



# AEI

## Consultants

July 16, 2019

Ms. Joey Pace  
Arizona Department of Environmental Quality,  
Voluntary Remediation Program,  
1110 West Washington Street  
Phoenix, AZ 85007

**Subject: Request for No Further Action Determination**  
Madison Village Shopping Center  
742 East Glendale Avenue  
Phoenix, Arizona 85010  
AEI Project No. 402783  
VRP Site Code #513219-00

Dear Ms. Pace:

On behalf of WRI Madison Village, LP (WRI), AEI Consultants (AEI) is requesting that the Arizona Department of Environmental Quality (ADEQ) issue a No Further Action (NFA) determination for soil and groundwater underlying a portion of the Madison Village Shopping Center ("the Site"). The Site is located at 742 East Glendale Avenue, in Phoenix, Arizona. The Maricopa County Assessor Parcel Number that includes the Site is (APN) 160-29-089B. The Site location and vicinity are shown on Figure 1. Figure 2 presents the Site plan.

This request is made pursuant to Arizona Revised Statutes (ARS) § 49-181(A) to acquire an NFA determination from the ADEQ. The NFA determination is to address an approximate 3,562 square-foot portion of the Site, designated as the former dry cleaning tenant suite and exterior enclosure (Figure 2), where analytical data have indicated that soil and groundwater may have been impacted by tetrachloroethene (PCE) and trichloroethene (TCE) from the former dry cleaning operations.

### **SITE DESCRIPTION**

The Site is located in the northeastern quadrant of the intersection of East Glendale Avenue and North 7th Street in a mixed commercial and residential area of Phoenix, Arizona. The Site is a portion of the Madison Village Shopping Center which totals 3.59 acres and is developed with a single-story, multi-tenant retail building surrounded by asphalt-paved parking lots. The location of the Site is shown on Figure 1 and Figure 2 presents the Site map.

Review of the Geologic Map of Arizona, published by the Arizona Geological Survey and dated 1978, indicates that the Site is located in the Phoenix Basin within the Basin and Range physiographic province of Southern and Western Arizona. The Basin and Range province is characterized by elongated mountain ranges trending northwest-southeast and separated by broad alluvial valleys. The Phoenix Basin contains unconsolidated floodplain alluvium of various

sizes with a maximum depth of approximately 10,000 feet. Alluvium in the Phoenix Basin is highly variable and ranges from dense sand, gravel, and cobbles to silts and clays.

According to the Soil Survey of Maricopa County, Central Part, Arizona, published by the United States Department of Agriculture Soil Conservation Service and updated in 2008, the soils beneath the Site are classified as Laveen loam. The Laveen soil series consists of deep, well drained, loam textured soils with depths of at least 60 inches. Laveen soils have moderately high to high permeability, moderate available water capacity, and a moderately alkaline soil reaction. Based upon Arizona Department of Water Resources (ADWR) Hydrologic Map Series Number 35, dated 2003, the direction of groundwater flow beneath the Site is inferred to be to the northwest. During drilling and sampling conducted at the Site in November-December 2018, discussed below, groundwater was encountered at a depth of 160 feet below ground surface (bgs).

## **PREVIOUS SITE INVESTIGATIONS**

In May 1996, a Phase I Environmental Site Assessment (ESA) report identified a former dry cleaning facility that had operated at the Site from as early as 1954 in a former Site building configuration. A Phase II investigation completed by Kleinfelder in 1996 identified PCE in soil gas and groundwater samples collected from the Site (Kleinfelder, 1996).

Based on their assessment, Kleinfelder concluded that residual PCE in soil gas was present in shallow soil adjacent to the former dry cleaning establishment and that groundwater beneath the Site had been impacted by PCE; however, Kleinfelder stated that there was no evidence the PCE in groundwater originated from the Site. The former retail building at the Site was subsequently demolished and removed from the Site and a new retail building was developed in the northern portion of the Site circa 2000.

In November-December 2018, AEI conducted a subsurface investigation at the Site and collected soil gas and groundwater samples. The six volatile organic compounds (VOCs) typically associated with dry cleaner chemicals, including PCE and TCE, were not detected at concentrations exceeding their respective laboratory reported detection limits in the three groundwater samples collected and analyzed. Soil gas samples collected during the 2018 investigation yielded concentrations of PCE and TCE at maximum concentrations of 8,340 microgram per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and 13.3  $\mu\text{g}/\text{m}^3$ , respectively. Conversion of soil gas concentrations utilizing the three-phase partition method for calculating soil concentrations yielded a maximum PCE concentration in soil of 0.02322 milligrams per kilogram (mg/kg) and maximum TCE concentration of 0.000037 mg/kg. Based on the PCE and TCE concentrations detected at the Site in soil gas, a residual mass of PCE and TCE is present in the shallow soil beneath the Site; however, the residual mass does not appear to be comprised of PCE or TCE concentrations in soil above the applicable State of Arizona Soil Remediation Levels (SRLs) or Groundwater Protection Levels (GPLs). Soil gas sample data is presented in Table 1a and 1b. The three phase conversions are presented in Table 2 and groundwater samples results are presented in Table 3. A site map showing the approximate extent of PCE in soil gas is presented in Figure 3.

The subsurface investigations performed to-date have demonstrated that concentrations of PCE and TCE in soil gas do not appear to be laterally and vertically extensive and were not detected within 100 feet of the groundwater table. In addition, VOCs detected in soil gas when utilizing the three-phase partition method for calculating soil concentrations do not exceed the SRLs and GPLs, when established. The three phase conversations for detected VOCs are presented in Table 2.

On February 5, 2019, an indoor air quality assessment (IAQA) was conducted by Matrix New World Engineering Progress (Matrix) for three suites of the existing retail building at the Site identified to be near the former dry cleaning operation at the Site. The results of the assessments identified minor concentrations of PCE in indoor air that were below United States Environmental Protection Agency (US EPA) Regional Screening Level (RSL) for industrial air of 47 µg/m<sup>3</sup>. Air sample results are presented in Table 4.

On April 17, 2019, AEI, on behalf of WRI Madison Village, LP, submitted the Voluntary Remediation Program (VRP) Application and associated documents to the ADEQ. Based on their review of the submitted documents, including two IAQA reports completed by Matrix, the ADEQ VRP representatives requested an additional indoor air sampling from within Suite 170 in the Site building, due to elevated reporting limits in the initial indoor air sampling events.

In June 2019, AEI completed the additional IAQA in Suite 170. The results of the IAQA indicated that PCE, TCE, and other breakdown products of PCE were not detected at concentrations at or above the laboratory reported detection limits in the indoor air samples collected and analyzed within Suite 170. Based on the non-detections at concentrations well below the applicable screening levels, residual PCE detected in the subsurface beneath the Site did not appear to be impacting indoor air quality in Suite 170. Air sample results are presented in Table 4.

## **ADEQ REQUEST FOR CLOSURE**

On July 1, 2019, the ADEQ issued a letter to WRI stating that the rationale for requesting the NFA determination was acceptable and to proceed with submitting this NFA application. A description of soil characteristics, per the seven report requirements listed in ARS § 49-181, Paragraph A, is provided below.

### **1. A Description of the Specific Contaminants of Concern for which a No Further Action Determination is Being Sought:**

The NFA determination will address an approximate 3,562 square-foot area of soil and the underlying groundwater designated as the former dry cleaning tenant suite and attached exterior enclosure and is shown on Figure 4. Initial soil gas analytical data collected during the 1996 Kleinfelder investigation indicated that soil and groundwater in this area may have been impacted by PCE and TCE from the former dry cleaning operations. The 2018 investigation indicated VOCs, including PCE and TCE, detected in soil gas when utilizing the three-phase partition method for calculating soil concentrations do not exceed the SRLs and GPLs, when established. VOCs, including PCE and TCE, were not detected at concentrations exceeding their

respective laboratory reported detection limits in the three groundwater samples collected and analyze. Therefore, an NFA for select VOCs is requested and the list of the select VOCs is included in Table 5.

