

CITY OF HOUSTON



**PUBLIC WORKS AND
ENGINEERING
PLANNING & DEVELOPMENT
DIVISION**

EXECUTIVE SUMMARY

The designated property (also referred to as the “Site”) is located in Houston, Harris County, Texas. The property address is 3131 Argonne Street, Houston, Texas 77098 and consists of approximately 0.49 acres of commercial land. The designated property is surrounded by both commercial facilities (parking lots, retail stores, restaurants) and residential areas. To the north, east, and west of the designated property, there have been numerous commercial operations since the 1940’s, including automotive repair facilities, a service station, and manufacturing facilities. A former structure, known as the Kettle Offices building, was located on the southern half of the designated property. Based on historical aerial photographs, the Kettle Offices building was constructed sometime after 1979 but prior to 1986. The Kettle Offices building was demolished in 2003. Prior to the Kettle Offices building, other commercial structures have occupied the site. Based on a historical review of the city directory, Fann Instrument Corporation maintained a manufacturing facility at the site in 1968. The designated property was not developed prior to 1944 based on the historical aerial photography review. Currently, the designated property is paved with asphalt and used as a restaurant parking lot.

Previous environmental investigation activities have identified chemicals of concern (COCs) in the soils and groundwater above the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) residential protective concentration levels (PCL) for ingestion of groundwater at the designated property. Based on environmental sampling, the groundwater contaminant plume appears to be stable and no contributing source has been identified. The affected groundwater is on average 35 feet below ground surface (ft bgs). Based on historical groundwater level measurements, the groundwater gradient beneath the site is relatively flat, but appears to be seasonally influenced as indicated by the varying flow patterns observed (northwest, southeast, and converging).

The COCs in the shallow groundwater-bearing unit identified with protective concentration level exceedance (PCLE) zones above TCEQ Tier 1 TRRP residential assessment levels include tetrachloroethene (PCE), trichloroethene (TCE), 1,2-dichloroethane (1,2-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). The COCs in soils at the site identified with PCLE zones above TCEQ Tier I TRRP residential assessment levels include PCE, TCE, 1,2-DCA, cis-1,2-DCE, 1,1-dichloroethene (1,1-DCE) and VC. ***By implementing a Municipal Settings Designation (MSD), groundwater and soil analytical results will not exceed the TRRP residential non-ingestion PCLs.***

CITY OF HOUSTON



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EXECUTIVE SUMMARY (cont.)

There are no municipalities within a ½-mile radius of the property other than the City of Houston. In addition to the City of Houston, the City of West University, the City of Bellaire, and the City of Southside Place are within a 5-mile radius of the site.

Since environmental investigations began in 2003, the Site, which is used as a parking lot, has been repaved with asphalt. In addition, although residual COCs were detected in the soils at the site above the residential ingestion PCLs during investigations conducted in 2003 and 2004, a physical barrier consisting of several layers of surface cover (concrete and asphalt) over the remaining affected soil effectively eliminate any threat to human health and the environment.

The applicant's current plan for the site is to obtain closure for groundwater issues through the TCEQ Voluntary Cleanup Program (VCP) after obtaining the MSD with the City of Houston and TCEQ. Affected groundwater is confined vertically to the shallow groundwater-bearing unit and shows indications of natural attenuation based on the presence of degradation compounds in the downgradient direction.

Appendix B

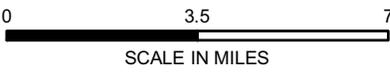
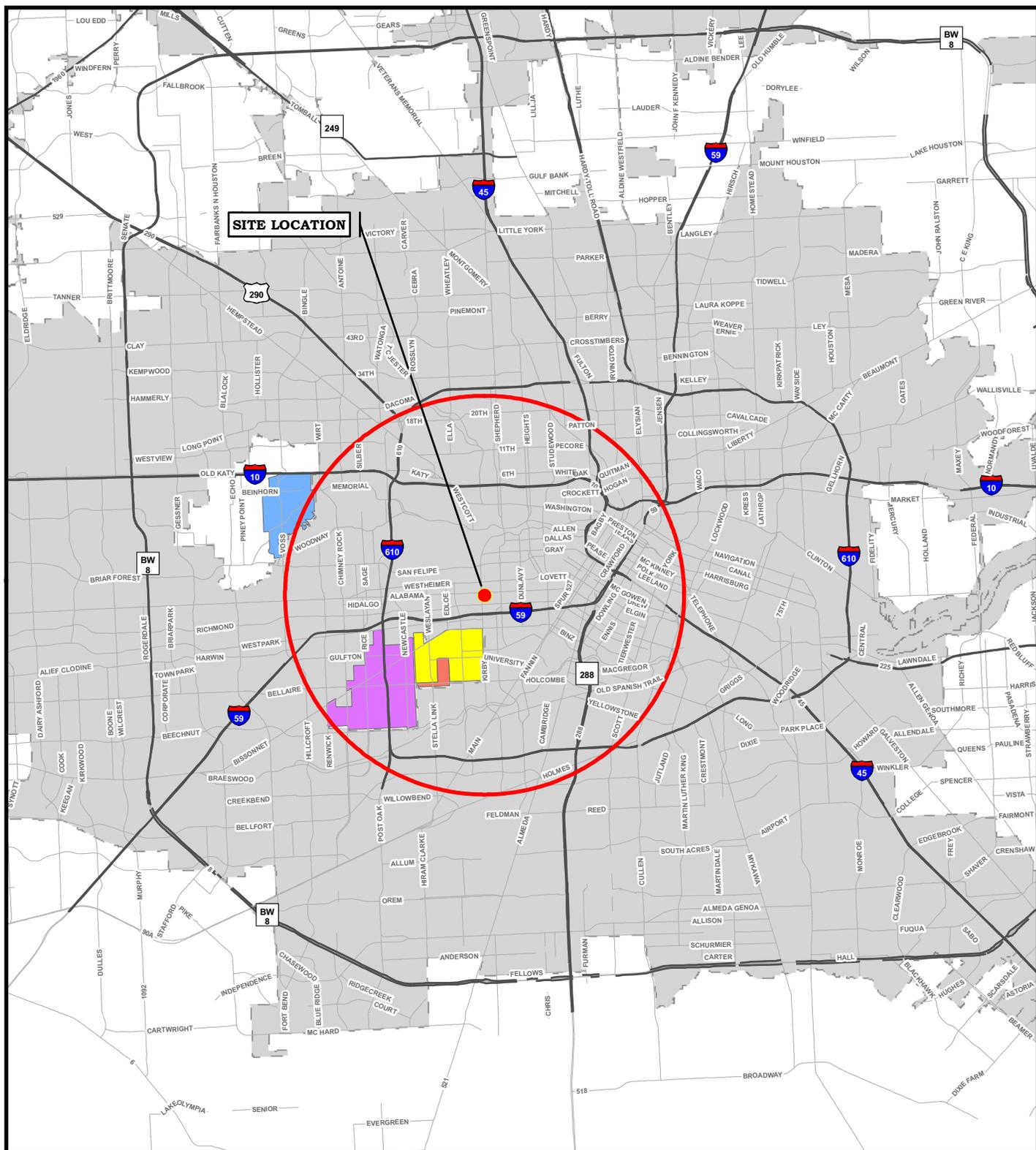
(TCEQ MSD Reference No. 1,2,& 4)

