is currently under construction. Completion of fence installation is anticipated by the end of second quarter 2007.

5.5.2 Focused Feasibility Study and Remedial Design

A focused feasibility study will be conducted to evaluate removing soil and sediment in the retention pond, Haley's Ditch floodplain, and stream channel. Pre-design studies such as sampling and profiling the soil and sediment for disposal and evaluating the hydrology and drainage patterns of the watershed will be performed during the pre-design stage.

6. Exterior Remediation Schedule

A general schedule for the various remaining exterior activities is summarized below.

Year	Major Activity
2007	Soil excavation plan; pavement cleaning; SWP3 update; north motor houses and fire pump house residing
2008	Sewer repair, cleaning, and sampling; Airdock pin house residing
2009	Haley's Ditch remediation

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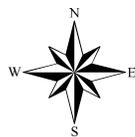
Tetra Tech, Inc. 2007. Draft Ohio Voluntary Action Program Property – Specific Risk Assessment, Akron Airdock, Akron, Ohio. Prepared for: Lockheed Martin Maritime Systems & Sensors, 1210 Massillon Road, Akron, Ohio. April 19, Updated June 6.

FIGURES



LEGEND

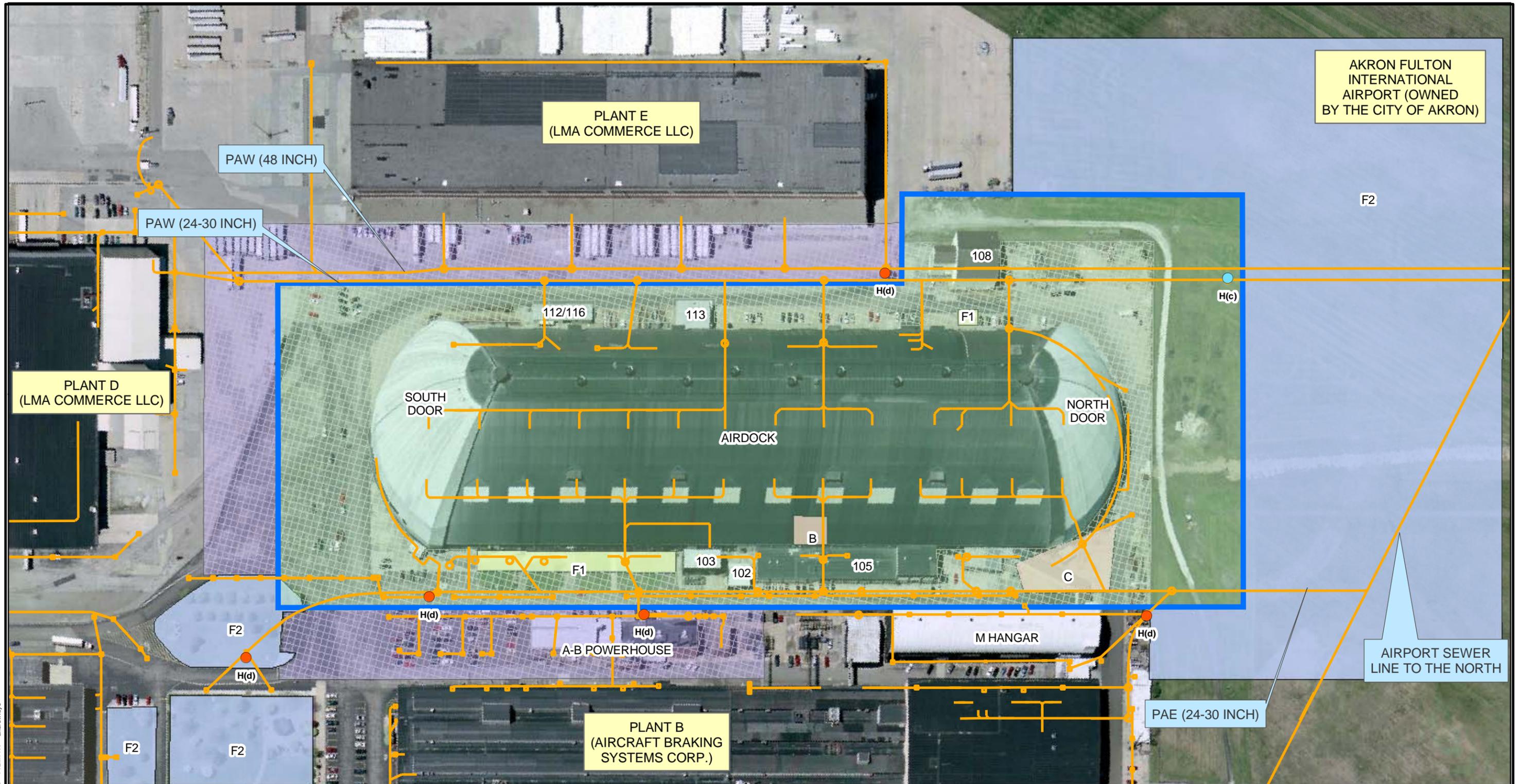
- APPROXIMATE PROPERTY BOUNDARY
- ➔ STORM SEWER LINE



AKRON AIRDOCK FACILITY
AKRON, OHIO

FIGURE 1
SITE AERIAL PHOTOGRAPH





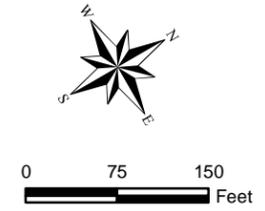
2007-06-08 s:\cadd\vip58101\airdock_rep_figure 2.mxd TTEM:HV andrew.dye

LEGEND

H(c)	Parcel Storm Sewer Sampling Location
H(d)	Upstream Storm Sewer Sampling Location
	StormSewer
	Approximate Airdock Boundary
	Airdock Property: Area of Activity and Use Restrictions
	Area of Perimeter Pavement Sampling

	Catch Basin or Manhole
	VAP Identified Area 9 Plate Shop/Degreaser: Groundwater Treatment, Risk Mitigation Plan
	VAP Identified Area 1 UST NE of Plant A: Risk Mitigation Plan
	Area of Surface Debris Removal
	Southeast Area and SC-8 Excavation Hot Spot - Excavation
	No Action Area