**2. A Description of the Actions Taken to Achieve Remediation Levels or Controls Determined in Accordance with 49-175, Subsection B:**

No remedial actions were required to achieve remediation levels or controls regarding soil contamination at the Site. VOCs, including PCE and TCE, detected in soil gas when utilizing the three-phase partition method for calculating soil concentrations do not exceed the SRLs when established. The ADEQ SRLs are as shown in Table 2. Thus, ADEQ stated in a letter dated July 1, 2019 that the NFA can be submitted.

**3. A Description of Any Soil, Water, or Soil and Water Treatment Systems Used as Part of the Remediation:**

As stated above, no remediation is required at the Site. Remedial efforts are neither required by nor being overseen by the ADEQ.

**4. Whenever Institutional or Engineering Controls are Placed on the Site:**

*(a) A demonstration that any engineering control or combination of engineering controls has been constructed, is functioning, and will be maintained*

*(b) A description of the proposed land use for the site and a demonstration that the use will not compromise the integrity of the engineering controls and will be in accordance with any institutional controls*

Institutional and/or engineering controls have not been proposed or enacted at the Site.

**5. If Post-Remediation Monitoring is Proposed, a Description of the Type of Monitoring, Monitoring Locations, Contaminants to be Monitoring, Monitoring Frequency, and Sampling Procedures:**

Active remediation was not required to meet soil SRLs and groundwater Aquifer Water Quality Standards (AWQSs); therefore, no post-remediation monitoring is needed.

**6. A Description of Community Involvement Activities Undertaken to Meet the Requirements of § 49-176:**

A public notice stating that NFA was requested for the Site has been drafted and is included as Attachment A. Upon approval from the ADEQ, the public notice will be submitted to the Arizona Republic newspaper and published for a minimum of one day. Upon publishing of

the public notice, the 45-day comment period will commence. A draft of the public notice is presented in Appendix A.

**7. List of Permits Under this Title Obtained for the Remedial Action or Held by the Applicant Pertaining to the Site:**

No remedial action was necessary for site-wide soils; therefore, no permits were obtained.

**CONCLUSIONS**


Based on the Site data, facts presented in this letter, and previous documents submitted to ADEQ, it is requested that ADEQ issue a NFA determination for soil and groundwater beneath the approximately 3,562 square feet area former dry cleaning tenant suite and attached exterior enclosure at the Site.

It is specifically requested that the NFA letter indicate that no further action (including, without limitation, any investigation, characterization and/or any remediation) is necessary, and that no institutional controls, deed restrictions, or land use covenants are required in regard to the Site.

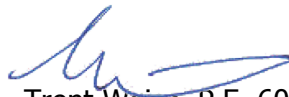
Please contact Ms. Jacqueline Day at (858) 531-6297 if you have any questions or need additional information.

Sincerely,  
**AEI Consultants**



  
Jacqueline C. Day, R.G. 54800  
Senior Geologist  
(858) 531-6297

  
Brian Brody  
Project Manager

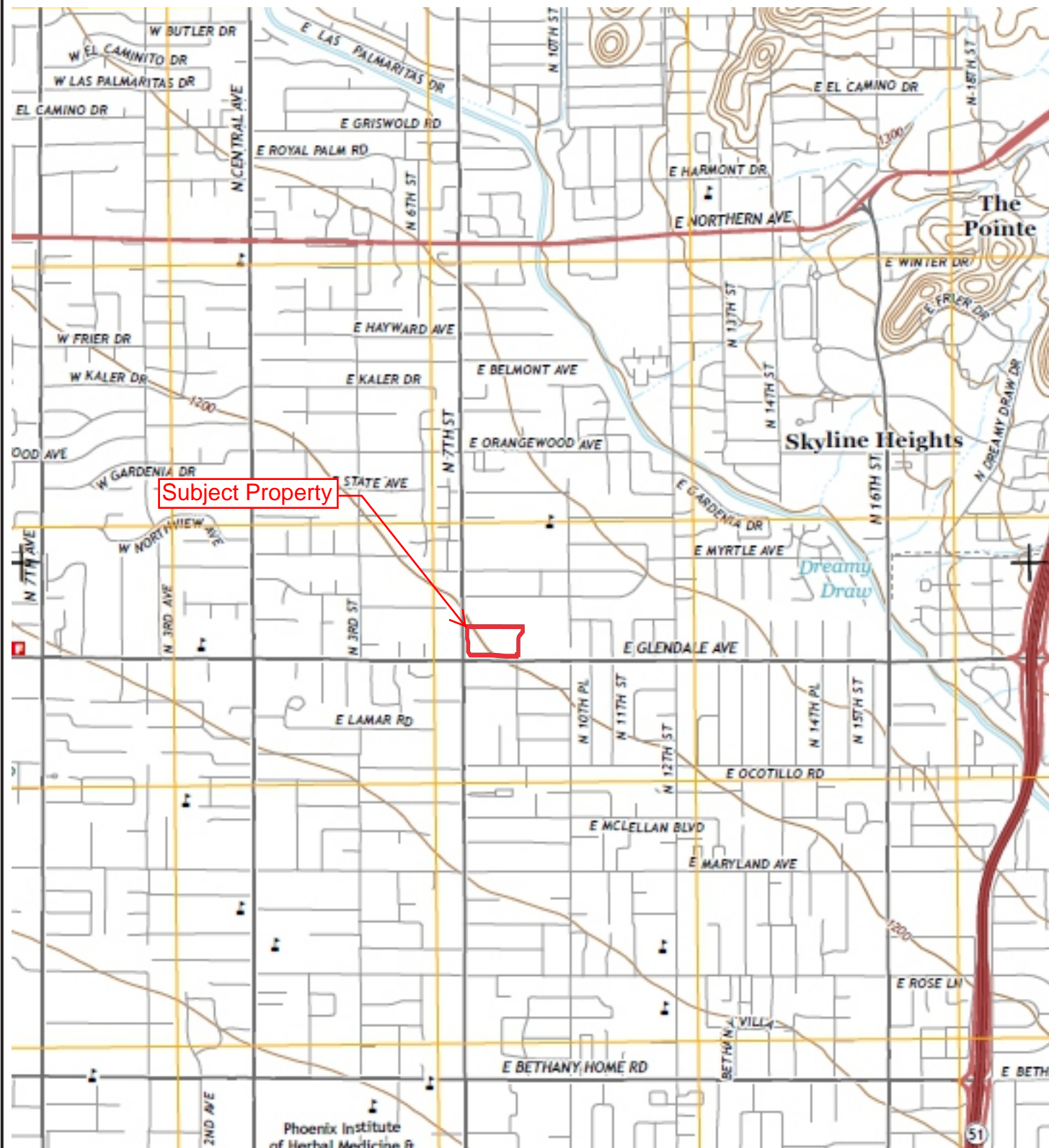
  
Trent Weise, P.E. 60366  
Vice President

**Attachments:**

Figure 1 – Site Location Map  
Figure 2 – Site Map  
Figure 3 – PCE Isoconcentration Map  
Figure 4 – NFA Boundary Map  
Table 1a – Soil Gas Sample Data Summary – Dry Cleaning VOCs  
Table 1b – Soil Gas Sample Data Summary – Other VOCs  
Table 2 – Three-Phase Partitioning Equations Soil Gas to Soil Conversion  
Table 3 – Groundwater Sample Data Summary  
Table 4 – Indoor Air Sample Data Summary  
Table 5 – Compounds for NFA Request  
Attachment A: Draft Public Notice

cc: Weingarten Realty Investments  
Attn: Mr. Charles Gurney  
2600 Citadel Plaza Drive, Suite 125  
Houston, Texas 77008

