

Mr. Tim Johnson
Project Manager
State Cleanup Section
Office of Land Quality
Indiana Department of Environmental Management
100 North Senate Avenue IGCN, Room 1101
Indianapolis, Indiana 46204

Arcadis U.S., Inc.
150 W. Market Street
Suite 728
Indianapolis
Indiana 46204
Tel 317 231 6500
Fax 317 231 6514
www.arcadis.com

ENVIRONMENT

Subject:
Response to Supplemental Environmental Assessment and No Further Action
Request Comment Letter (September 10, 2020)
Former Arvin Industries
1001 Hurricane Street
Franklin, Johnson County, Indiana 46131
State Cleanup Site # 0000783

Date:
October 27, 2020

Contact:
Jon Akin

Phone:
317-236-2819

Email:
jon.akin@arcadis.com

Our ref:
30045221.0004

Dear Mr. Johnson:

On behalf of Meritor, Inc. (Meritor), Arcadis U.S., Inc (Arcadis) has prepared this response to the September 10, 2020 Indiana Department of Environmental Management (IDEM) *Supplemental Environmental Assessment and No Further Action Request* comment letter (attached) for the former Arvin Industries property (Site) located in Franklin, Indiana (Site). The April 24, 2020 *Supplemental Environmental Assessment Report and No Further Action Request* was prepared to document investigation activities completed at the Site between March 16, 2020 and March 20, 2020, which included additional soil borings for soil and groundwater sampling, refinements of the previously completed preferential pathways assessment, and an assessment of the east drainage ditch. The September 10, 2020 IDEM letter also acknowledges an April 24, 2020 Response to Comment (RTC) Letter related to the June 27, 2019 *Supplemental Initial Site Investigation Report / Work Plan*.

Arcadis has compiled IDEM's comments to the *Supplemental Environmental Assessment Report and No Further Action Request* and RTC letter below with Meritor's corresponding responses.

COMMENTS / RESPONSE

IDEM Comment:

1. *The RTCs were acceptable to IDEM with exception of applicable comments included below.*

Response:

See responses below.

IDEM Comment:

2. *Based on distribution of the chlorinated volatile organic compounds (cVOC) and groundwater flow, cVOC concentrations above Ground Water Screening Levels (GWSLs) do not migrate off-Site. However, naphthalene is present above GWSLs along the western property line. Additional sampling is needed to evaluate the extent of naphthalene.*

Response:

Meritor and Arcadis agree with IDEM's conclusion regarding the limited cVOCs in groundwater.

Meritor and Arcadis do not feel that the groundwater naphthalene detections in soil boring SB-2 warrant additional investigation, due to the following:

- After providing the initial site investigation data on May 29, 2019, IDEM, Meritor, and Arcadis met on June 4, 2019 to discuss the initial investigation results, which included naphthalene data from SB-2, and to identify potential data gaps. During the meeting, one groundwater sample location and one surface water sample location were identified as potential data gaps. In addition, the project team concluded that temporary piezometers should be installed to confirm groundwater flow direction within the uppermost groundwater unit.
- The June 27, 2019 *Supplemental Initial Site Investigation Report / Work Plan* includes the potential data gap locations identified in the meeting. In the Work Plan, Meritor added five supplementary groundwater sample locations and one supplementary surface water sample location in addition to the data-gap locations discussed at the June 4th meeting. Due to the low naphthalene concentrations at SB-2 and limited potential for weathered naphthalene migration in groundwater, further investigation near SB-2 was not necessary and not included in the Work Plan approved by IDEM in November 2019.
- As indicated on the attached Figure 4, the uppermost groundwater at the site flows to the southeast and therefore the downgradient extent of the naphthalene impacts is defined based upon the groundwater samples previously collected from soil borings SB-1, SB-3, SB-4, SB-5, and SB-14 showing naphthalene to be non-detect (see attached Figure 6).

IDEM Comment:

3. *Two surface water samples (ED-US and ED-DS) and one sediment sample (ED-S) were collected from the east drainage ditch (Figure 2) per IDEM's request in the November 25, 2019 comment*

*letter. The surface water and sediment samples were analyzed for volatile organic compounds (VOCs). The data results were compared to the default IDEM Screening and Closure Level scenarios published in the 2019 RCG, Table A-6, and are presented in **Tables 3 and 4**. None of the samples collected from the east ditch contained VOCs above laboratory detection limits.*

Response:

Meritor and Arcadis agree with this comment.