A site map showing:

- a. The location of the designated property.*
- b. The topography of the designated property as indicated on publicly available sources, which must note the watershed and whether the designated property is located in a floodplain or floodway, as those terms are defined in Chapter 19 of the Code.*
- c. The detected area of groundwater contamination.*
- d. The location of all soil sampling locations and all groundwater monitoring wells.*
- e. Groundwater gradients, to the extent known, and direction of groundwater flow.*
- f. The ingestion protective concentration level exceedance zone (PCLE) for each contaminant of concern, to the extent known.*

Attached Figures

- Figure 1-1: Site Location Map
- Figure 1-2: Potential Receptors Map
- Figure 2: Topography Map
- Figure 3: Detected Groundwater Contamination
- Figure 4: Monitoring Well and Boring Location Map
- Figure 5-1: Potentiometric Surface Map (August 2003)
- Figure 5-2: Potentiometric Surface Map (January 2004)
- Figure 5-3: Potentiometric Surface Map (September 2004)
- Figure 6-1: Groundwater PCLE Zone – 1,2-DCA
- Figure 6-2: Groundwater PCLE Zone – cis-1,2-DCE
- Figure 6-3: Groundwater PCLE Zone – PCE
- Figure 6-4: Groundwater PCLE Zone – TCE
- Figure 6-5: Groundwater PCLE Zone – VC
- Figure 7-1: Soil PCLE Zone - 1,2-DCA
- Figure 7-2: Soil PCLE Zone - 1,1-DCE
- Figure 7-3: Soil PCLE Zone - cis-1,2-DCE
- Figure 7-4: Soil PCLE Zone - PCE
- Figure 7-5: Soil PCLE Zone - TCE
- Figure 7-6: Soil PCLE Zone - VC



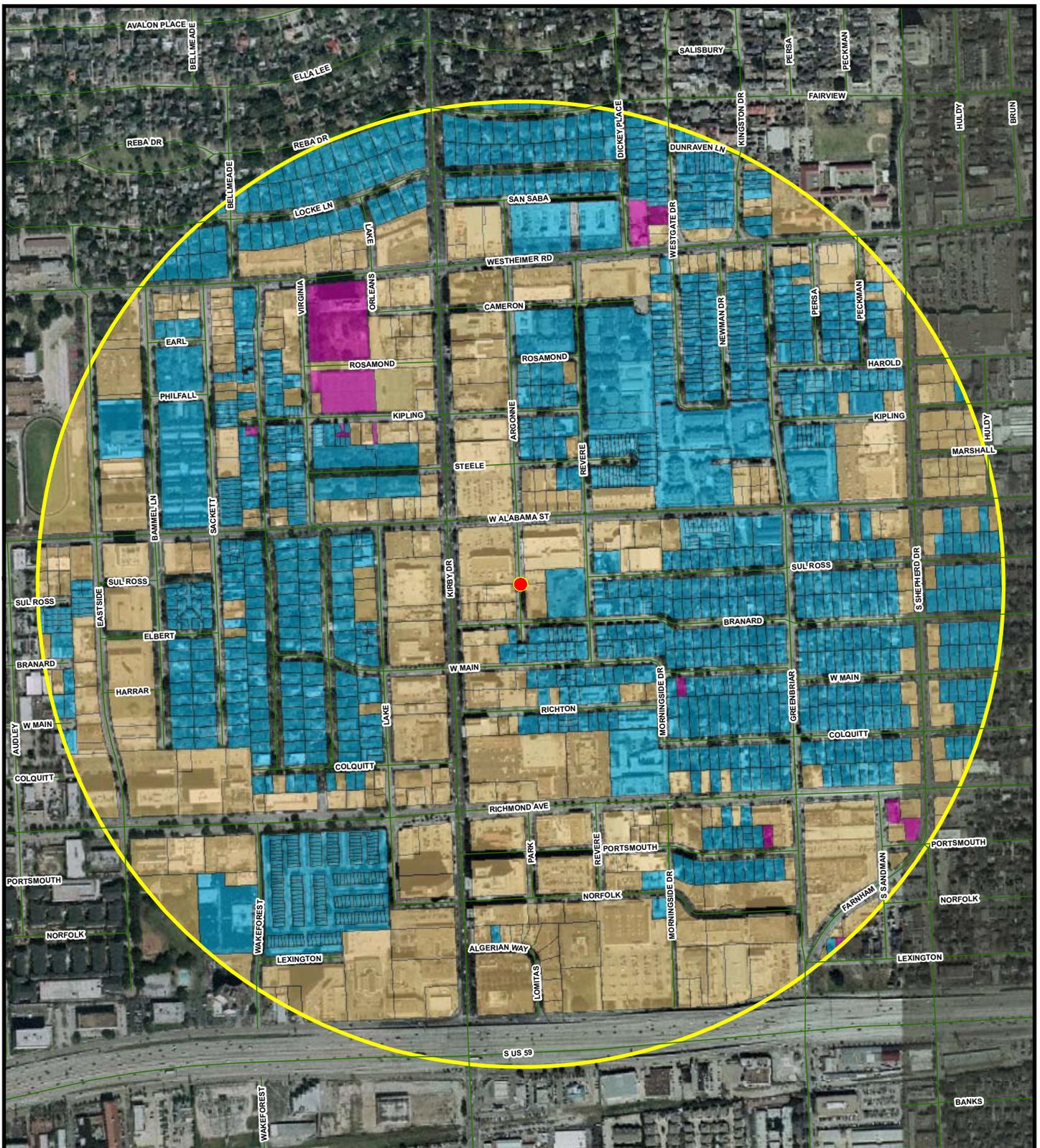
LEGEND

- SITE LOCATION
- 5 MILE RADIUS
- CITY OF HOUSTON
- CITY OF BELLAIRE
- CITY OF SOUTHSIDE PLACE
- CITY OF WEST UNIVERSITY PLACE
- CITY OF HUNTERS CREEK VILLAGE