## FIGURES



## LEGEND

Map: Sunnyslope, Arizona  
Date: 2014  
Source: USGS



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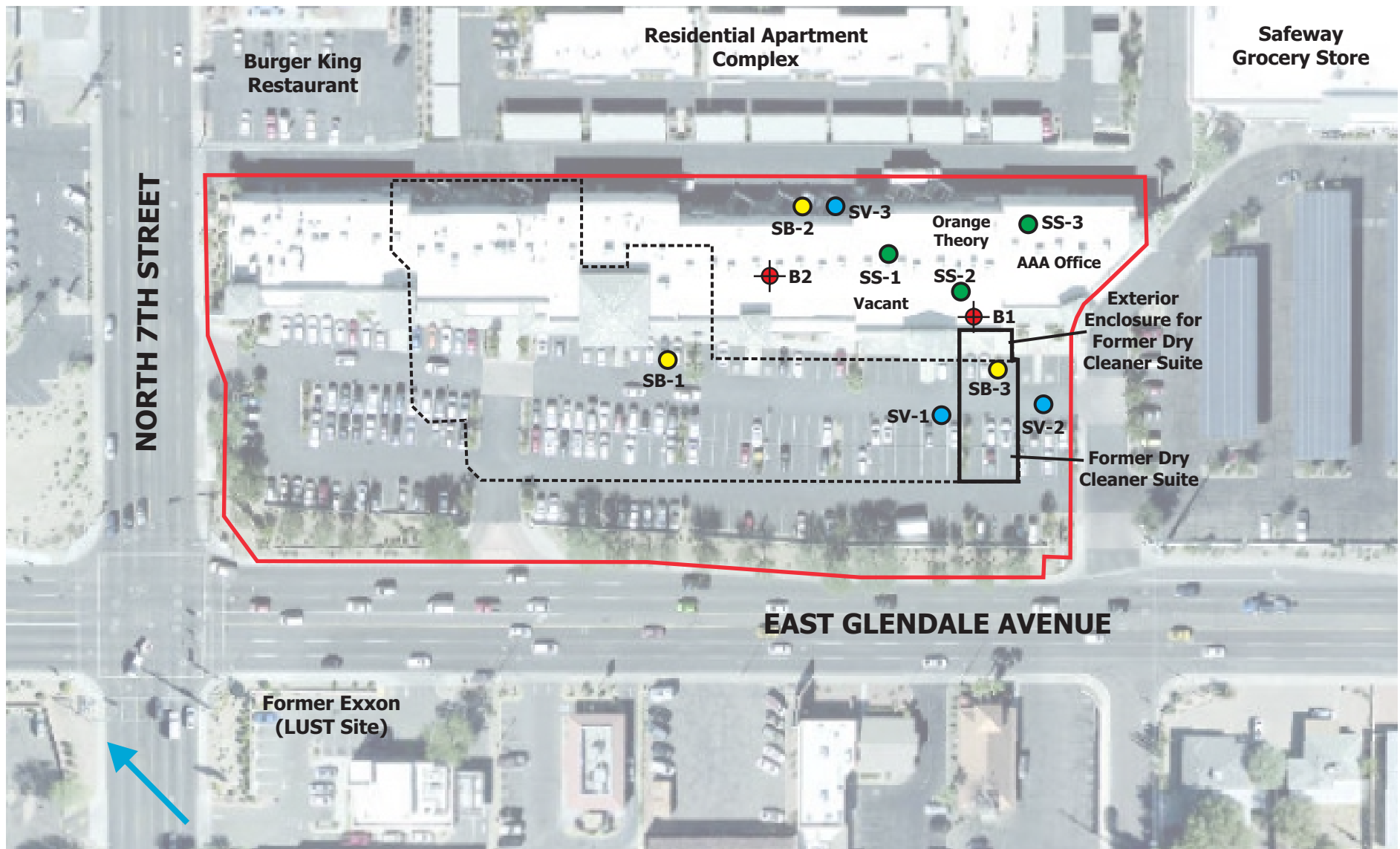
2500 Camino Diablo, Walnut Creek, California

## SITE LOCATION MAP

742 East Glendale Avenue  
Phoenix, Arizona

FIGURE 1  
Project No. 402783





## LEGEND

- Approximate Property Boundary
- - - Approximate NFA Area Boundary
- ➔ Inferred Groundwater Flow Direction
- Soil Boring/Groundwater Sample
- Sub-Slab Soil Gas Sampling Point
- Soil Gas Probe
- - - - Footprint of Former Retail Structure
- ⊙ Soil Boring/GW Sample (Kleinfelder, 1996)

0 50 100  
SCALE: 1" = 100'