PAW = Plant A West Storm Sewer Line
 PAE = Plant A East Storm Sewer Line
 Building Legend
 102 - Helium Compressor/Fire Suppression
 103 - Electrical Substation/Transformer House
 105 - Outer Press Shop
 108 - Motor Run-In
 112 - Former Flame Cutting
 113 - Former Acid/Alkali Waste Storage Facility
 116 - Storage

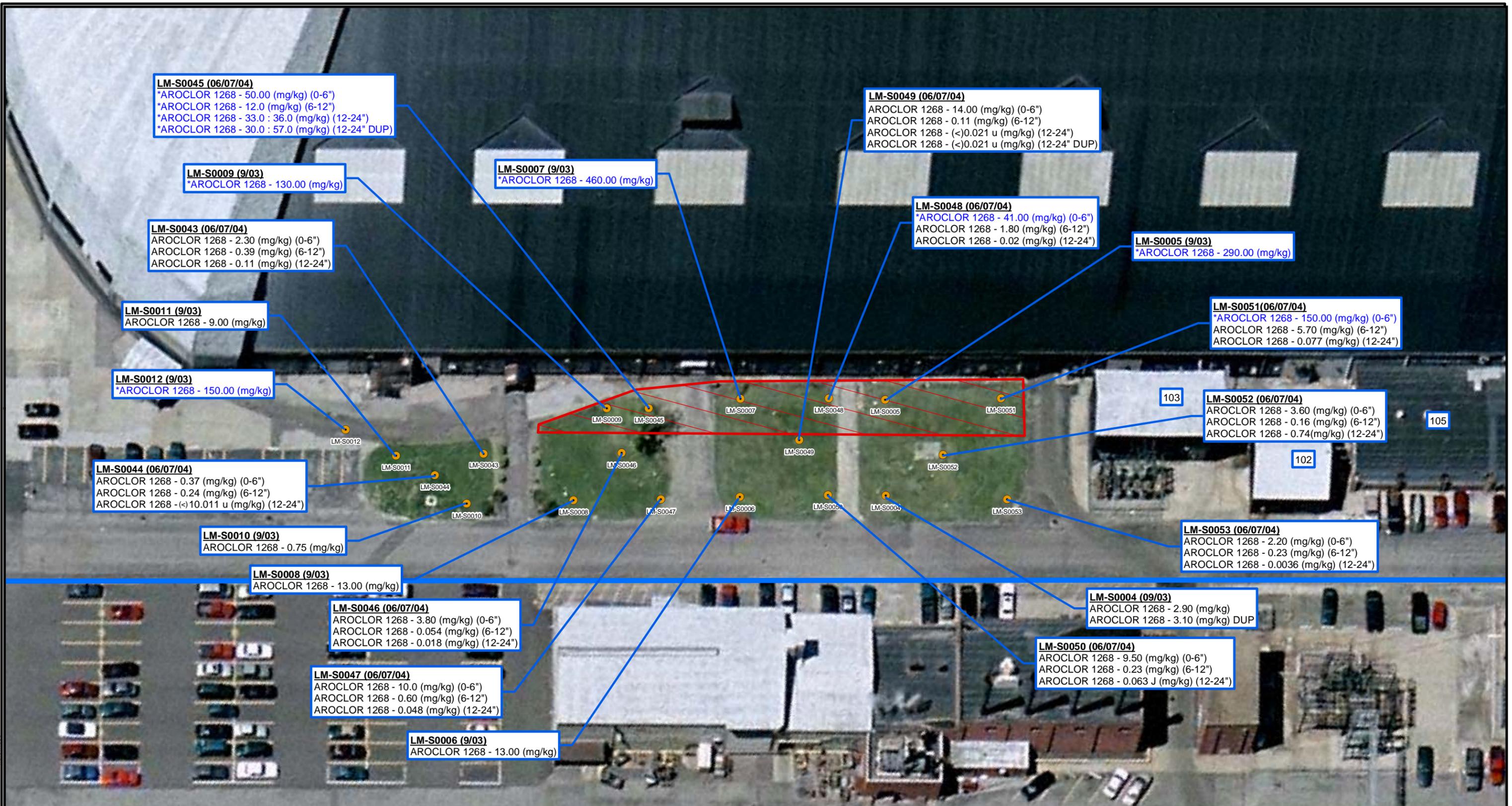


SOURCE: MODIFIED FROM SUMMIT COUNTY GIS, 2004.

AKRON AIRDOCK FACILITY
 AKRON, OHIO

FIGURE 2
 AIRDOCK REMEDY ELEMENTS





LM-S0045 (06/07/04)
 *AROCOR 1268 - 50.00 (mg/kg) (0-6")
 *AROCOR 1268 - 12.0 (mg/kg) (6-12")
 *AROCOR 1268 - 33.0 : 36.0 (mg/kg) (12-24")
 *AROCOR 1268 - 30.0 : 57.0 (mg/kg) (12-24" DUP)

LM-S0049 (06/07/04)
 AROCLOR 1268 - 14.00 (mg/kg) (0-6")
 AROCLOR 1268 - 0.11 (mg/kg) (6-12")
 AROCLOR 1268 - (<)0.021 u (mg/kg) (12-24")
 AROCLOR 1268 - (<)0.021 u (mg/kg) (12-24" DUP)

LM-S0009 (9/03)
 *AROCOR 1268 - 130.00 (mg/kg)

LM-S0007 (9/03)
 *AROCOR 1268 - 460.00 (mg/kg)

LM-S0048 (06/07/04)
 *AROCOR 1268 - 41.00 (mg/kg) (0-6")
 AROCLOR 1268 - 1.80 (mg/kg) (6-12")
 AROCLOR 1268 - 0.02 (mg/kg) (12-24")

LM-S0005 (9/03)
 *AROCOR 1268 - 290.00 (mg/kg)

LM-S0043 (06/07/04)
 AROCLOR 1268 - 2.30 (mg/kg) (0-6")
 AROCLOR 1268 - 0.39 (mg/kg) (6-12")
 AROCLOR 1268 - 0.11 (mg/kg) (12-24")