FIGURE 1-1
SITE LOCATION MAP
MUNICIPAL SETTING DESIGNATION
D/J VENTURE PROPERTY
3131 ARGONNE STREET
HOUSTON, HARRIS COUNTY TEXAS

DATE FEB. 2008	PROJECT NO 05336.108.001.0090	SCALE AS SHOWN
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LEGEND

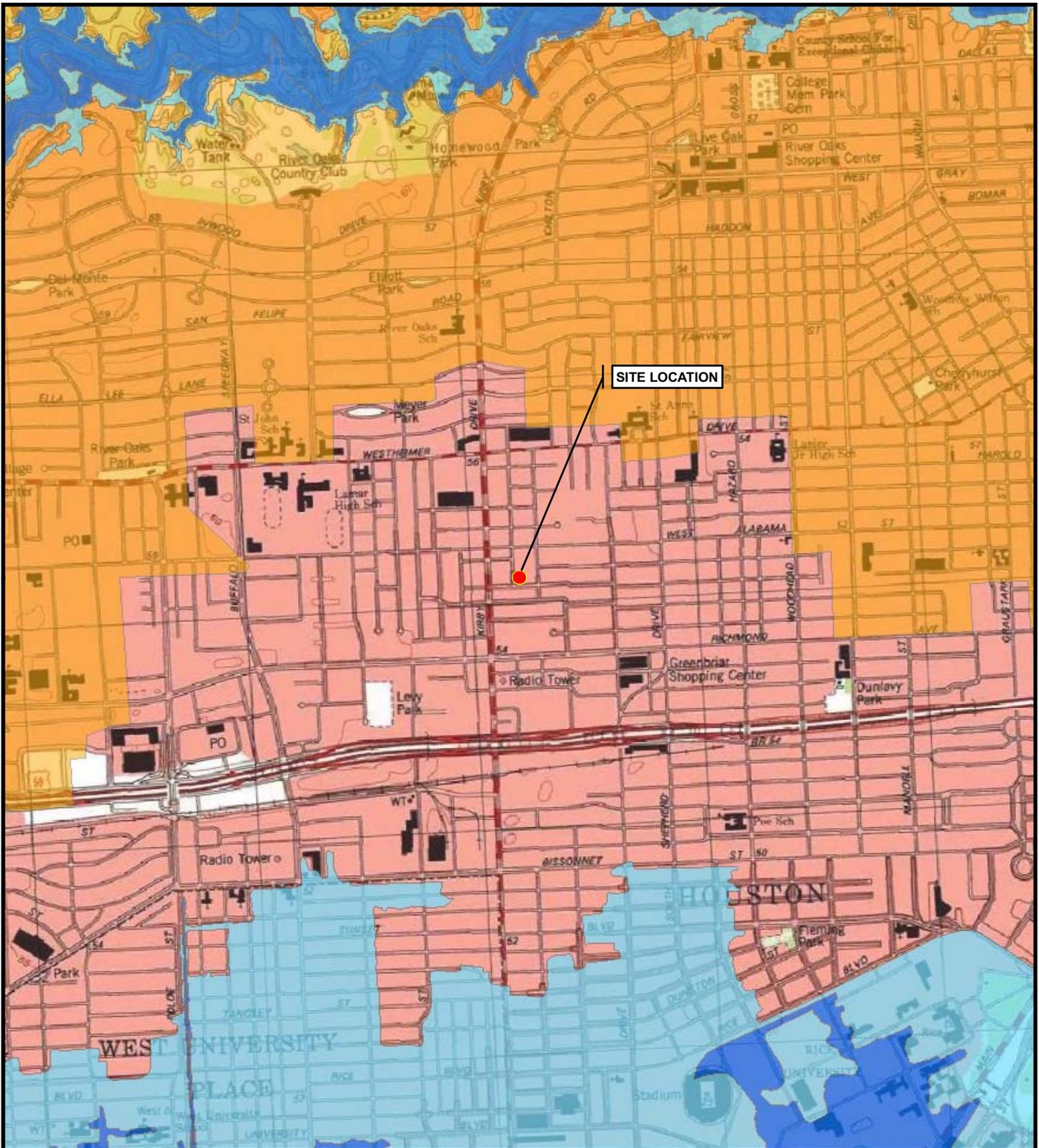
- SITE LOCATION
- 0.5 MILE RADIUS
- COMMERCIAL PROPERTIES
- RESIDENTIAL PROPERTIES
- UNKNOWN PROPERTIES



FIGURE 1-2
POTENTIAL RECEPTORS MAP
 MUNICIPAL SETTING DESIGNATION
 FULBRIGHT AND JAWORSKI, LLP
 3131 ARGONNE STREET
 HOUSTON, HARRIS COUNTY TEXAS

DATE APR. 2008	PROJECT NO 05336.108.001.0090	SCALE AS SHOWN
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SOURCE: CITY OF HOUSTON, HARRIS COUNTY APPRAISAL DISTRICT (HCAD)



LEGEND

- SITE LOCATION
- FLOOD PLAIN DATA**
- 100 YEAR FLOOD PLAIN
- 500 YEAR FLOOD PLAIN
- WATERSHED**
- BUFFALO BAYOU
- WHITE OAK BAYOU

SOURCE: USGS, FEMA/TSARP, HARRIS COUNTY ENGINEERING DIV.