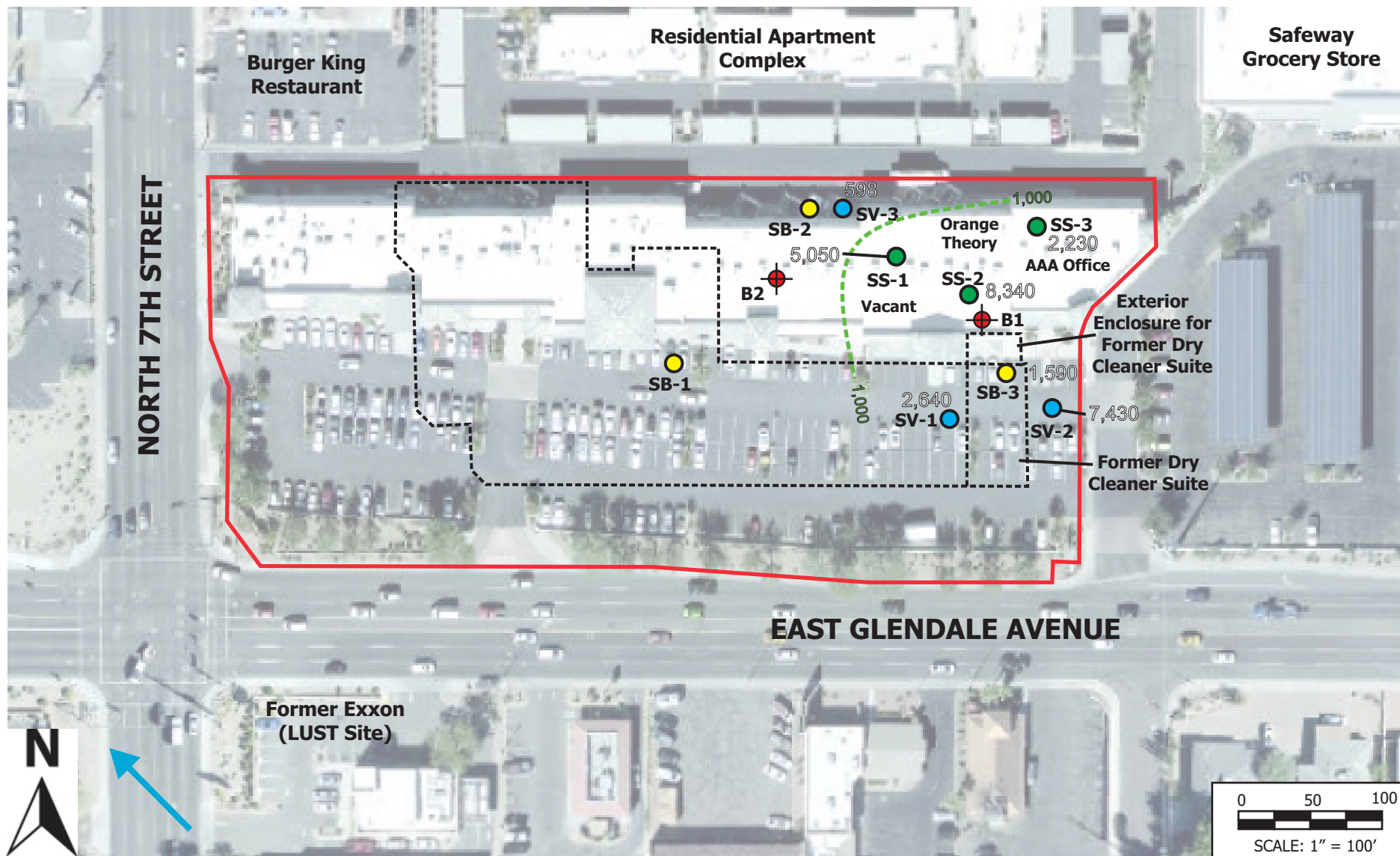
## AEI Consultants

2500 Camino Diablo, Walnut Creek, California

## SITE MAP

NEC North 7th Street  
and East Glendale Avenue  
Phoenix, Arizona

**FIGURE 2**  
Project No. 402783



## LEGEND

- |   |                                    |              |  |
|---|------------------------------------|--------------|--|
| — Approximate Property Boundary             | ● Soil Boring/Groundwater Sample   | PCE<br>ug/m3 | Tetrachloroethene<br>Micrograms per cubic<br>meter |
| → Inferred Groundwater Flow Direction       | ● Sub-Slab Soil Gas Sampling Point |              |  |
| ----- Footprint of Former Retail Structure  | ● Soil Gas Probe                   |              |  |
| ⊕ Soil Boring/GW Sample (Kleinfelder, 1996) |                                    |              |  |
- 8,340 PCE Concentration in ug/m3
- PCE Isoconcentration in Soil Gas in ug/m3

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### PCE ISOCONCENTRATION IN SOIL GAS

NEC North 7th Street  
and East Glendale Avenue  
Phoenix, Arizona

**FIGURE 3**  
Project No. 402783

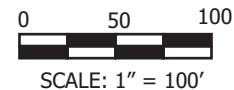


## LEGEND

- Approximate Property Boundary
- Approximate NFA Area Boundary
- Inferred Groundwater Flow Direction
- Footprint of Former Retail Structure
- Soil Boring/GW Sample (Kleinfelder, 1996)

- Soil Boring/Groundwater Sample
- Sub-Slab Soil Gas Sampling Point
- Soil Gas Probe

NFA Not further Action



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## SITE MAP - NFA Boundary

742 East Glendale Avenue  
Phoenix, Arizona 85020

**FIGURE 4**  
Project No. 402783

## TABLES

**TABLE 1a: SOIL GAS SAMPLE DATA SUMMARY - DRY CLEANING VOCs**  
**742 East Glendale Avenue, Phoenix, Arizona 85020**

Location ID	Date	Depth (feet)	PCE (µg/m³)	TCE (µg/m³)	1,1-DCE (µg/m³)	Cis-1,2-DCE (µg/m³)	Trans-1,2-DCE (µg/m³)	VC (µg/m³)	Helium Detected in Sample (%)	Field Helium Shroud (%)	Max Allowable Helium Detection in Sample (%)
SS-1	11/29/2018	0.5	<b>5,050</b>	2.51	<1.59	<1.59	<1.59	<1.02	<0.100	24.9	1.25%
SS-2	11/29/2018	0.5	<b>8,340</b>	2.39	<1.59	<1.59	<1.59	<1.02	<0.100	25.5	1.28%
SS-3	11/29/2018	0.5	<b>2,230</b>	<2.14	<1.59	<1.59	<1.59	<1.02	<0.100	25.9	1.30%
SV-1	11/29/2018	5	<b>2,640</b>	13.3	<1.59	<1.59	<1.59	<1.02	<0.100	24.7	1.24%
SV-2	11/29/2018	5	<b>7,430</b>	7.21	<1.59	<1.59	<1.59	<1.02	<0.100	24.3	1.22%
SV-3	11/29/2018	5	598	<2.14	<1.59	<1.59	<1.59	<1.02	<0.100	25.7	1.29%
SB-3	12/9/2018	5	<b>1,590</b>	<2.14	<1.59	<1.59	<1.59	<1.02	<0.100	24.6	1.23%
SB-3	12/9/2018	15	861	2.68	<1.59	<1.59	<1.59	<1.02	<0.100	25.7	1.29%
SB-3	12/9/2018	25	341	2.49	<1.59	<1.59	<1.59	<1.02	<0.100	25.8	1.29%
SB-3	12/9/2018	35	33.4	<2.14	<1.59	<1.59	<1.59	<1.02	0.898	24.7	1.24%
SB-3	12/9/2018	45	13.6	<2.14	<1.59	<1.59	<1.59	<1.02	<0.100	26.2	1.31%
SB-3	12/9/2018	55	<2.72	<2.14	<1.59	<1.59	<1.59	<1.02	<0.100	27.1	1.36%
SB-3	12/9/2018	65	<2.72	<2.14	<1.59	<1.59	<1.59	<1.02	<0.100	27.9	1.40%
SB-3	12/9/2018	75	<2.72	<2.14	<1.59	<1.59	<1.59	<1.02	<0.100	27.2	1.36%
SB-3	12/9/2018	85	<2.72	<2.14	<1.59	<1.59	<1.59	<1.02	<0.100	25.3	1.27%
<b>Comparison Values:</b>											
US EPA RSL			47	3.0	880	--	--	2.8	--	--	--
Attenuated Soil Gas Industrial			1,567	100	29,333	--	--	93	--	--	--

**Notes:**

µg/m³	micrograms per cubic meter	DCE	1,1-Dichloroethene
<RDL	less than the laboratory reported detection limit	Cis-1,2-DCE	cis-1,2-Dichloroethene
--	No established comparison value	Trans-1,2-DCE	trans-1,2-Dichloroethene
bgs	below ground surface	VC	Vinyl Chloride
<b>Bold</b>	Exceeds the applicable comparison value		
PCE	Tetrachloroethene		
TCE	Trichloroethene		
VOCs	Volatile organic compounds		

**Comparison Values:**

US EPA RSL Based on United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs) for Industrial Air, with a target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0, dated November 2018, and using attenuation factor 0.03 in accordance with EPA guidelines (OSWER publication 9200.0-154, dated June 2015).