IDEM Comment:

4. *Soil and groundwater samples were collected from sewer line backfill where the lines exited the property. Data shows concentrations were all below detection limits. IDEM agrees with Arcadis that the backfill around the sewer lines is not a preferential pathway for migration of groundwater or vapor contamination. Since samples were not collected inside the sewer line, it is not known if COCs are present in sewer effluent from the property. Based on the data collected Arcadis concluded:*

- *The groundwater and soil sampling investigations, preferential pathways assessments, and east drainage ditch assessment completed at the Site do not suggest any contribution to the broader area groundwater and vapor intrusion (VI) assessment. IDEM agrees, however, additional sampling of the sewer line effluent is also needed to show elevated concentrations of COC are not migrating off-Site through the sewer lines.*
- *Based upon the data collected to date and the current and anticipated future industrial use of the property, no unacceptable exposure risks have been identified for on-Site human receptors, which include site workers, adolescent trespassers, and future construction workers within the site. IDEM agrees.*
- *Although low level VOCs were detected at select on-Site locations at concentrations above IDEM RCG Residential Screening Levels, Meritor and Arcadis feel that the potential for off-Site migration of these constituents is unlikely and that these limited detections pose no unacceptable risk to off-site human receptors or the environment. IDEM agrees the potential for off-Site migration of the residual on-Site contamination is low. However, Based on GWSL exceedances and Vapor Intrusion Groundwater Screening Level (VIGWSL) exceedances, a remedy is still necessary for those pathways.*

Response:

Meritor and Arcadis agree with IDEM's conclusions regarding the sewer line backfill samples and the lack of exposure risk associated with the current and anticipated future use of the site.

Meritor and Arcadis do not feel that the sewer effluent sampling is needed due to the following:

- Meritor has provided a desktop evaluation of the onsite sewers, collected surface water and sediment samples from the east storm water drainage ditch which receives onsite storm sewer effluent, and collected samples of the pipe bedding materials and water (if encountered) within the backfill of the sanitary sewer lines along the western property boundary. No VOCs were detected in the samples collected from the east ditch or sanitary sewer backfill locations.

Mr. Tim Johnson
October 27, 2020

- The Meritor predecessor company Arvin Industries has not operated at the site in over 15 years.
- Sewer vapor sampling associated with the nearby Hougland Cannery and Amphenol sites does not indicate elevated concentrations of VOCs to the west of those properties (in proximity to the former Arvin facility)

With respect to the requested remedy for residential groundwater exceedances and residential VIGWSL groundwater screening level exceedances to assure that future use of the Site does not result in exposure, Meritor understands that the remedy could consist of land use restrictions related to potential groundwater and residential vapor intrusion exposure scenarios. Meritor and the property owner are evaluating the potential use of institutional controls. Meritor will keep IDEM apprised of that evaluation.

If you have any questions or comments regarding this submittal, please contact Jon Akin of Arcadis at 317-236-2819. Additionally, if IDEM would like to have a meeting to discuss this response, please contact us at your convenience.

Sincerely,

Arcadis U.S., Inc.

A handwritten signature in black ink, appearing to read 'Jon Akin', with a long horizontal flourish extending to the right.

Jon Akin, P.E.
Principal Engineer

Copies:
David O'Connor, Meritor

Enclosures:

IDEM Supplemental Environmental Assessment and No Further Action Request comment letter
April 24, 2020 *Supplemental Environmental Assessment Report and No Further Action Request Figures*



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

September 10, 2020

Mr. David O'Connor, Corporate Environmental Manager
Meritor, Inc.
2135 West Maple Street
Troy, Michigan 48084

Dear Mr. O'Connor:

**Re: Response to Comments, Supplemental
Environmental Assessment Report and No
Further Action Request**
Former Arvin Industries
1001 Hurricane Street
Franklin, Johnson County
State Cleanup Site #0000783

The Indiana Department of Environmental Management (IDEM) has reviewed the *Response to Comments (RTC)* and the *Supplemental Environmental Assessment and No Further Action Request (SEA)*, prepared and submitted by Arcadis U.S. Inc. (Arcadis). The SEA and RTC were submitted in response to a release of hazardous substances at the Former Arvin Industries located at 1001 Hurricane Street, Franklin, Johnson County, Indiana (Site). The RTC is available in IDEM's Virtual File Cabinet (VFC) as document #82958040. The SEA is available in IDEM's VFC as document #82958039. The VFC is located on IDEM's website at <https://vfc.idem.in.gov/DocumentSearch.aspx>.

The documents were evaluated based on IDEM's *Remediation Closure Guide (RCG)* and *Remediation Program Guide (RPG)* guidance manuals and *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW846)* Third Edition, Update III. Based on the data submitted, additional sampling and remedial measures must take place before closure can be achieved. The following IDEM comments must be addressed in the Further Site Investigation (FSI)/remedy:

Comments

1. The RTCs were acceptable to IDEM with exception of applicable comments included below.
2. Based on distribution of the chlorinated volatile organic compounds (cVOC) and groundwater flow, cVOC concentrations above Ground Water Screening Levels (GWSLs) do not migrate off-Site. However, naphthalene is present above GWSLs along the western property line. Additional sampling is needed to evaluate the extent of naphthalene.