LM-S0051 (06/07/04)
 *AROCOR 1268 - 150.00 (mg/kg) (0-6")
 AROCLOR 1268 - 5.70 (mg/kg) (6-12")
 AROCLOR 1268 - 0.077 (mg/kg) (12-24")

LM-S0011 (9/03)
 AROCLOR 1268 - 9.00 (mg/kg)

LM-S0052 (06/07/04)
 AROCLOR 1268 - 3.60 (mg/kg) (0-6")
 AROCLOR 1268 - 0.16 (mg/kg) (6-12")
 AROCLOR 1268 - 0.74(mg/kg) (12-24")

LM-S0012 (9/03)
 *AROCOR 1268 - 150.00 (mg/kg)

LM-S0044 (06/07/04)
 AROCLOR 1268 - 0.37 (mg/kg) (0-6")
 AROCLOR 1268 - 0.24 (mg/kg) (6-12")
 AROCLOR 1268 - (<)10.011 u (mg/kg) (12-24")

LM-S0010 (9/03)
 AROCLOR 1268 - 0.75 (mg/kg)

LM-S0053 (06/07/04)
 AROCLOR 1268 - 2.20 (mg/kg) (0-6")
 AROCLOR 1268 - 0.23 (mg/kg) (6-12")
 AROCLOR 1268 - 0.0036 (mg/kg) (12-24")

LM-S0008 (9/03)
 AROCLOR 1268 - 13.00 (mg/kg)

LM-S0046 (06/07/04)
 AROCLOR 1268 - 3.80 (mg/kg) (0-6")
 AROCLOR 1268 - 0.054 (mg/kg) (6-12")
 AROCLOR 1268 - 0.018 (mg/kg) (12-24")

LM-S0004 (09/03)
 AROCLOR 1268 - 2.90 (mg/kg)
 AROCLOR 1268 - 3.10 (mg/kg) DUP

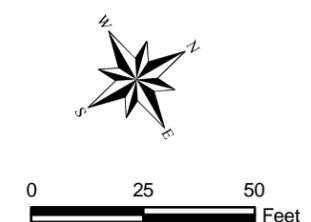
LM-S0047 (06/07/04)
 AROCLOR 1268 - 10.0 (mg/kg) (0-6")
 AROCLOR 1268 - 0.60 (mg/kg) (6-12")
 AROCLOR 1268 - 0.048 (mg/kg) (12-24")

LM-S0050 (06/07/04)
 AROCLOR 1268 - 9.50 (mg/kg) (0-6")
 AROCLOR 1268 - 0.23 (mg/kg) (6-12")
 AROCLOR 1268 - 0.063 J (mg/kg) (12-24")

LM-S0006 (9/03)
 AROCLOR 1268 - 13.00 (mg/kg)

- LEGEND**
- Surface Soil Sample
 - ▭ Excavation Area
 - ▭ Approximate Airdock Boundary

SOURCES:
 MODIFIED FROM SUMMIT COUNTY GIS, 2004.
 WESTON (2004)
 BBL (2005)
 BBL (2006)



Note: Sample Results in blue type and marked * will be removed during remediation.

**AKRON AIRDOCK FACILITY
AKRON, OHIO**

**FIGURE 3
SOUTHEAST AREA SOIL SAMPLING DATA
AND PROPOSED EXCAVATION**

TETRA TECH, INC.

2007-06-08 s:\cadd\p-382\01airdock figure 3.mxd TTEM-NV andrew.dve



Akron Airdock

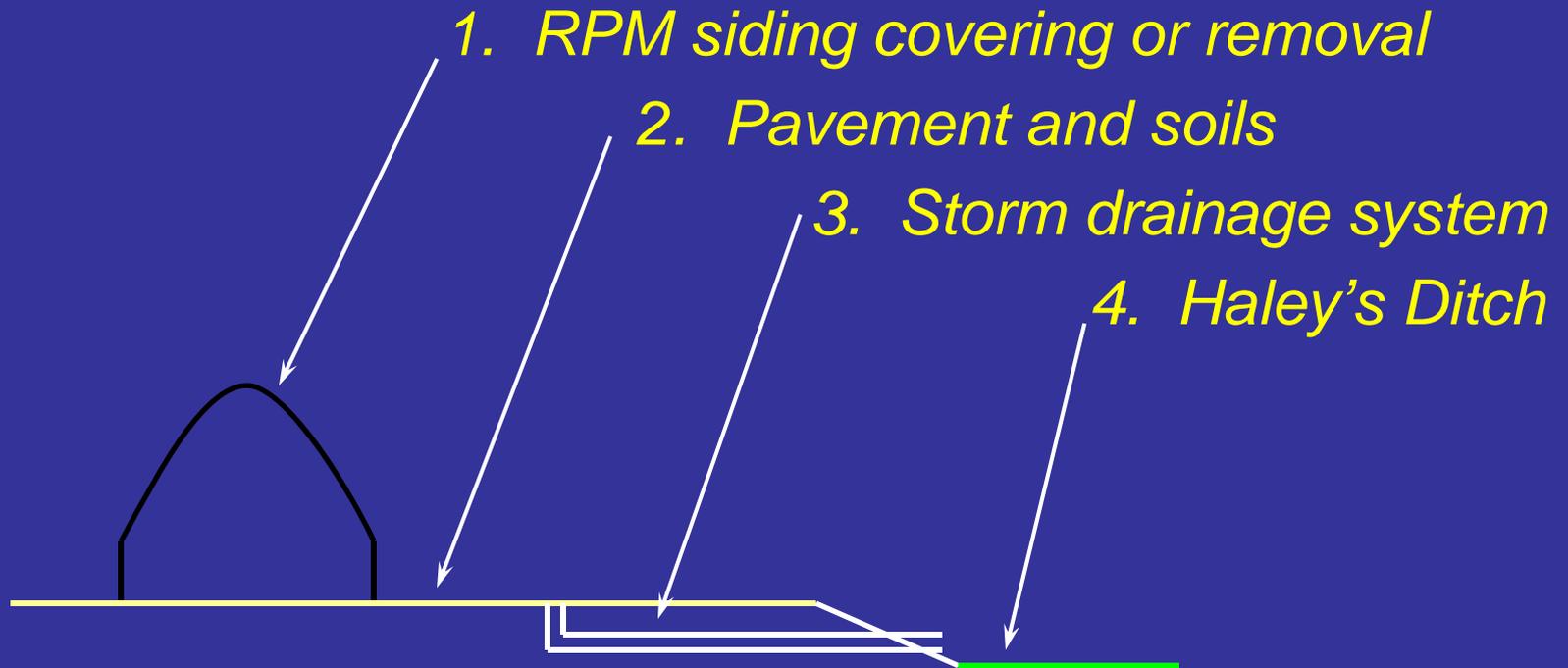


Exterior Renovation
Progress to Date and Future Plans

June 26, 2007

Exterior Cleanup Approach

Work from source outwards:



Exterior Progress to Date

- *Removed visible surface debris from around the Airdock, cleaned accessible storm drain manholes and installed and maintained storm drain filters*
- *Replaced Gutters (1,920 feet) and completed roof and door covering with rubber membrane (693,000 sq.ft.)*
- *Completed Vertical siding replacement (2,400 feet, 24 feet tall equal to 57,600 square feet) and replaced siding on two south motor houses and substation*
- *Demolished Plant M link and Northeast Loading Dock*
- *Collected and analyzed samples to characterize concrete, soils, pavement and other media to develop action plans as needed*



New Gutters

A large, curved structure, possibly a stadium or arena, is covered in a dark, wrinkled membrane. A yellow crane boom is visible in the foreground, extending vertically. A worker is visible on the roof of the structure. The sky is blue with scattered white clouds.

SW Door Membrane
Installation, July 2005

Original Siding



1E-2E, April 2004



New Siding

1E-2E, October 2006



New Siding
West Wall, October 2006



South Doors, October 2006



South West Motor House, October 2006



Substation, October 2006

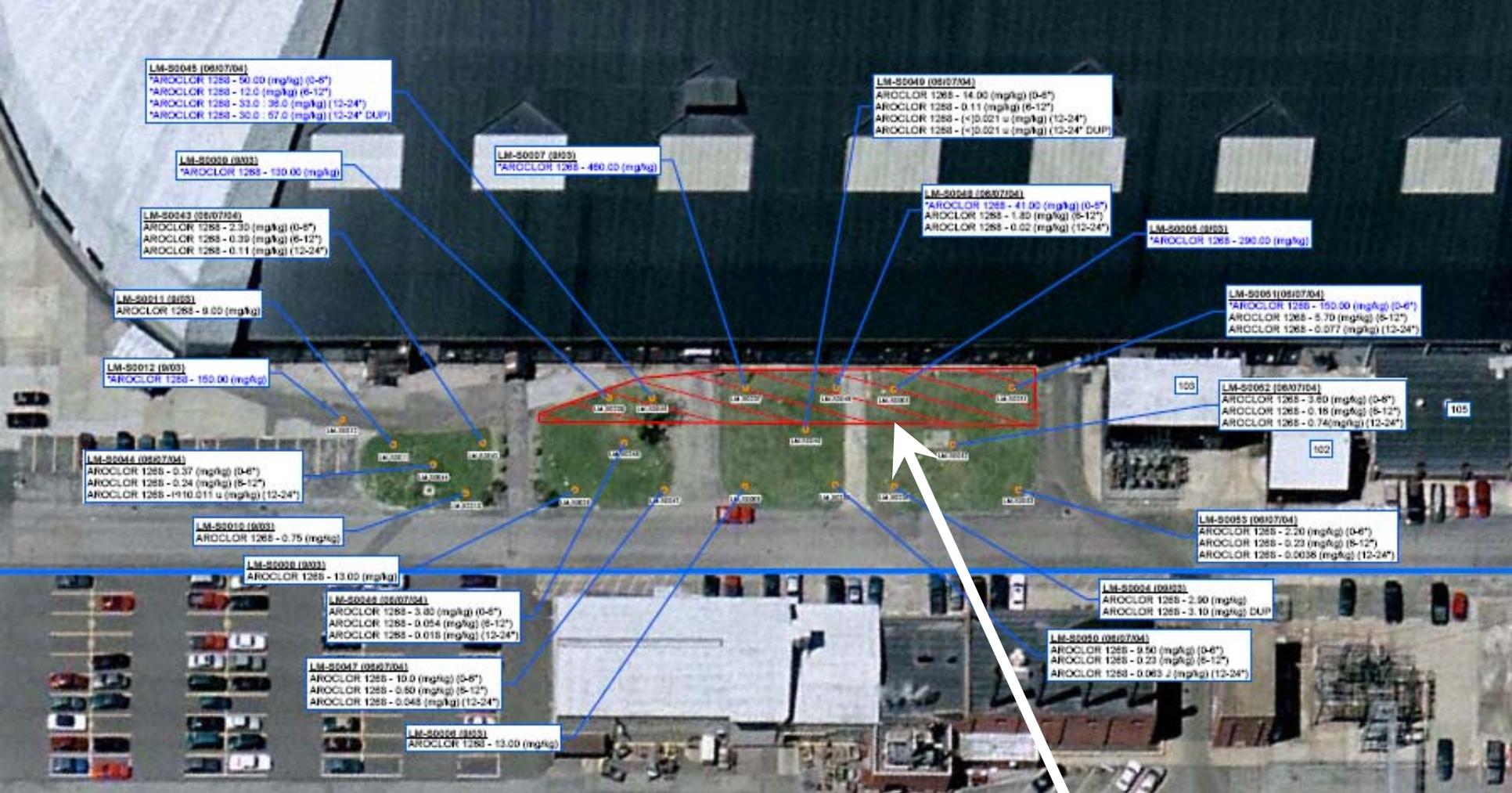
2007 Exterior Activities Underway

- *Complete fire damage repair of NE door*
- *Replace siding on both north motor houses and fire pump house*
- *Install fence around northern portion of Haley's Ditch*

Planned 2007 Exterior Activities

Risk-Based approval request to be submitted for:

- *Removing soil on SE of the Airdock*
- *Cleaning pavement surrounding the Airdock*