**TABLE 1b: SOIL GAS SAMPLE DATA SUMMARY - OTHER VOCs**  
**742 East Glendale Avenue, Phoenix, Arizona 85020**

Location ID	Date	Depth (feet)	Acetone (µg/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	Toluene (µg/m <sup>3</sup> )	Ethyl-Benzene (µg/m <sup>3</sup> )	Total Xylenes (µg/m <sup>3</sup> )	1,3-Butadiene (µg/m <sup>3</sup> )	Carbon Disulfide (µg/m <sup>3</sup> )	Chloro-ethane (µg/m <sup>3</sup> )	Chloroform (µg/m <sup>3</sup> )	Chloro-methane (µg/m <sup>3</sup> )	Cylo-hexane (µg/m <sup>3</sup> )	1,4-Dioxane (µg/m <sup>3</sup> )	Ethanol (µg/m <sup>3</sup> )	4-Ethyl-toluene (µg/m <sup>3</sup> )	Trichloro-fluoro-methane (µg/m <sup>3</sup> )	Dichloro-difluoro-methane (µg/m <sup>3</sup> )
SS-1	11/29/2018	0.5	2,630	1.40	9.72	2.92	10.84	<8.85	<1.24	3.15	<1.95	<1.24	<1.38	<1.44	56.3	3.31	27.2	31.5
SS-2	11/29/2018	0.5	269	1.96	55.2	2.25	8.74	<8.85	<1.24	<1.06	<1.95	<1.24	<1.38	<1.44	45.8	2.68	27.4	32.00
SS-3	11/29/2018	0.5	121	1.86	7.22	2.45	9.03	<8.85	<1.24	<1.06	<1.95	<1.24	<1.38	<1.44	24.0	2.80	2.76	2.83
SV-1	11/29/2018	5	141	11.4	45.8	13.1	55.1	<8.85	<1.24	<1.06	<1.95	<0.826	5.44	<1.44	24.5	17.5	34.6	61.6
SV-2	11/29/2018	5	91.8	4.09	37.1	14.0	63.6	<8.85	<1.24	<1.06	<1.95	<0.826	2.70	<1.44	19.1	21.6	35.8	49.1
SV-3	11/29/2018	5	34.8	4.69	34.4	11.7	52.3	<8.85	1.79	<1.06	<1.95	<0.826	2.73	<1.44	9.10	15.8	26.2	27.1
SB-3	12/9/2018	5	41.6	3.18	14.4	2.40	12.68	<8.85	<1.24	<1.06	<1.95	0.996	<1.38	<1.44	38.7	<1.96	4.76	8.21
SB-3	12/9/2018	15	153	9.64	25.9	3.86	16.74	<b>15.7</b>	2.42	<1.06	5.59	1.09	4.73	<1.44	30.3	<1.96	4.47	4.86
SB-3	12/9/2018	25	110	5.79	20.5	3.46	16.10	<8.85	2.39	<1.06	8.95	1.87	2.22	<1.44	36.7	<1.96	2.76	2.68
SB-3	12/9/2018	35	111	4.23	22.9	3.29	16.05	10.2	1.66	<1.06	3.88	1.86	2.91	<1.44	31.2	<1.96	<2.25	2.63
SB-3	12/9/2018	45	71.7	3.70	25.6	3.60	16.62	<b>17.2</b>	1.24	<1.06	5.49	1.37	2.85	<1.44	28.9	<1.96	<2.25	2.39
SB-3	12/9/2018	55	142	6.14	28.4	3.53	15.54	<b>33.6</b>	1.79	<1.06	12.2	1.09	3.82	<1.44	57.1	<1.96	<2.25	<1.98
SB-3	12/9/2018	65	59.6	3.88	29.5	3.58	16.19	10.0	<1.24	<1.06	7.64	1.12	3.26	<1.44	35.4	<1.96	<2.25	<1.98
SB-3	12/9/2018	75	152	5.51	28.5	3.93	18.76	<b>29.9</b>	1.81	<1.06	14.6	1.74	5.67	<1.44	123	<1.96	<2.25	<1.98
SB-3	12/9/2018	85	82.2	2.2	33.3	3.82	15.56	<8.85	<1.24	<1.06	6.31	1.17	5.29	<1.44	83.4	<1.96	<2.25	<1.98
<u>Comparison Values:</u>																		
RSL			140,000	1.6	22,000	4.9	440	0.41	3,100	44,000	0.53	390	26,000	2.5	--	--	--	440
Attenuated Soil Gas			4,666,667	53	733,333	163	14,667	14	103,333	1,466,667	18	13,000	866,667	83	--	--	--	14,667
Industrial																		

Notes:

µg/m <sup>3</sup>	micrograms per cubic meter	VOCs	Volatile organic compounds
<RDL	less than the laboratory reported detection limit	TMB	Trimethylbenzene
--	No established comparison value	TMP	Trimethylpentane
bgs	below ground surface	MEK	Methyl ethyl ketone
N/A	not applicable	MIBK	4-Methyl-2-pentanone
<b>15.7</b>	Exceeds the applicable comparison value	TCA	Trichloroethane

Comparison Values:

US EPA RSL Based on United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs) for Industrial Air, with a target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0, dated November 2018, and using attenuation factor 0.03 in accordance with EPA guidelines (OSWER publication 9200.0-154, dated June 2015).

**TABLE 1b: SOIL GAS SAMPLE DATA SUMMARY - OTHER VOCs**  
**742 East Glendale Avenue, Phoenix, Arizona 85020**

Location ID	Date	Depth (feet)	Heptane (µg/m³)	n-Hexane (µg/m³)	Iso-propyl-benzene (µg/m³)	Methylene chloride (µg/m³)	Methyl-Butyl Ketone (µg/m³)	MEK (µg/m³)	MIBK (µg/m³)	Methyl methacrylate (µg/m³)	2-Propanol (µg/m³)	Propene (µg/m³)	1,1,2,2-TCA (µg/m³)	Tetra-hydrofuran (µg/m³)	1,2,4-TMB (µg/m³)	1,3,5-TMB (µg/m³)	2,2,4-TMP (µg/m³)	Remaining VOCs (µg/m³)
SS-1	11/29/2018	0.5	<1.64	1.63	<1.97	4.10	<10.2	207	34.2	<1.64	78.8	3.03	<2.75	<1.18	4.43	<1.96	<1.87	<RDL
SS-2	11/29/2018	0.5	<1.64	2.95	<1.97	8.21	<10.2	21.1	<10.2	<1.64	25.7	4.90	<2.75	<1.18	3.50	<1.96	<1.87	<RDL
SS-3	11/29/2018	0.5	<1.64	3.91	<1.97	5.17	<10.2	12.6	<10.2	<1.64	6.99	<1.38	<2.75	4.07	3.32	<1.96	<1.87	<RDL
SV-1	11/29/2018	5	15.5	14.8	<1.97	6.71	32.9	55.0	17.0	<1.64	75.8	38.1	<2.75	<1.18	18.0	4.47	8.56	<RDL
SV-2	11/29/2018	5	6.81	5.08	<1.97	<1.39	17.5	29.3	<10.2	<1.64	<6.15	10.9	<2.75	<1.18	22.3	5.54	3.56	<RDL
SV-3	11/29/2018	5	6.13	6.38	<1.97	4.56	<10.2	13.0	<10.2	<1.64	<6.15	102	<2.75	<1.18	15.2	3.92	3.20	<RDL
SB-3	12/9/2018	5	5.81	4.56	<1.97	<1.39	<10.2	25.7	<10.2	<1.64	<6.15	30.4	<2.75	155	2.03	<1.96	3.75	<RDL
SB-3	12/9/2018	15	17.7	18.9	<1.97	<1.39	<10.2	42.3	<10.2	1.88	<6.15	109	<2.75	<1.18	<1.96	<1.96	7.73	<RDL
SB-3	12/9/2018	25	10.9	9.49	<1.97	<1.39	<10.2	30.1	<10.2	<1.64	<6.15	59.5	<2.75	<1.18	<1.96	<1.96	9.00	<RDL
SB-3	12/9/2018	35	16.3	12.1	<1.97	<1.39	<10.2	33.9	<10.2	2.75	<6.15	95.2	<2.75	<1.18	2.90	<1.96	10.9	<RDL
SB-3	12/9/2018	45	16.6	15.5	<1.97	<1.39	<10.2	20.8	<10.2	2.01	<6.15	168	<2.75	<1.18	<1.96	<1.96	16.2	<RDL
SB-3	12/9/2018	55	16.7	20.5	<1.97	<1.39	<10.2	42.5	<10.2	2.97	<6.15	309	<2.75	<1.18	<1.96	<1.96	27.4	<RDL
SB-3	12/9/2018	65	16.5	11.8	<1.97	<1.39	<10.2	18.6	<10.2	2.97	<6.15	85.2	<2.75	<1.18	<1.96	<1.96	21.1	<RDL
SB-3	12/9/2018	75	22.4	28.7	<1.97	3.16	<10.2	33.8	<10.2	<1.64	16.2	216	<2.75	<1.18	<1.96	<1.96	40.5	<RDL
SB-3	12/9/2018	85	14.0	13.0	<1.97	4.17	<10.2	18.0	<10.2	<1.64	16.9	38.1	<b>48.8</b>	<1.18	<1.96	<1.96	54.5	<RDL
<u>Comparison Values:</u>																		
RSL			1,800	3,100	--	1,200	130	22,000	13,000	13,000	880	13,000	0.21	--	260	260	--	Various
Attenuated Soil Gas			60,000	103,333	--	40,000	4,333	733,333	433,333	433,333	29,333	433,333	7	--	8,667	8,667	--	Various
Industrial																		