3. Two surface water samples (ED-US and ED-DS) and one sediment sample (ED-S) were collected from the east drainage ditch (**Figure 2**) per IDEM's request in the November 25, 2019 comment letter. The surface water and sediment samples were analyzed for volatile organic compounds (VOCs). The data results were compared to the default IDEM Screening and Closure Level scenarios published in the 2019 RCG, Table A-6, and are presented in **Tables 3** and **4**. None of the samples collected from the east ditch contained VOCs above laboratory detection limits.
4. Soil and groundwater samples were collected from sewer line backfill where the lines exited the property. Data shows concentrations were all below detection limits. IDEM agrees with Arcadis that the backfill around the sewer lines is not a preferential pathway for migration of groundwater or vapor contamination. Since samples were not collected inside the sewer line, it is not known if COCs are present in sewer effluent from the property. Based on the data collected Arcadis concluded:
 - The groundwater and soil sampling investigations, preferential pathways assessments, and east drainage ditch assessment completed at the Site do not suggest any contribution to the broader area groundwater and vapor intrusion (VI) assessment. IDEM agrees, however, additional sampling of the sewer line effluent is also needed to show elevated concentrations of COC are not migrating off-Site through the sewer lines.
 - Based upon the data collected to date and the current and anticipated future industrial use of the property, no unacceptable exposure risks have been identified for on-Site human receptors, which include site workers, adolescent trespassers, and future construction workers within the site. IDEM agrees.
 - Although low level VOCs were detected at select on-Site locations at concentrations above IDEM RCG Residential Screening Levels, Meritor and Arcadis feel that the potential for off-Site migration of these constituents is unlikely and that these limited detections pose no unacceptable risk to off-site human receptors or the environment. IDEM agrees the potential for off-Site migration of the residual on-Site contamination is low. However, Based on GWSL exceedances and Vapor Intrusion Groundwater Screening Level (VIGWSL) exceedances, a remedy is still necessary for those pathways.

Conclusions

IDEM Generally concurs with the findings of the SEA. However, additional investigation of the naphthalene detections on the west property line must still occur. Additionally, sampling of the sewer line effluent must be conducted to show that cVOC's are not contained inside the sewer and contributing to off-Site contaminants via the sewer line. A remedy for residential groundwater exceedances and RVIGWSL exceedances must also be put into place to assure future use of the Site does not result in exposure

IDEM must be provided a minimum of two weeks advance notice for field activities. Please submit the FSI/remedial measures to IDEM within 90 days of the date of this letter. To reduce paper usage, reports can now be submitted via email (if smaller than 20 MB), directly to the project manager. Paper copies are no longer required; however, paper copies of figures and tables may be requested by the project manager. IDEM Office of Land Quality electronic document submittal guidelines are available online at: www.in.gov/idem/landquality/2368.htm. For documents that are too large to submit via email, a compact disc with a cover letter should be mailed to the following address:

Indiana Department of Environmental Management
Office of Land Quality
State Cleanup Section, Attn: Tim Johnson
100 N. Senate Ave., IGCN, Room 1101
Indianapolis, IN 46204-2251

If you have any questions or comments concerning this matter, please contact me at (317) 234-3931, or you may call IDEM's toll free number at (800) 451-6027 and ask for Tim Johnson.