Soil Excavation Area

Pavement Cleaning Area



PLANTE
(LMA COMMERCE LLC)



SOUTH DOOR

NORTH DOOR

AIRDOCK

112/115

113

108

103

102

105

A-B POWERHOUSE

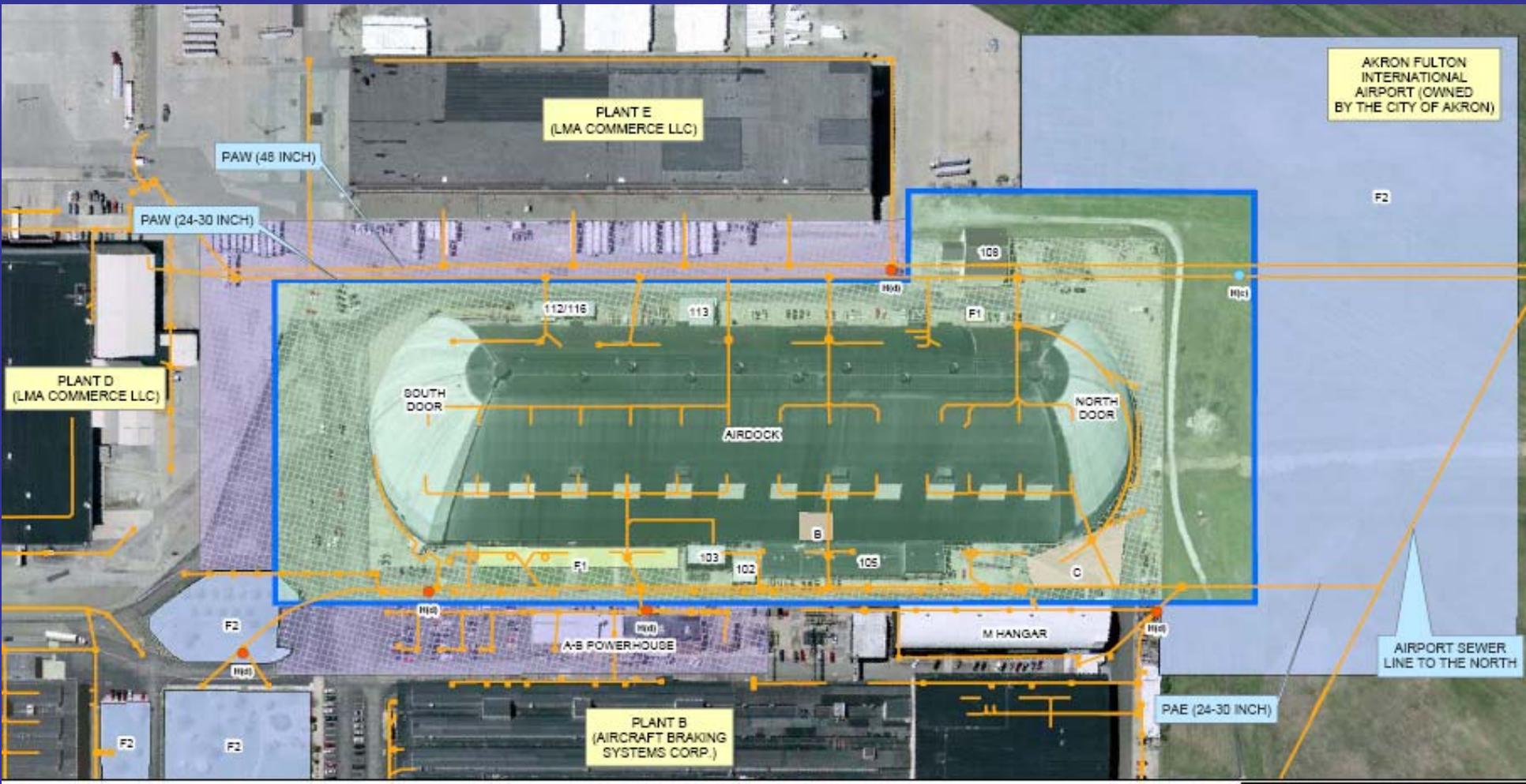
M HANGAR

2008 and 2009 Exterior Plans

- *Replace pin house siding on Airdock roof*
- *Clean all storm drains*
- *Remediate Haley's Ditch as required*