Notes:

µg/m³	micrograms per cubic meter	VOCs	Volatile organic compounds
<RDL	less than the laboratory reported detection limit	TMB	Trimethylbenzene
--	No established comparison value	TMP	Trimethylpentane
bgs	below ground surface	MEK	Methyl ethyl ketone
N/A	not applicable	MIBK	4-Methyl-2-pentanone
<b>15.7</b>	Exceeds the applicable comparison value	TCA	Trichloroethane

Comparison Values:

US EPA RSL Based on United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs) for Industrial Air, with a target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0, dated November 2018, and using attenuation factor 0.03 in accordance with EPA guidelines (OSWER publication 9200.0-154, dated June 2015).

**TABLE 2: Three-Phase Partitioning Equations  
Soil Gas to Soil Concentration Conversion  
742 East Glendale Avenue, Phoenix, Arizona 85020**

COPC	Sample ID	Depth (feet bgs)	Maximum Concentration in Soil Gas		Calculated COPC Concentration in Soil		Comparison Values				
			µg/m <sup>3</sup>	µg/L	µg/kg	mg/kg	1E-06-SRL mg/kg	1E-05-SRL mg/kg	r- SRL mg/kg	nr-SRL mg/kg	GPL mg/kg
PCE	SS-2	5	8,340	8.34	23.22	0.023217	0.51	5.1	NE	13	0.80
TCE	SV-1	5	13.3	0.013	0.037	0.000037	3.0	30	17	65	0.76
Acetone	SS-1	0.5	2,630	2.630	7.321	0.007321	NE	NE	14,000	54,000	NE
Benzene	SV-1	5	11.4	0.011	0.032	0.000032	0.65	NE	NE	1.4	0.70
Benzyl chloride	All	NA	<2.08	<0.002	<0.006	<0.00001	0.92	9.2	NE	22	NE
Bromodichloromethane	All	NA	<2.68	<0.003	<0.007	<0.00001	0.83	8.3	NE	18	NE
Bromoform	All	NA	<12.4	<0.012	<0.035	<0.00003	69	690	NE	2,200	NE
Bromomethane	All	NA	<1.55	<0.002	<0.004	<0.000004	NA	NA	3.9	13	NE
1,3-Butadiene	SB-3	55	33.6	0.034	0.094	0.000094	0.058	0.58	NE	1.2	NE
Carbon disulfide	SB-3	15	2.42	0.002	0.007	0.000007	NA	NE	360	720	NE
Carbon tetrachloride	All	NA	<2.52	<0.003	<0.007	<0.00001	0.25	2.5	2.2	5.5	0.95
Chlorobenzene	All	NA	<1.85	<0.002	<0.005	<0.00001	NE	NE	150	530	16.5
Chloroethane	SS-1	0.5	3.15	0.003	0.009	0.000009	3.0	30	NE	65	NE
Chloroform	SB-3	75	14.6	0.015	0.041	0.000041	0.94	9.4	NE	20	6.8
Chloromethane	SB-3	25	1.87	0.002	0.005	0.000005	NE	NE	48	160	NE
2-Chlorotoluene	All	NA	<2.06	<0.002	<0.006	<0.00001	NE	NE	160	510	NE
Cyclohexane	SB-3	75	5.67	0.006	0.016	0.000016	NE	NE	140	140	NE
Dibromochloromethane	All	NA	<3.40	<0.003	<0.009	<0.00001	1.1	11	NE	26	NE
1,2-Dibromoethane	All	NA	<3.08	<0.003	<0.009	<0.00001	0.029	0.29	NE	0.63	NE
1,2-Dichlorobenzene	All	NA	<2.40	<0.002	<0.007	<0.00001	NE	NE	600	600	116
1,3-Dichlorobenzene	All	NA	<2.40	<0.002	<0.007	<0.00001	NE	NE	530	600	NE
1,4-Dichlorobenzene	All	NA	<2.40	<0.002	<0.007	<0.00001	3.5	35	NE	79	27
1,2-Dichloroethane	All	NA	<1.62	<0.002	<0.005	<0.000005	0.28	2.8	NE	6.0	0.23
1,1-Dichloroethane	All	NA	<1.60	<0.002	<0.004	<0.000004	NE	NE	510	1,700	NE
1,1-Dichloroethene	All	NA	<1.59	<0.002	<0.004	<0.000004	NE	NE	120	410	0.85
cis-1,2-Dichloroethene	All	NA	<1.59	<0.002	<0.004	<0.000004	NE	NE	43	150	5.3
trans-1,2-Dichloroethene	All	NA	<1.59	<0.002	<0.004	<0.000004	NE	NE	69	230	9.2
1,2-Dichloropropane	All	NA	<1.85	<0.002	<0.005	<0.00001	0.34	3.4	NE	7.4	0.36
1,4-Dioxane	All	NA	<1.44	<0.001	<0.004	<0.000004	50	500	NE	1,600	NE
Ethylbenzene	SV-2	5	14.0	0.014	0.039	0.000039	NE	NE	400	400	82
Isopropylbenzene	All	NA	<1.97	<0.002	<0.005	<0.000005	NE	NE	92	92	NE
Trichlorofluoromethane	SV-2	5	35.8	0.036	0.100	0.000100	NE	NE	390	1,300	NE
Dichlorodifluoromethane	SV-1	5	61.6	0.062	0.171	0.000171	NE	NE	94	310	NE
n-Hexane	SB-3	75	28.7	0.029	0.080	0.000080	NE	NE	110	110	NE
Methylene Chloride	SS-2	0.5	8.21	0.008	0.023	0.000023	9.3	93	NE	210	NE
2-Butanone (MEK)	SS-1	0.5	207	0.207	0.576	0.000576	NE	NE	23,000	34,000	NE
4-Methyl-2-pentanone (MIBK)	SS-1	0.5	34.2	0.034	0.095	0.000095	NE	NE	5,300	17,000	NE
Methyl methacrylate	SB-3	65	2.97	0.003	0.008	0.000008	NE	NE	2,200	2,700	NE
MTBE	All	NA	<1.44	<0.001	<0.004	<0.000004	32	320	NE	710	NE
Naphthalene	All	NA	<6.60	<0.007	<0.018	<0.00002	NE	NE	56	190	NE
Styrene	All	NA	<1.70	<0.002	<0.005	<0.000005	NE	NE	1,500	1,500	45
1,1,2,2-Tetrachloroethane	SB-3	85	48.8	0.049	0.136	0.000136	0.42	4.2	NE	9.3	NE
Tetrahydrofuran	SB-3	5	155	0.155	0.431	0.000431	9.5	95	NE	210	NE
Toluene	SS-2	0.5	55.2	0.055	0.154	0.000154	NE	NE	650	650	159
1,2,4-Trichlorobenzene	All	NA	<9.33	<0.009	<0.026	<0.00003	NE	NE	62	220	NE
1,1,1-Trichloroethane	All	NA	<2.18	<0.002	<0.006	<0.00001	NE	NE	1,200	1,200	0.94