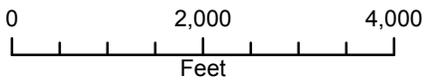
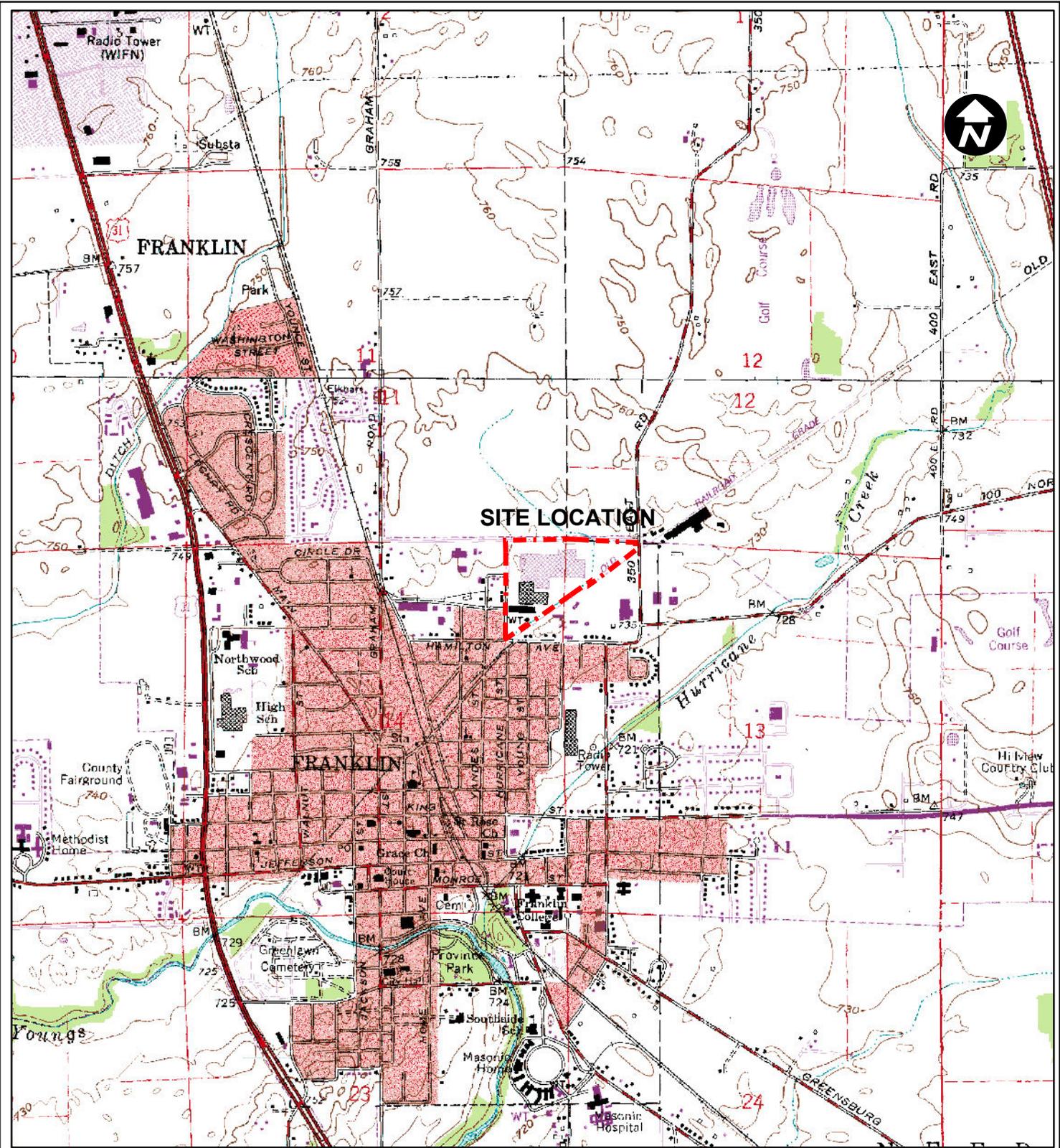
Sincerely,



Tim Johnson
State Cleanup Section
Office of Land Quality

TRJ:sb
ec: IDEM Site #82958039
Mr. Jon Akin, Arcadis U.S. Inc.
Johnson County Health Department