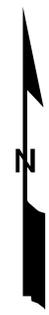
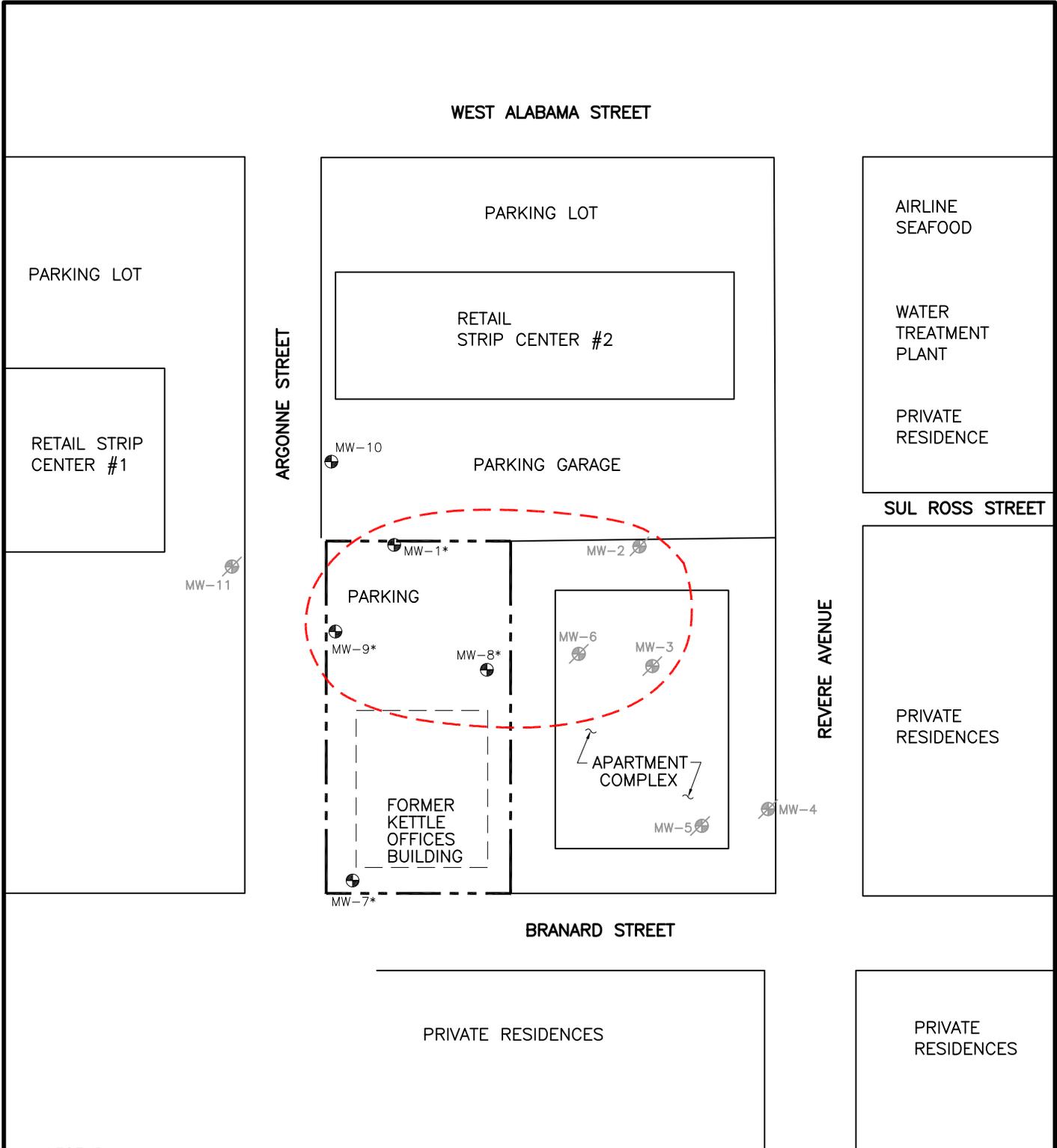


FIGURE 2
TOPOGRAPHY MAP
MUNICIPAL SETTING DESIGNATION
D/J VENTURE PROPERTY
3131 ARGONNE STREET
HOUSTON, HARRIS COUNTY TEXAS

DATE MAR. 2008	PROJECT NO 05336.108.001.0090	SCALE AS SHOWN
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LEGEND:

- MSD BOUNDARY
- - - - INFERRED GW PCLE ZONE
- MW-10 ⊕ EXISTING MONITOR WELL
- MW-5 ⊗ ABANDONED MONITOR WELL
- MW-1* ⊕ MONITOR WELL COVERED WITH ASPHALT PAVEMENT