Risk-Based Remedy

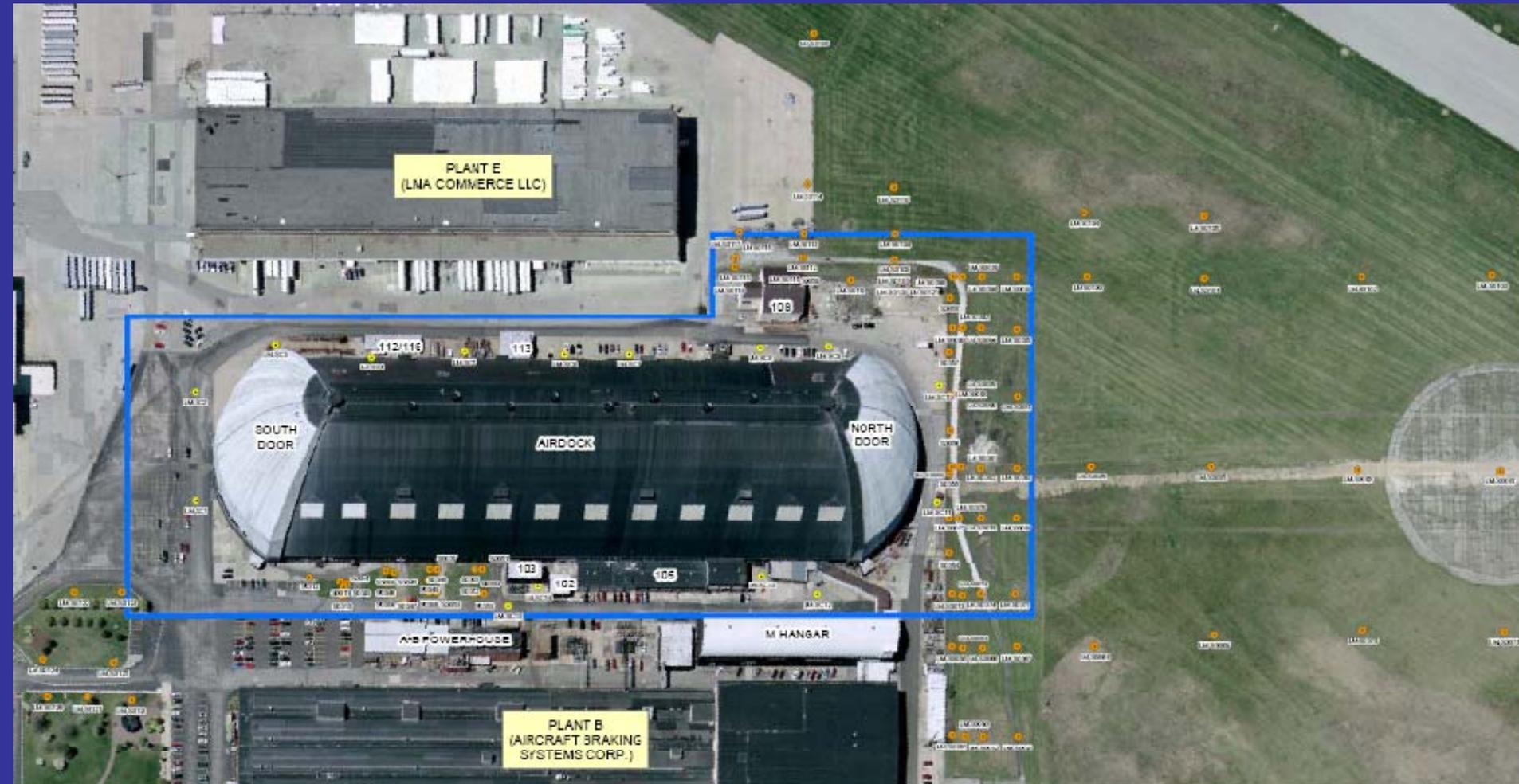


Current Assessment Of Risk

- *Receptors – restricted on-parcel to occupational exposures; potential unrestricted access on adjoining parcels*
- *Followed standard risk assessment methods utilized by Ohio EPA under the VAP and US EPA guidance*

Soil Samples Collected 2003-2006

*Preliminary Risk Assessment Sample Data Set
156 samples on-parcel; 34 samples off-parcel*



Current Residual Risk (Industrial Workers)

Analysis Of Parcel Other Than Areas Intended For Excavation

	<i>On Parcel</i>	<i>Off Parcel</i> No further action planned
<i>Average PCB in Soil (ppm)</i>	1.8	0.34
<i>Risk</i>	2E-06	4E-07
<i>Hazard Index</i>	0.17	0.031

Preliminary Risk Outcome

Analysis Of Parcel Other Than Area Intended For Excavation

- *Risk Goals for Restricted Access Satisfied On Parcel for Industrial and Construction Workers*
- *Risk Goals for Unrestricted Access Satisfied Off Parcel for Industrial and Construction Workers*
- *Risk Goals for Unrestricted Access Satisfied Off Parcel for Hypothetical Residential Receptor*

Akron Airdock

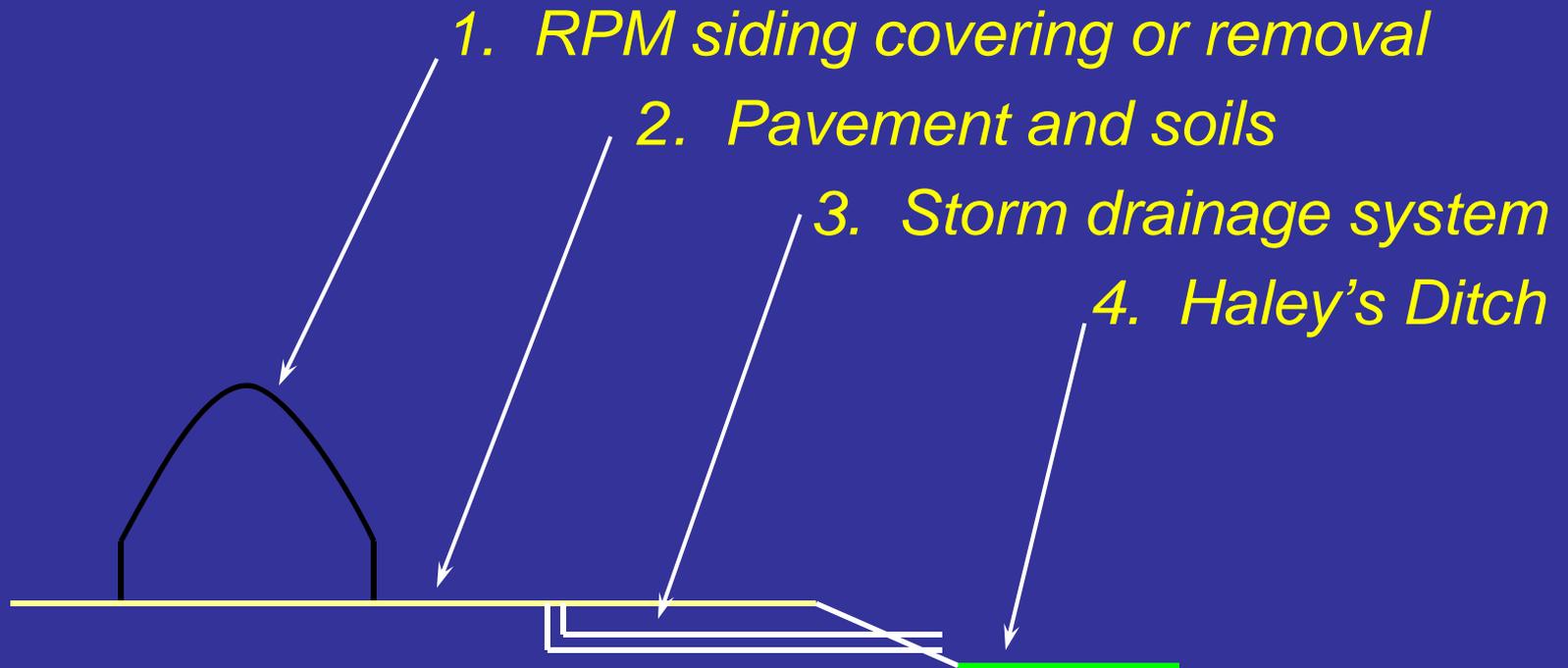


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Progress to Date and Future Plans