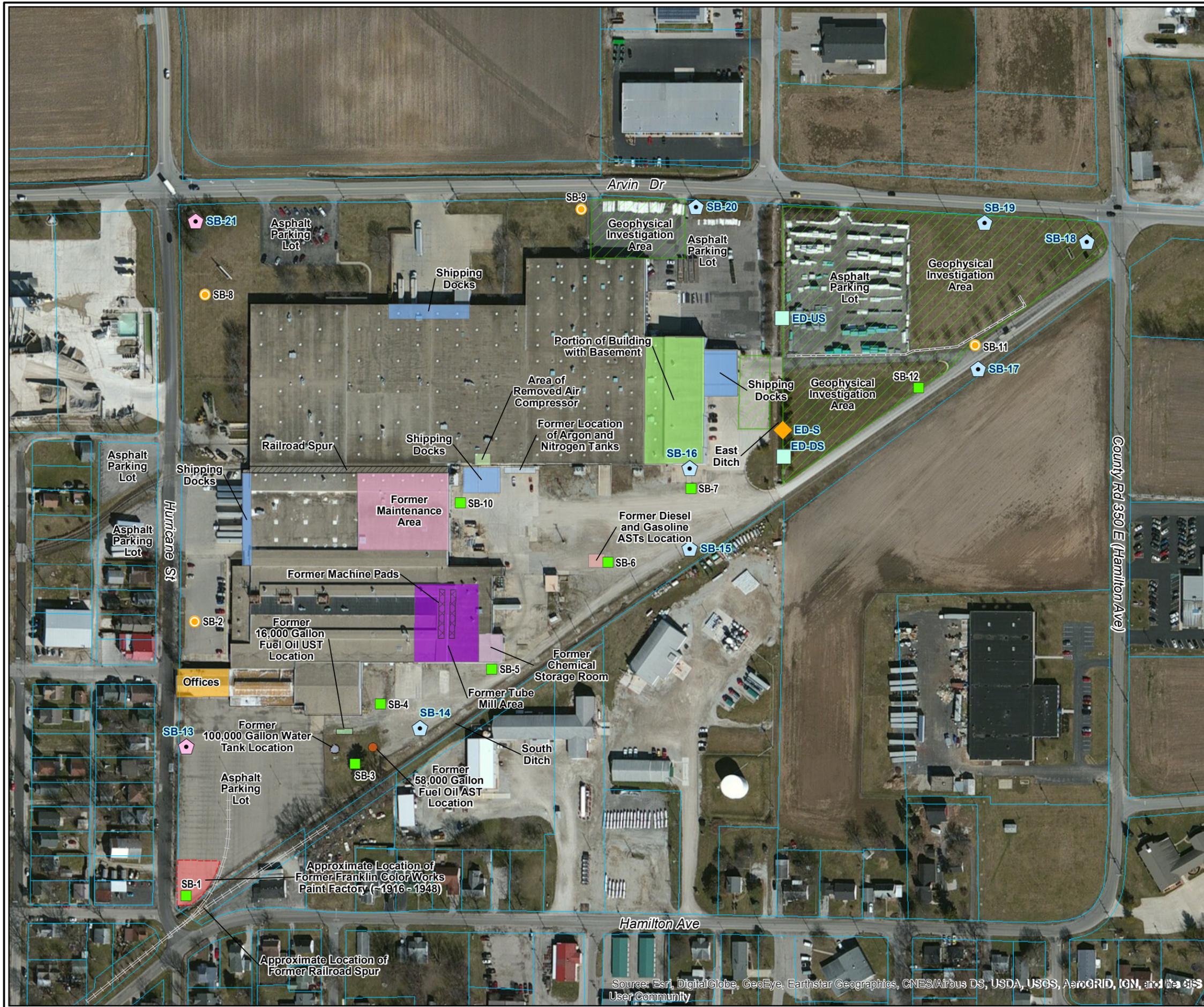
If a technical dispute arises and cannot be resolved in a timely manner, please see IDEM's website for information about appealing technical decisions through the Office of Land Quality's Technical Review Panel pilot program at: www.in.gov/idem/cleanups/2370.htm.



FORMER ARVIN MERITOR EXHAUST SYSTEMS
1001 HURRICANE STREET, FRANKLIN, INDIANA

Site Location Map

	Design & Consultancy for natural and built assets	FIGURE 1
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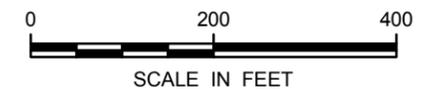


LEGEND

- 2019 SOIL BORING LOCATION FOR VAP GROUNDWATER SAMPLING
- 2019 SOIL BORING LOCATION FOR VAP GROUNDWATER AND SHALLOW SOIL SAMPLING
- ▨ GEOPHYSICAL INVESTIGATION AREA
- JOHNSON COUNTY PARCELS
- EAST AND SOUTH DITCH
- KNOWN SURFACE OBJECT
- AST - ABOVEGROUND STORAGE TANK
- UST - UNDERGROUND STORAGE TANK

SAMPLING LOCATIONS

- ◆ SEDIMENT SAMPLE LOCATION IN EAST DRAINAGE DITCH
- SURFACE WATER SAMPLE LOCATION IN EAST DRAINAGE DITCH
- ⬠ TEMPORARY PIEZOMETER FOR GROUNDWATER SAMPLE COLLECTION AND WATER TABLE ELEVATION MEASUREMENT
- ⬠ TEMPORARY PIEZOMETER FOR WATER TABLE ELEVATION MEASUREMENT