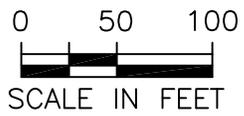
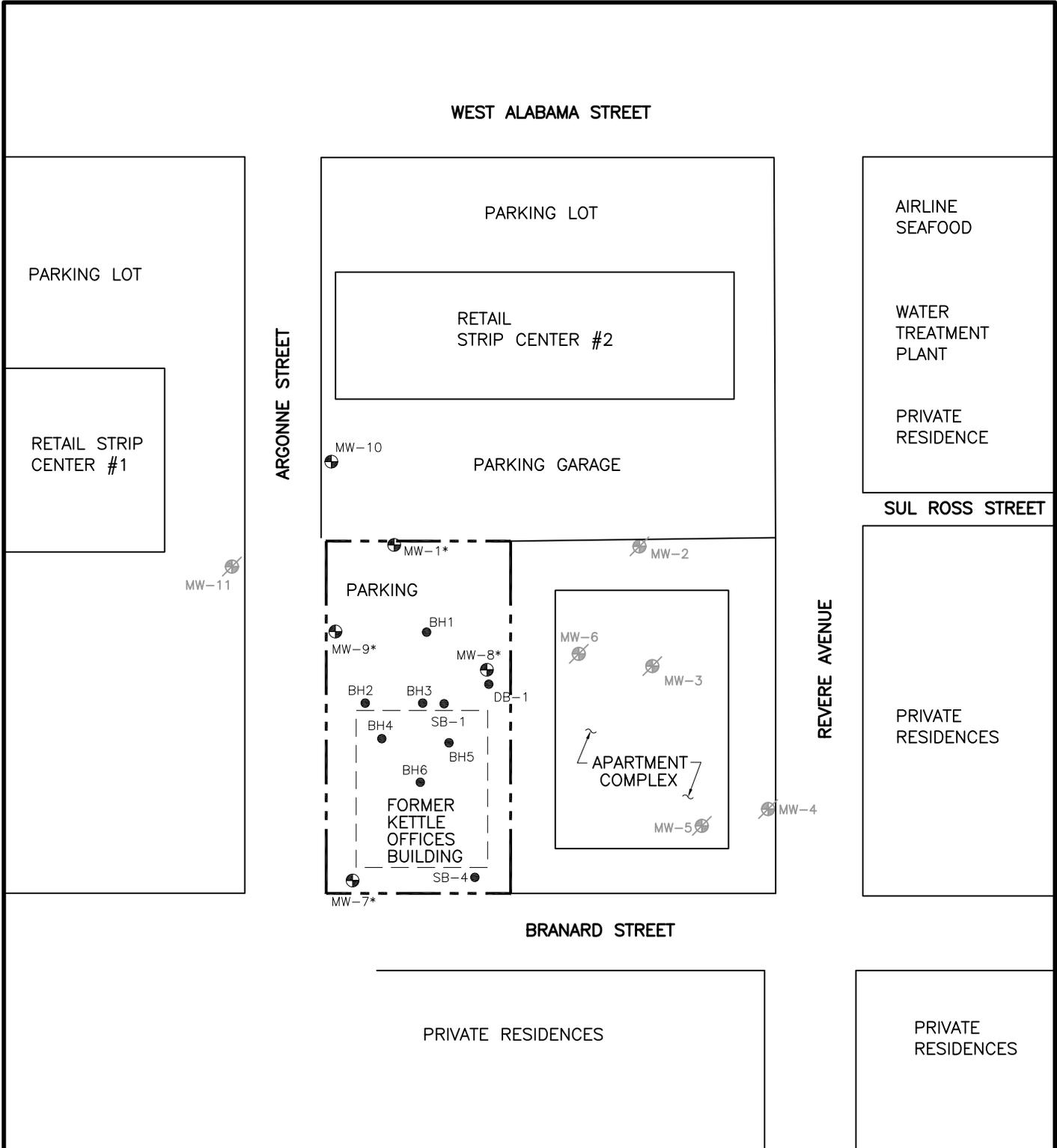




FIGURE 3
DETECTED GROUNDWATER CONTAMINATION MAP
 D/J VENTURE
 3131 ARGONNE STREET
 HOUSTON, TEXAS

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LEGEND:

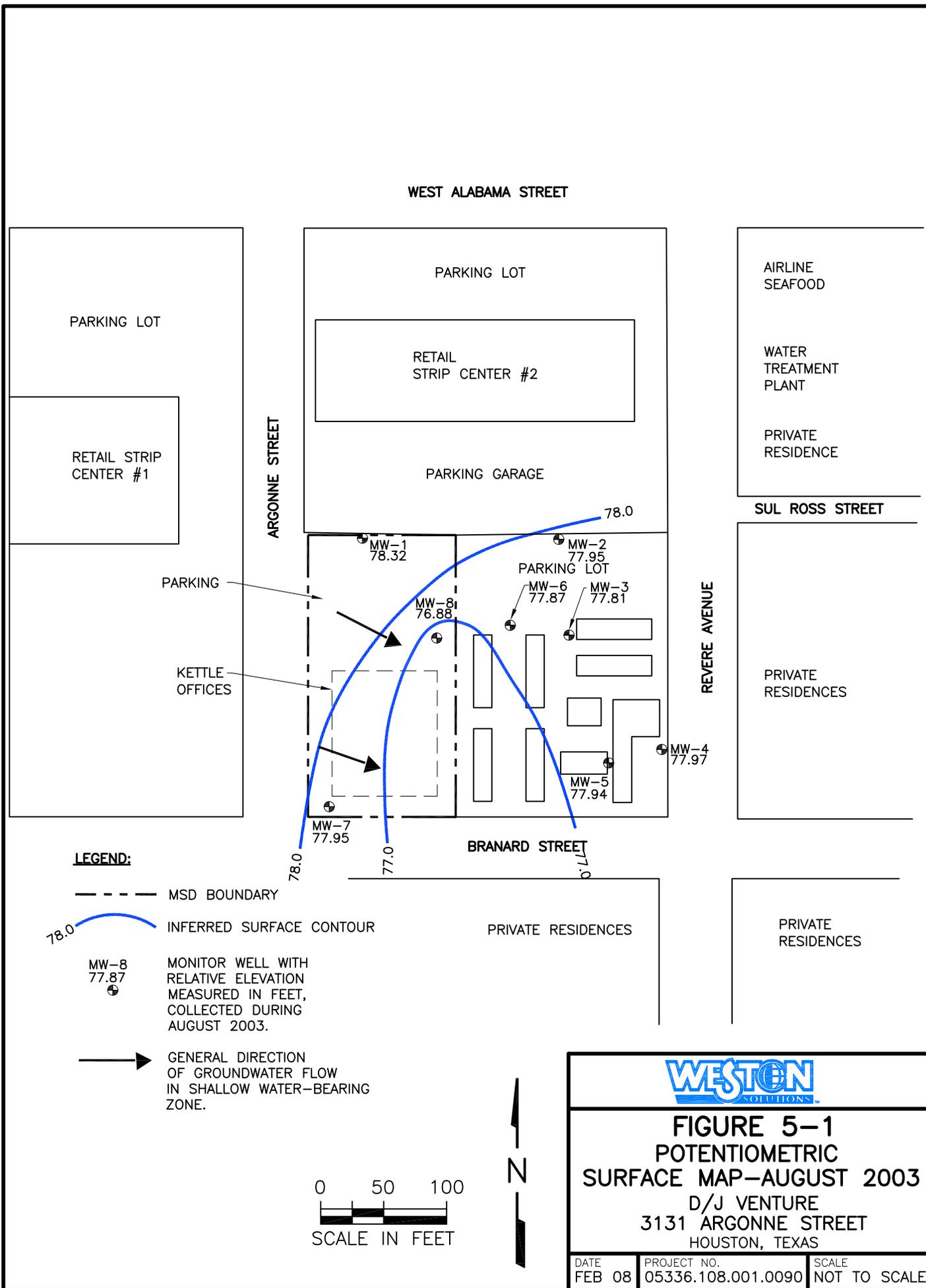
- MSD BOUNDARY
- MW-10 EXISTING MONITOR WELL
- MW-5 ABANDONED MONITOR WELL
- MW-1* MONITOR WELL COVERED WITH ASPHALT PAVEMENT
- SB-1 SOIL BORING LOCATION