**TABLE 2: Three-Phase Partitioning Equations  
Soil Gas to Soil Concentration Conversion  
742 East Glendale Avenue, Phoenix, Arizona 85020**

COPC	Sample ID	Depth (feet bgs)	Maximum Concentration in Soil Gas		Calculated COPC Concentration in Soil		Comparison Values				
			$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{L}$	$\mu\text{g}/\text{kg}$	$\text{mg}/\text{kg}$	1E-06-SRL $\text{mg}/\text{kg}$	1E-05-SRL $\text{mg}/\text{kg}$	r- SRL $\text{mg}/\text{kg}$	nr-SRL $\text{mg}/\text{kg}$	GPL $\text{mg}/\text{kg}$
1,1,2-Trichloroethane	All	NA	<2.18	<0.002	<0.006	<0.00001	0.74	7.4	NE	16	NE
1,2,4-Trimethylbenzene	SV-2	5	22.3	0.022	0.062	0.000062	NE	NE	52	170	NE
1,3,5-Trimethylbenzene	SV-2	5	5.54	0.006	0.015	0.000015	NE	NE	21	70	NE
Vinyl chloride	All	NA	<1.02	<0.001	<0.003	<0.000003	0.085	NE	NE	0.75	NE
Vinyl bromide	All	NA	<1.75	<0.002	<0.005	<0.000005	0.19	1.9	NE	4.2	NE
Vinyl acetate	All	NA	<1.41	<0.001	<0.004	<0.000004	NE	NE	430	1,400	NE
Total xylenes	SV-2	5	63.6	0.064	0.177	0.000177	NE	NE	270	420	31

**Notes:**

COPC	Compound of potential concern	bgs	below ground surface	$\mu\text{g}/\text{l}$	micrograms per liter
PCE	Tetrachloroethene	NA	Not Applicable	$\mu\text{g}/\text{kg}$	micrograms per kilograms
TCE	Trichloroethene	NE	Not Established	$\text{mg}/\text{kg}$	milligrams per kilograms
MTBE	Methyl-tertiary-butyl-ether	$\mu\text{g}/\text{m}^3$	micrograms per cubic meter		
0.023217	does not exceed the 1E-06-SRL protective of sensitive receptors such as schools and daycare facilities, when established				

**Comparison Values:**

1E-06-SRL	Arizona Department of Environmental Quality (ADEQ) Residential Soil Remediation Level (SRL), 1E-06 Risk for Carcinogens, protective of schools and daycare facilities, 2009
1E-05-SRL	Arizona Department of Environmental Quality (ADEQ) Residential Soil Remediation Level (SRL), 1E-05 Risk for Carcinogens, protective of residential, 2009
r-SRL	Arizona Department of Environmental Quality (ADEQ) Residential Soil Remediation Level (SRL), 2009
nr-SRL	Arizona Department of Environmental Quality (ADEQ) Non-Residential Soil Remediation Level (SRL), 2009
GPL	Arizona Department of Environmental Quality (ADEQ) Minimum Groundwater Protection Level (GPL) from 2007 Spreadsheet Minimum GPL.

**TABLE 3: GROUNDWATER SAMPLE DATA SUMMARY**  
**742 East Glendale Avenue, Phoenix, Arizona**

	Location ID Date Units	SB1-GW-B 11/28/2018	SB2-GW-B 12/4/2018	SB3-GW 12/12/2018	Comparison Value AWQS (µg/L)
PCE	(µg/L)	ND<1.00	ND<1.00	ND<1.00	5.0
TCE	(µg/L)	ND<1.00	ND<1.00	ND<1.00	5.0
cis-1,2-DCE	(µg/L)	ND<1.00	ND<1.00	ND<1.00	70
trans-1,2-DCE	(µg/L)	ND<1.00	ND<1.00	ND<1.00	100
1,1-DCE	(µg/L)	ND<1.00	ND<1.00	ND<1.00	7.0
1,1,2-Trichloroethane	(µg/L)	ND<1.00	ND<1.00	ND<1.00	5.0
Vinyl Chloride	(µg/L)	ND<1.00	ND<1.00	ND<1.00	2.0
Benzene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	5.0
Bromodichloromethane	(µg/L)	ND<1.00	ND<1.00	ND<1.00	a
Bromoform	(µg/L)	ND<1.00	ND<1.00	ND<1.00	a
Chloroform	(µg/L)	ND<5.00	ND<5.00	ND<5.00	a
Dibromochloromethane	(µg/L)	ND<5.00	ND<5.00	ND<5.00	a
Bromomethane	(µg/L)	ND<5.00	ND<5.00	ND<5.00	9.8
Carbon tetrachloride	(µg/L)	ND<1.00	ND<1.00	ND<1.00	5.0
Chlorobenzene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	100
1,2-Dibromo-3-chloropropane	(µg/L)	ND<5.00	ND<5.00	ND<5.00	0.2
1,2-Dibromoethane	(µg/L)	ND<1.00	ND<1.00	ND<1.00	0.05
1,2-Dichlorobenzene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	600
1,4-Dichlorobenzene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	75
1,2-Dichloroethane	(µg/L)	ND<1.00	ND<1.00	ND<1.00	5.0
1,1-Dichloroethene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	7.0
1,2-cis-Dichloroethene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	70
1,2-trans-Dichloroethene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	100
1,2-Dichloropropane	(µg/L)	ND<1.00	ND<1.00	ND<1.00	5.0
1,3-Dichloropropane	(µg/L)	ND<1.00	ND<1.00	ND<1.00	0.7
Ethylbenzene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	700
Methylene Chloride	(µg/L)	10.4	ND<5.00	ND<5.00	5.0
MTBE	(µg/L)	ND<1.00	1.08	ND<1.00	20*
Naphthalene	(µg/L)	ND<5.00	ND<5.00	ND<5.00	140
Styrene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	100
Toluene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	1,000
1,2,4-Trichlorobenzene	(µg/L)	ND<1.00	ND<1.00	ND<1.00	70
1,1,1-Trichloroethane	(µg/L)	ND<1.00	ND<1.00	ND<1.00	200
1,1,2-Trichloroethane	(µg/L)	ND<1.00	ND<1.00	ND<1.00	5.0
Total xylenes	(µg/L)	ND<3.00	ND<3.00	ND<3.00	10,000

Notes:

µg/L	micrograms per liter
<RDL	less than the laboratory reported detection limit
DCE	dichloroethene
PCE	tetrachloroethene
TCE	trichloroethene
MTBE	methyl tert-butyl ether
VOCs	volatile organic compounds
a	The total trihalomethane (TTHM) standard is exceeded when the sum of these four compounds exceeds 80 µg/L, as a rolling annual average.
*	ADEQ guidance level, not AWQS.