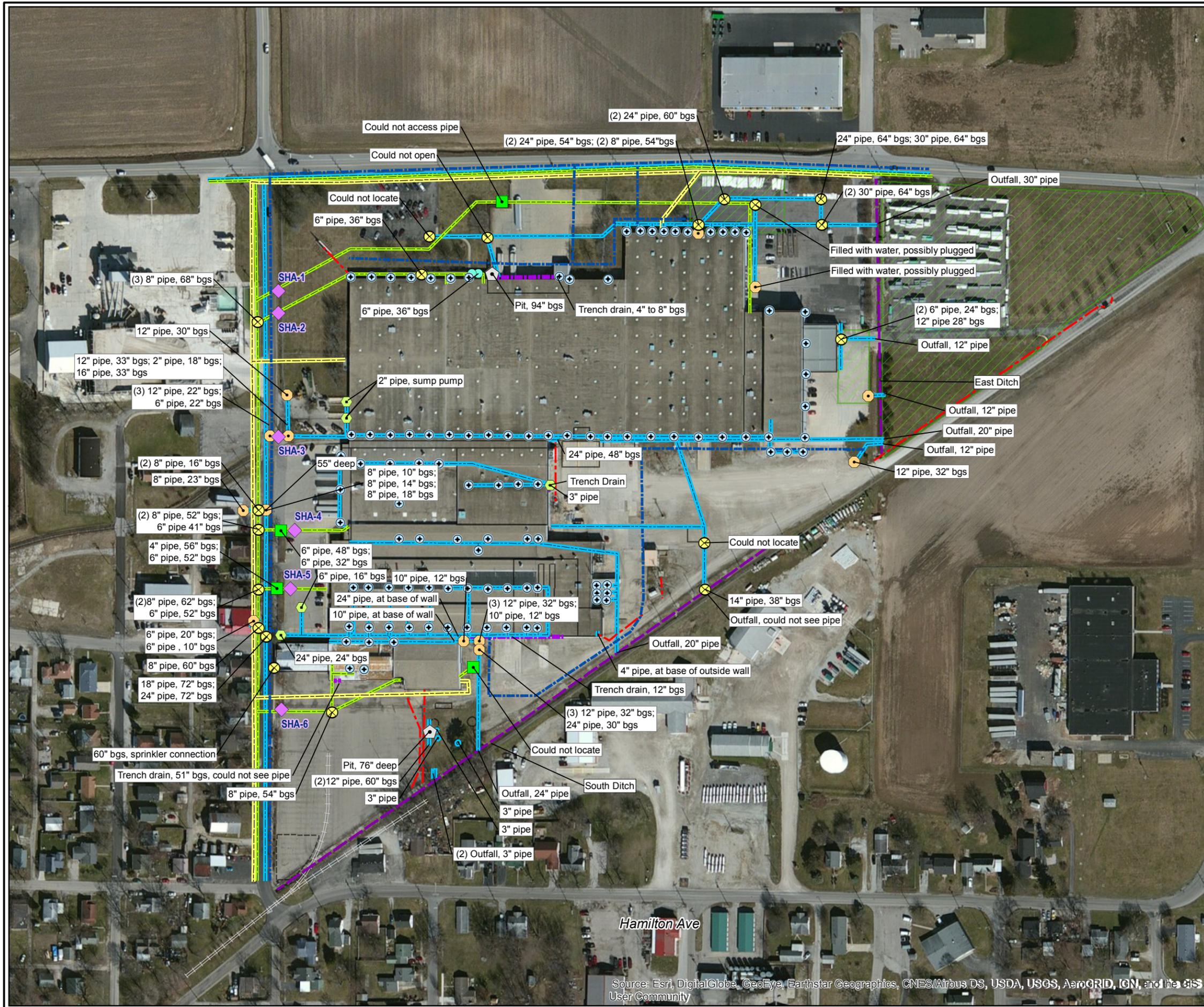


PROJECTION: NAD 1983 STATEPLANE INDIANA EAST FIPS 1301 FEET
 AERIAL SOURCE: ESRI ONLINE IMAGERY.

FORMER ARVIN MERITOR EXHAUST SYSTEMS
 1001 HURRICANE STREET, FRANKLIN, INDIANA

Further Site Investigation Activities

CITY: (KNOXVILLE) DIV: (GROUP: (ENV/GIS) LD: (B/ALTO) PIC: (C/R/RUTLEDGE) PM: (M/FISHERKELLER) TM: (R/WOODRUFF/M.GRILES/J.AKIN) PROJECT: IN001079
 PATH: Z:\GIS\PROJECTS\ENVARVINMERITOREXHAUSTSYSTEMS\FIGURE3_PREFERENTIAL PATHWAY ASSESSMENT.MXD SAVED: 4/17/2020 BY: KGPETERS



LEGEND

- Roof Drain
- Storm Grate
- Lift Station
- Manhole
- Pit
- Cleanout
- Floor Drain
- Proposed Hand Auger Locations For Soil and Groundwater Sampling
- South and East Ditch
- Electric
- Gas
- Trench Drain
- Water
- Sanitary Sewer
- Storm Sewer



PROJECTION: NAD 1983 STATEPLANE INDIANA EAST FIPS 1301 FEET
 AERIAL SOURCE: ESRI ONLINE IMAGERY.