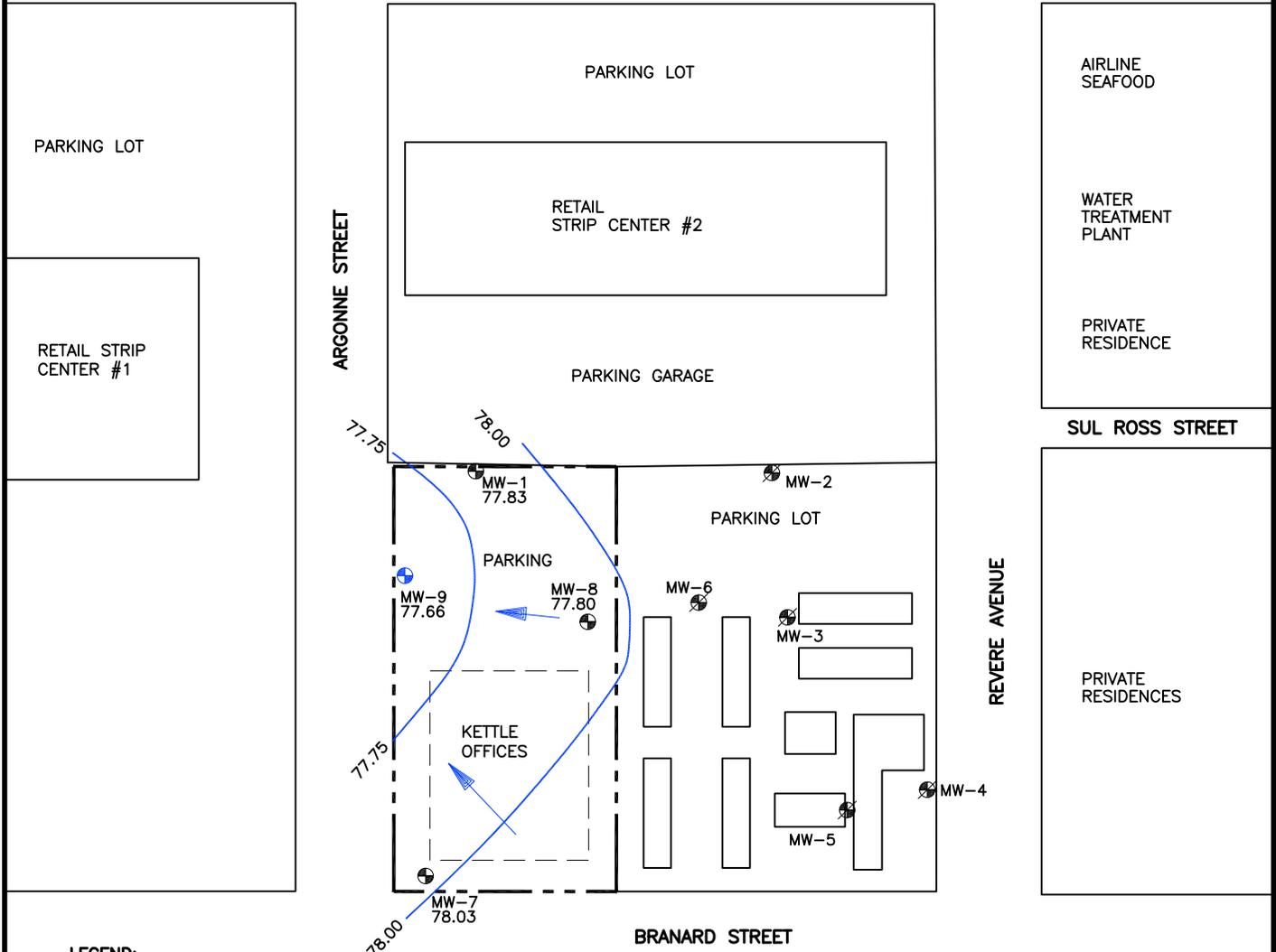


FIGURE 4
MONITOR WELL AND BORING LOCATION MAP
 D/J VENTURE
 3131 ARGONNE STREET
 HOUSTON, TEXAS

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WEST ALABAMA STREET



LEGEND:

- MSD BOUNDARY
- MW-9 77.66
 MONITOR WELL WITH RELATIVE ELEVATION MEASURED IN FEET DURING JANUARY 2004*
- MW-4
 ABANDONED MONITOR WELL
- 78.0 ——— INFERRERD SURFACE CONTOUR
- GENERAL DIRECTION OF GROUNDWATER FLOW IN SHALLOW WATER-BEARING ZONE

NOTE: *BASED ON TOP OF CASING ELEVATIONS SURVEYED BY PREJEAN & COMPANY, INC. ON 1/29/04.