Comparison Values:

AWQS	Arizona Department of Environmental Quality (ADEQ) aquifer water quality standard (AWQS); 2016
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**TABLE 4: INDOOR AIR SAMPLE DATA SUMMARY**  
**742 East Glendale Avenue, Phoenix, Arizona**

Location ID	Date	PCE (µg/m <sup>3</sup> )	TCE (µg/m <sup>3</sup> )	1,1-DCE (µg/m <sup>3</sup> )	Cis- 1,2-DCE (µg/m <sup>3</sup> )	Trans- 1,2-DCE (µg/m <sup>3</sup> )	VC (µg/m <sup>3</sup> )
<b>Suite 170 - AEI June 2019</b>							
MV-170-C	6/14/2019	<1.36	<1.07	<0.793	<0.793	<0.793	<0.511
MV-170-N	6/14/2019	<1.36	<1.07	<0.793	<0.793	<0.793	<0.511
MV-OC (Exterior)	6/14/2019	4.11	<1.07	<0.793	<0.793	<0.793	<0.511
<b>Suite 170 - Matrix March 2019</b>							
V1 (Suite 170)	2/5/2019	<170	<130	<200	<98.0	<98.0	<18.0
<b>Suites 172, 180, and 182 - Matrix March 2019</b>							
OR1 (Suite 172)	2/5/2019	<48.0	<38.0	<56.0	<28.0	<28.0	<18.0
ORB1 (Exterior Rooftop)	2/5/2019	<2.70	<2.10	<3.20	<1.60	<1.60	<1.00
A1 (Suites 180 and 182)	2/5/2019	2.90	<2.10	<3.20	<1.60	<1.60	<1.00
A2 (Suites 180 and 182)	2/5/2019	2.80	<2.10	<3.20	<1.60	<1.60	<1.00
A3 (Suites 180 and 182)	2/5/2019	3.00	<2.10	<3.20	<1.60	<1.60	<1.00
A4B (Exterior Rooftop)	2/5/2019	<2.70	<2.10	<3.20	<1.60	<1.60	<1.00
<b>Comparison Values:</b>							
RSL		47	3.0	880	--	--	2.8

**Notes:**

µg/m <sup>3</sup>	micrograms per cubic meter	PCE	Tetrachloroethene
<RDL	less than the laboratory reported detection limit	TCE	Trichloroethene
--	No established comparison value	DCE	Dichloroethene
Matrix	Matrix New World Engineering	Cis-1,2-DCE	cis-1,2-Dichloroethene
		Trans-1,2-DCE	trans-1,2-Dichloroethene
		VC	Vinyl Chloride

**Comparison Values:**

RSL Based on Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for Industrial Air, with a target cancer risk (TR) of 1E-06 and target hazard quotient (THQ) of 1.0, dated April 2019.

**TABLE 5 - COMPOUNDS FOR NFA REQUEST**  
**742 East Glendale Avenue, Phoenix, Arizona 85020**  
**VRP SITE CODE: 513219-00**

List for GW NFA:

PCE	Bromomethane	Ethylbenzene
TCE	Carbon tetrachloride	MTBE
cis-1,2-DCE	Chlorobenzene	Napthalene
trans-1,2-DCE	1,2-Dibromomethane	Styrene
1,1-DCE	1,2-Dichlorobenzene	Toluene
1,1,2-Trichloroethane	1,4-Dichlorobenzene	1,2,4-Trichlorobenzene
Vinyl Chloride	1,2-Dichloroethane	1,1,1-Trichloroethane
Benzene	1,1-Dichloroethene	1,1,2-Trichloroethane
Bromodichloromethane	1,2-cis-Dichloroethene	Total xylenes
Bromoform	1,2-trans-Dichloroethene	
Chloroform	1,2-Dichloropropane	
Dibromochloromethane	1,3-Dichloropropane	

List for Soil NFA:

PCE	1,2-Dibromoethane	4-Methyl-2-pentanone (MIBK)
TCE	1,2-Dichlorobenzene	Methyl methacrylate
Acetone	1,3-Dichlorobenzene	MTBE
Benzene	1,4-Dichlorobenzene	Napthalene
Benzyl chloride	1,2-Dichloroethane	Styrene
Bromodichloromethane	1,1-Dichloroethane (DCA)	1,1,2,2-Tetrachloroethane
Bromoform	1,1-Dichloroethene (DCE)	Tetrahydrofuran
Bromomethane	cis-1,2-Dichloroethene	Toluene
1,3-Butadiene	trans-1,2-Dichloroethene	1,2,4-Trichlorobenzene
Carbon disulfide	1,2-Dichloropropane	1,1,1-Trichloroethane
Carbon tetrachloride	1,4-Dioxane	1,1,2-Trichloroethane
Chlorobenzene	Ethylbenzene	1,2,4-Trimethylbenzene
Chloroethane	Isopropylbenzene	1,3,5-Trimethylbenzene
Chloroform	Trichlorofluoromethane	Vinyl chloride
Chloromethane	Dichlorodifluoromethane	Vinyl bromide
2-Chlorotoluene	n-Hexane	Vinyl acetate
Cyclohexane	Methylene Chloride	Total xylenes
Dibromochloromethane	2-Butanone (MEK)	

**ATTACHMENT A**  
**DRAFT PUBLIC NOTICE**

**Notice of 30-Day Public Comment Period  
Madison Village Voluntary Remediation Program  
Request for No Further Action Determination**

AEI Consultants (AEI), on behalf of Weingarten Realty Investors (WRI), has submitted a request for a No Further Action (NFA) determination to the Arizona Department of Environmental Quality (ADEQ) Voluntary Remediation Program (VRP) for a portion of the Madison Village Shopping Center located at 742 East Glendale Avenue, in Phoenix, Arizona (VRP Site Code #513219-00). The NFA requests closure for soil and groundwater at the site and was submitted in accordance with Arizona Revised Statutes § 49-181(A).

Madison Village Shopping Center is located at 742 East Glendale Avenue, in Phoenix, Arizona. AEI conducted a subsurface investigation in November and December of 2018. Low-level detections of tetrachloroethene (PCE) and trichloroethene (TCE), dry cleaning solvents, were observed in soil gas samples collected as part of investigative activities regarding a former dry cleaning facility at the Madison Village Shopping Center. The concentrations of PCE, TCE, and other solvent-related volatile organic compounds in soil do not exceed the soil regulatory levels prescribed in the Arizona Administrative Code in any concentration detected. The six VOCs typically associated with dry cleaner chemicals, including PCE and TCE, were not detected at concentrations exceeding their respective laboratory reported detection limits in the three groundwater samples collected and analyzed. Indoor air samples confirm there is no observed risk to the current tenants of the commercial facility resulting from the former dry cleaning operations.

The NFA Report is available online at: <http://azdeq.gov/notices>, and at the ADEQ Records Center, 1110 W. Washington St., Phoenix, (602) 771-4380, or (800) 234-5677, ext. 6027714380; please call for hours of operation and to schedule an appointment.

PARTIES WISHING TO SUBMIT WRITTEN COMMENTS regarding the NFA request for the Madison Village Shopping Center site may do so through the following contacts:

Arizona Department of Environmental Quality  
Attention: Joey Pace, Voluntary Remediation Program  
[Pace.Joey@azdeq.gov](mailto:Pace.Joey@azdeq.gov)  
1110 W. Washington Street  
Phoenix, AZ 85007; or,

Madison Village Shopping Center  
Attention: Jacqueline Day  
[jday@aeiconsultants.com](mailto:jday@aeiconsultants.com)  
AEI Consultants  
2500 Camino Diablo  
Walnut Creek, California 94597

**Comments must be postmarked or received by ADEQ or AEI Consultants by Monday, July 15, 2019.**

**Dated this 15 day of August 2019**