FORMER ARVIN MERITOR EXHAUST SYSTEMS
 1001 HURRICANE STREET, FRANKLIN, INDIANA

Preferential Pathway Assessment



FIGURE

3

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CITY: (KNOXVILLE) DIV: (GROUP: (ENV: (GIS) LD: (B: (ALTO) PIC: (C: (R: (RUT: (EDGE) PM: (M: (FISHER: (KELLER) TM: (R: (WOODRUFF: (M: (GRILES: (J: (AKIN) PROJECT: IN001079
 PATH: Z: (GISPROJECTS: (ENVARVINMERITOREXHAUSTSYSTEMS: (MXD: (FIGURE: (10_ (POTENTIOMETRIC: (SURFACE: (MAP_ (MARCH_ (2020: (MXD) SAVED: 3/26/2020 BY: KGPETERS

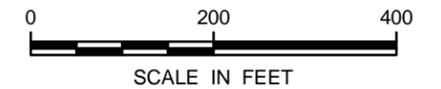


LEGEND

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- ◆ SEDIMENT SAMPLE LOCATION IN EAST DRAINAGE DITCH
- SURFACE WATER SAMPLE LOCATION IN EAST DRAINAGE DITCH
- ⬠ TEMPORARY PIEZOMETER FOR GROUNDWATER SAMPLE COLLECTION AND WATER TABLE ELEVATION MEASUREMENT
- ⬠ TEMPORARY PIEZOMETER FOR WATER TABLE ELEVATION MEASUREMENT
- GROUNDWATER ELEVATION CONTOUR
- (730.32) GROUNDWATER ELEVATION (FT)
- NM NOT MEASURED

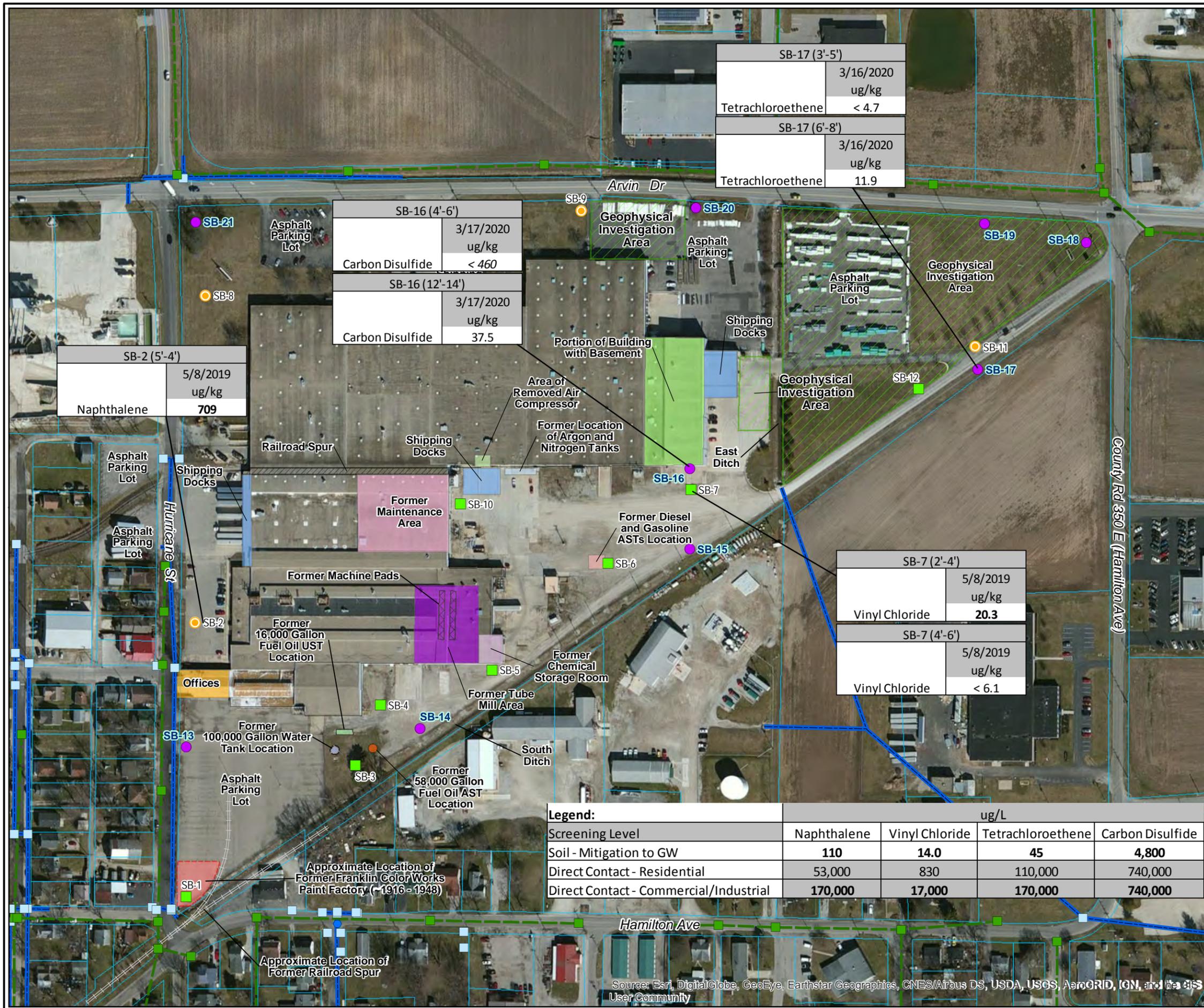


PROJECTION: NAD 1983 STATEPLANE INDIANA EAST FIPS 1301 FEET
 AERIAL SOURCE: ESRI ONLINE IMAGERY.