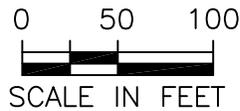
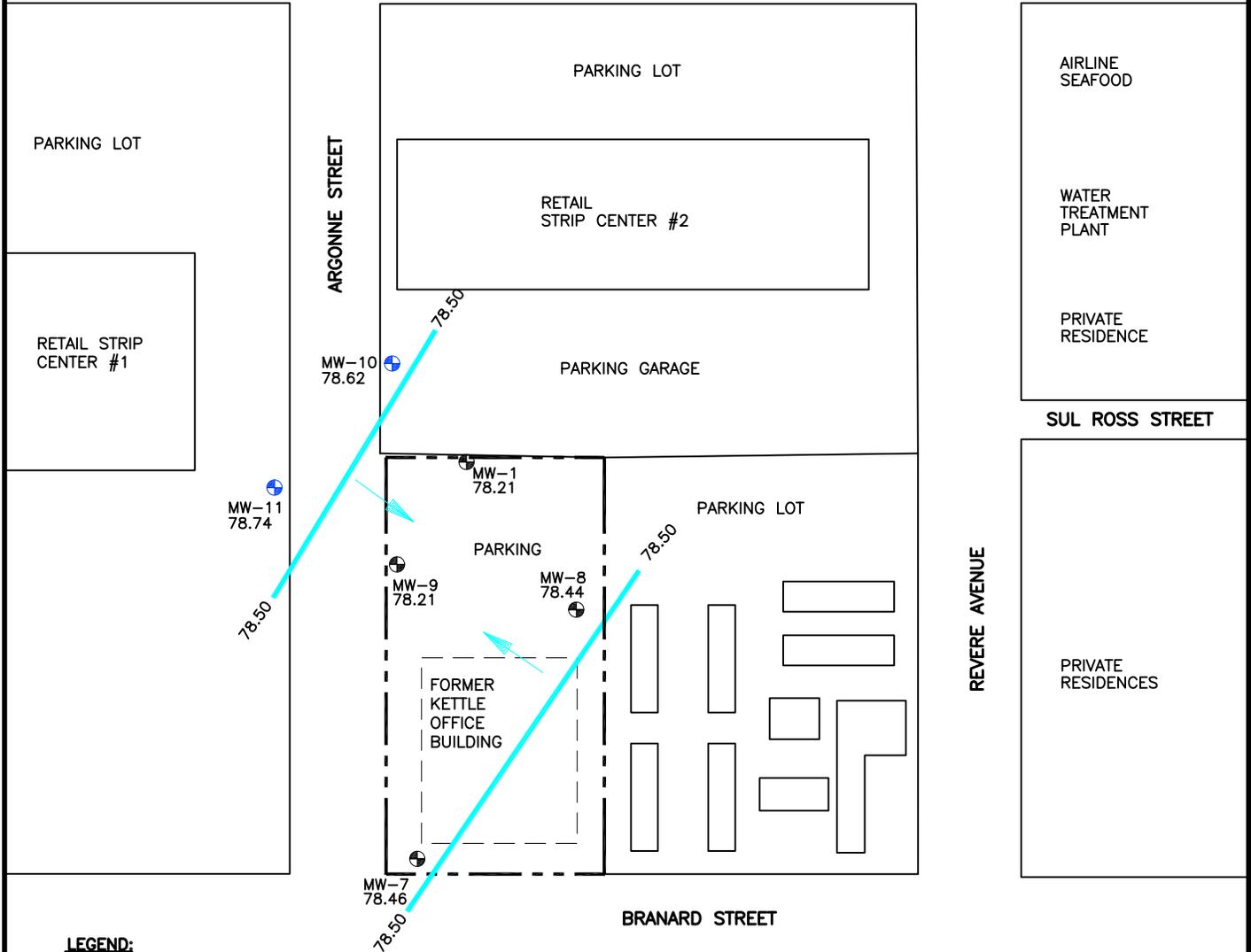


FIGURE 5-2
POTENTIOMETRIC
SURFACE MAP
JANUARY 2004
 D/J VENTURE
 3131 ARGONNE STREET
 HOUSTON, TEXAS

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WEST ALABAMA STREET



LEGEND:

- MSD BOUNDARY
- MW-9
78.21
⊕ MONITOR WELL WITH RELATIVE ELEVATION MEASURED IN FEET DURING SEPTEMBER 2004
- MW-10
78.62
⊕ NEW MONITOR WELL WITH RELATIVE ELEVATION
- 78.50 ——— INFERRED SURFACE CONTOUR
- GENERAL DIRECTION OF GROUNDWATER FLOW IN SHALLOW WATER-BEARING ZONE

NOTE: BASED ON TOP OF CASING ELEVATIONS SURVEYED BY PREJEAN & COMPANY, INC. ON 10/29/04.

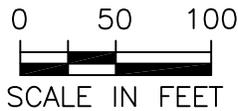
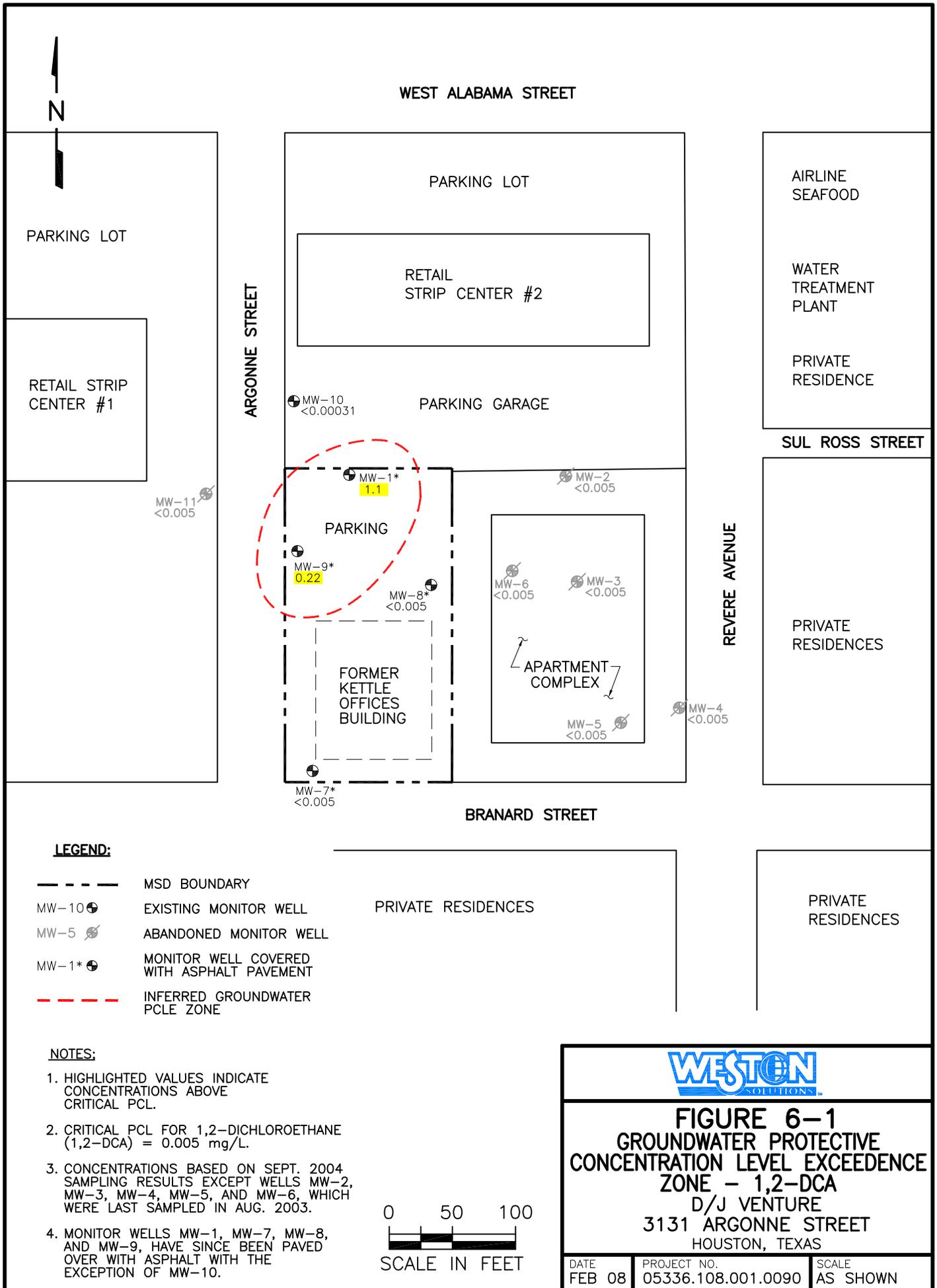