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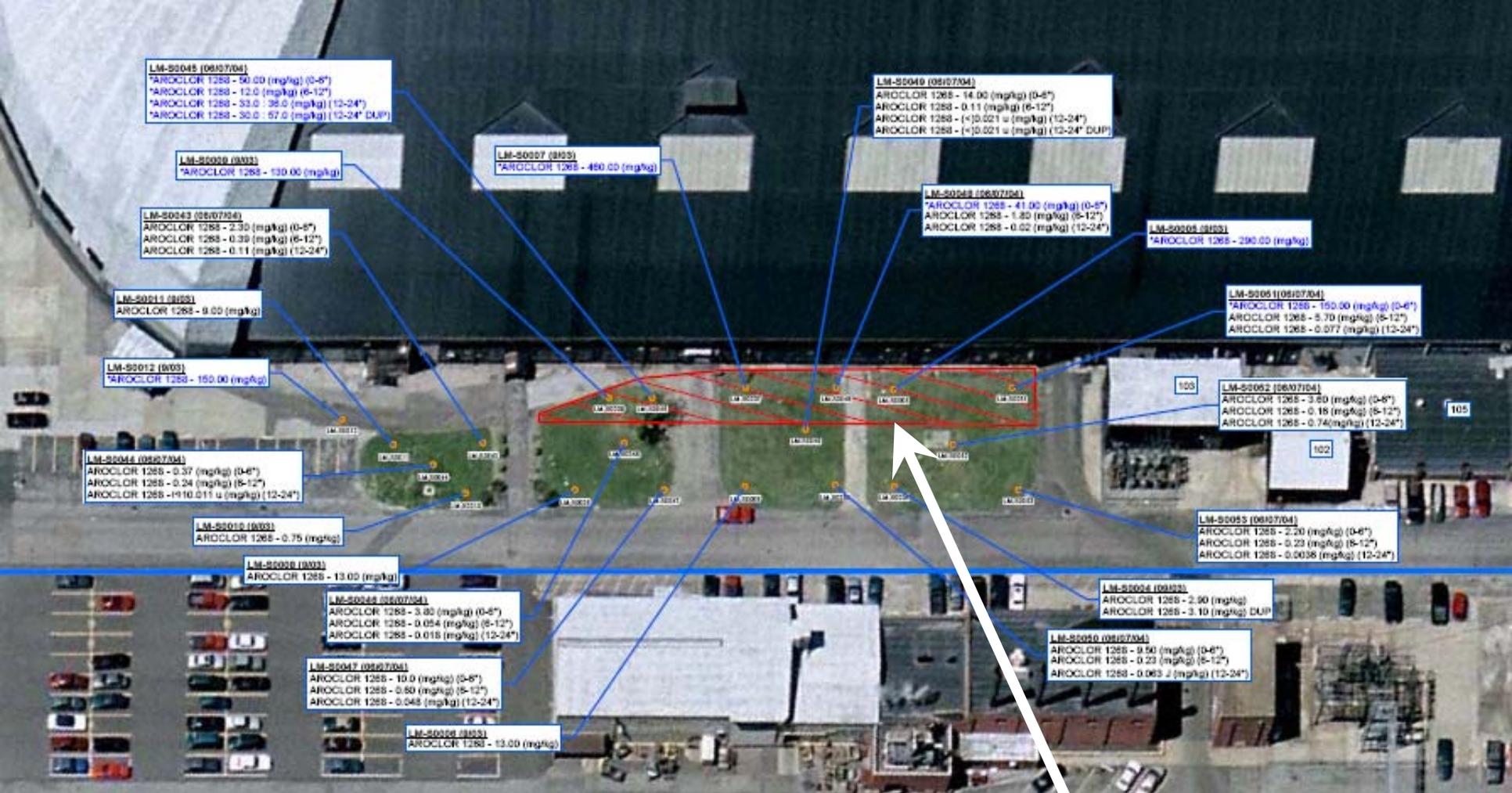
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Soil Excavation Area

Pavement Cleaning Area



PLANTE
(LMA COMMERCE LLC)