FORMER ARVIN MERITOR EXHAUST SYSTEMS
 1001 HURRICANE STREET, FRANKLIN, INDIANA

**Potentiometric Surface Map
 March 2020**

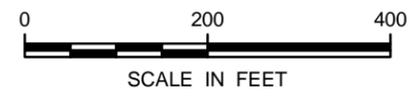
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 PATH: Z: (GISPROJECTS: (ENV: (ARVIN: (MERITOR: (EXHAUST: (SYSTEMS: (MXD: (FIGURES: (SOIL: (ANALYTICAL: (RESULTS: (MXD) SAVED: 4/2/2020 BY: KGPETERS



LEGEND

- SOIL BORING LOCATIONS 2020
- SOIL BORING LOCATION FOR VAP GROUNDWATER SAMPLING
- SOIL BORING LOCATION FOR VAP GROUNDWATER AND SHALLOW SOIL SAMPLING
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- Storm Manholes
- Storm Mains

AST - ABOVEGROUND STORAGE TANK
 UST - UNDERGROUND STORAGE TANK
 RCG - REMEDIATION CLOSURE GUIDE
 ug/kg - MICROGRAMS PER KILOGRAM



PROJECTION: NAD 1983 STATEPLANE INDIANA EAST FIPS 1301 FEET
 AERIAL SOURCE: ESRI ONLINE IMAGERY.

Legend:	ug/L			
Screening Level	Naphthalene	Vinyl Chloride	Tetrachloroethene	Carbon Disulfide
Soil - Mitigation to GW	110	14.0	45	4,800
Direct Contact - Residential	53,000	830	110,000	740,000
Direct Contact - Commercial/Industrial	170,000	17,000	170,000	740,000

FORMER ARVIN MERITOR EXHAUST SYSTEMS
 1001 HURRICANE STREET, FRANKLIN, INDIANA

Soil Analytical Results Above IDEM Screening Levels

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CITY: (KNOXVILLE) DIV: (GROUP: (ENV: (GIS) LD: (B: (ALTO) PIC: (C: (R: (RUTLEDGE) PM: (M: (FISHERKELLER) TM: (R: (WOODRUFF: (M: (GRILES: (J: (AKIN) PROJECT: IN001079
 PATH: Z: (GISPROJECTS: (ENVARVINMERITOREXHAUSTSYSTEMS: (MXD: (FIGURE9: (GROUNDWATER: (ANALYTICAL: (RESULTS: (MXD: (SAVED: (4/2/2020: (BY: (KGPETERS



SB-11 (13'-9")GW	
5/8/2019	ug/L
Tetrachloroethene	7.8
SB-11 (17'-13")GW	
5/8/2019	ug/L
Tetrachloroethene	< 5.0
SB-11 (21'-17")GW	
5/8/2019	ug/L
Tetrachloroethene	< 5.0

SB-2 (9'-5")GW	
5/6/2019	ug/L
Naphthalene	8.0
SB-2 (17'-13")GW	
5/6/2019	ug/L
Naphthalene	4.4
SB-2 (13'-9")GW	
5/6/2019	ug/L
Naphthalene	5.8

SB-16	
3/17/2020	ug/L
Trichloroethene	18.2

SB-7 (17'-13")GW	
5/8/2019	ug/L
Vinyl Chloride	24.7

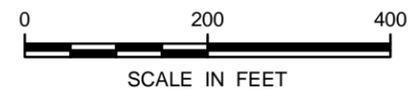
SB-15	
3/16/2020	ug/L
Vinyl Chloride	3.4

SB-4 (14'-10")GW	
5/7/2019	ug/L
1,1-Dichloroethane	140
1,1,1-Trichloroethane	256

Legend:	ug/L					
Screening Level	Naphthalene	1,1-Dichloroethane	1,1,1-Trichloroethane	Vinyl Chloride	Tetrachloroethene	Trichloroethene
Groundwater - Tap	1.7	28.0	200	2.0	5.0	5.0
VI Exposure - Residential	110	130	13,000	2.1	110	9.1
VI Exposure - Commercial/Industrial	460	550	54,000	35	470	38

- LEGEND**
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PROJECTION: NAD 1983 STATEPLANE INDIANA EAST FIPS 1301 FEET
 AERIAL SOURCE: ESRI ONLINE IMAGERY.

FORMER ARVIN MERITOR EXHAUST SYSTEMS
 1001 HURRICANE STREET, FRANKLIN, INDIANA

Groundwater Analytical Results Above IDEM Screening Levels

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community