A-B POWERHOUSE

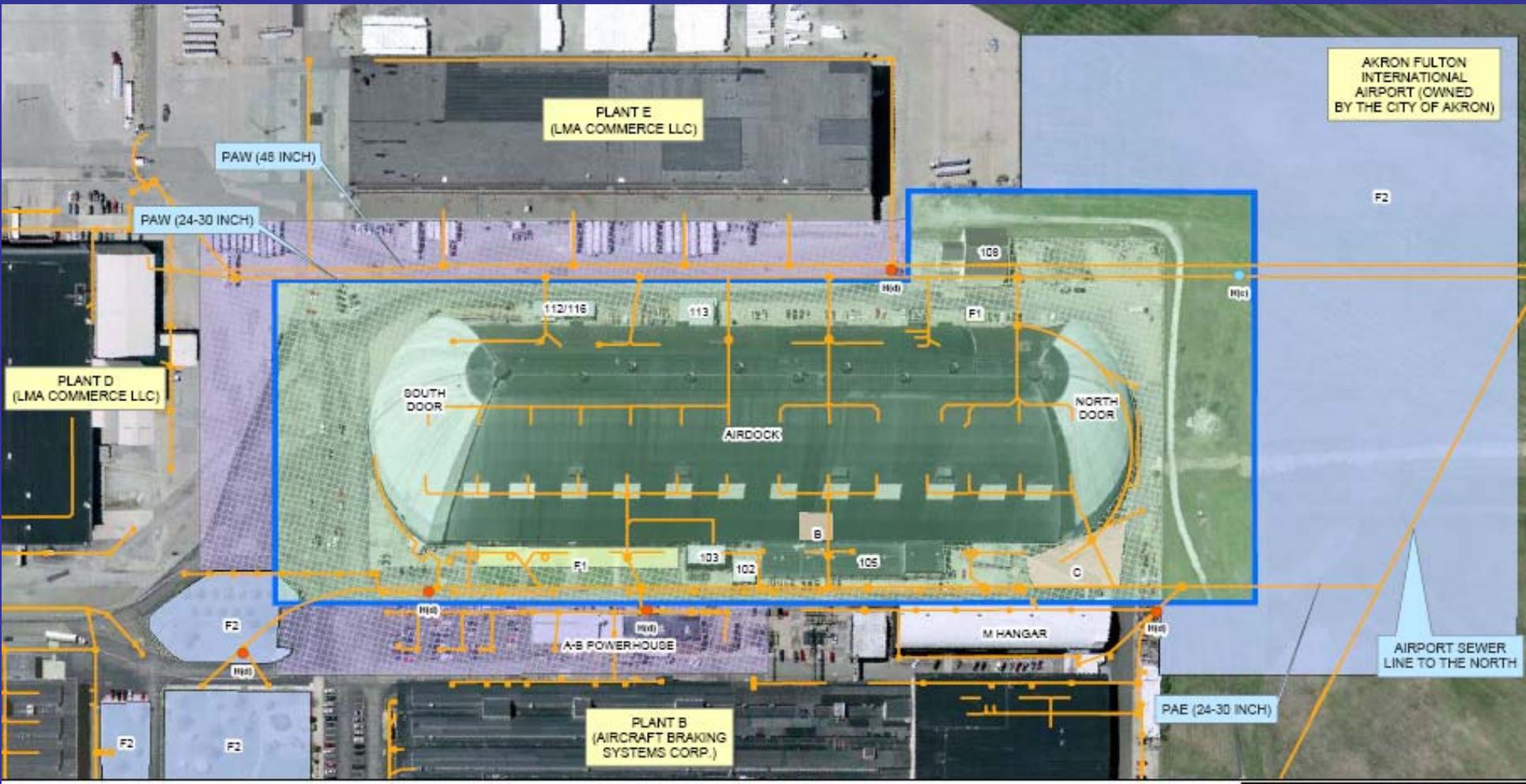
M HANGAR

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- *Clean all storm drains*
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Risk-Based Remedy

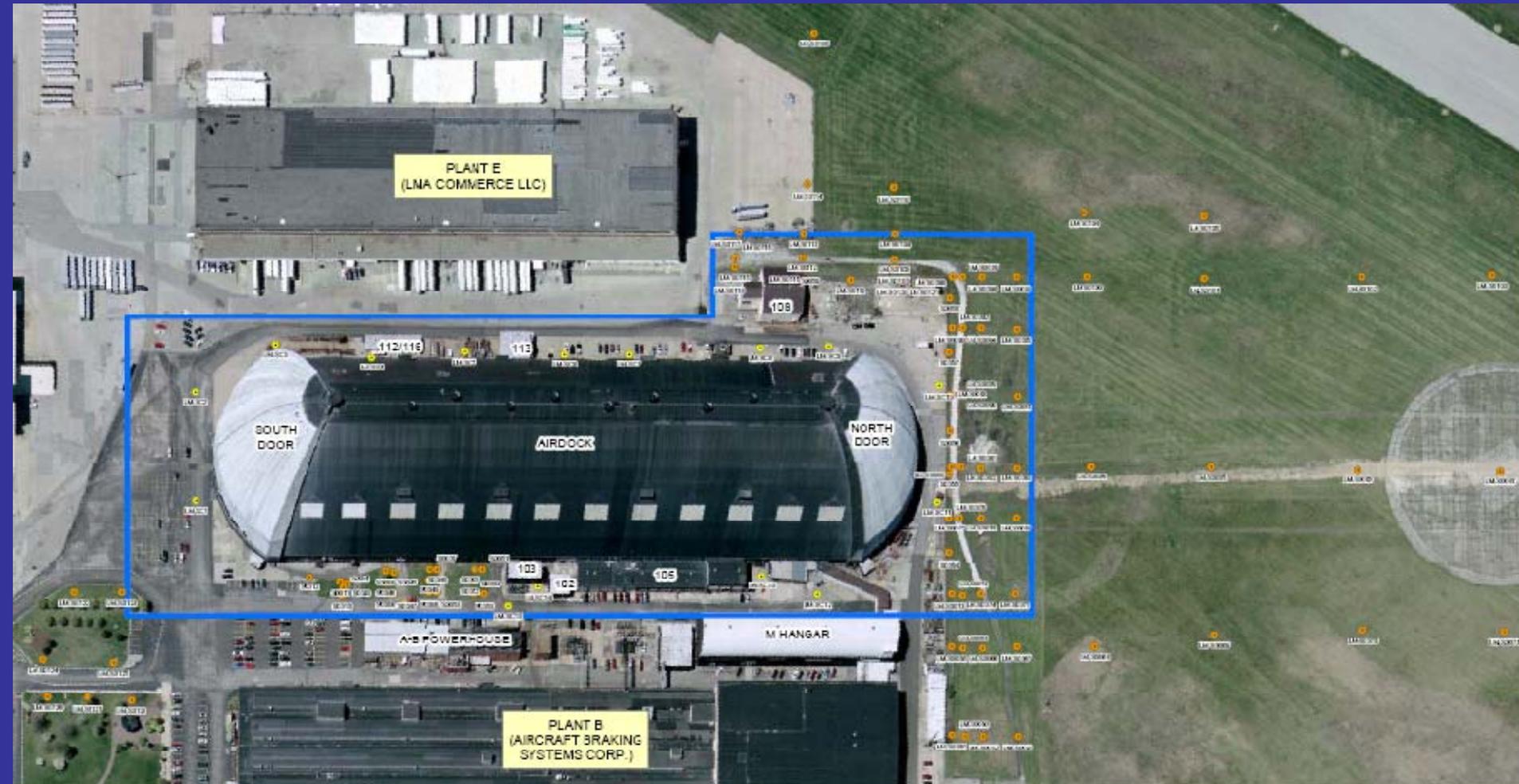


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