FIGURE 5-3
POTENTIOMETRIC
SURFACE MAP
SEPTEMBER 2004
 D/J VENTURE
 3131 ARGONNE STREET
 HOUSTON, TEXAS

DATE FEB 08	PROJECT NO. 05336.108.001.0090	SCALE NOT TO SCALE
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LEGEND:

- MSD BOUNDARY
- MW-10 ⊕ EXISTING MONITOR WELL
- MW-5 ⊙ ABANDONED MONITOR WELL
- MW-1* ⊕ MONITOR WELL COVERED WITH ASPHALT PAVEMENT
- - - - INFERRED GROUNDWATER PCLE ZONE

NOTES:

1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR 1,2-DICHLOROETHANE (1,2-DCA) = 0.005 mg/L.
3. CONCENTRATIONS BASED ON SEPT. 2004 SAMPLING RESULTS EXCEPT WELLS MW-2, MW-3, MW-4, MW-5, AND MW-6, WHICH WERE LAST SAMPLED IN AUG. 2003.
4. MONITOR WELLS MW-1, MW-7, MW-8, AND MW-9, HAVE SINCE BEEN PAVED OVER WITH ASPHALT WITH THE EXCEPTION OF MW-10.

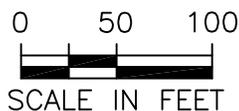
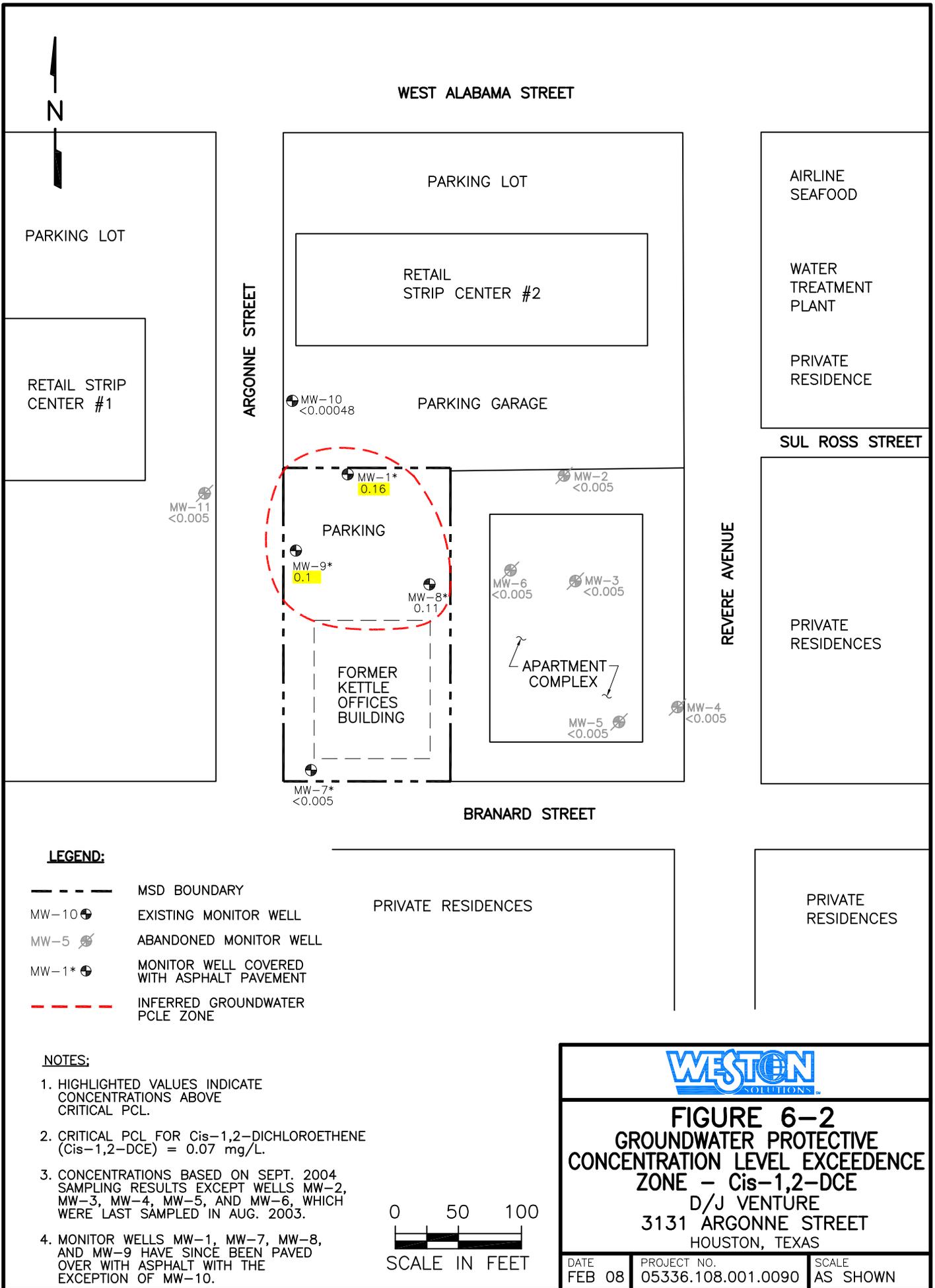
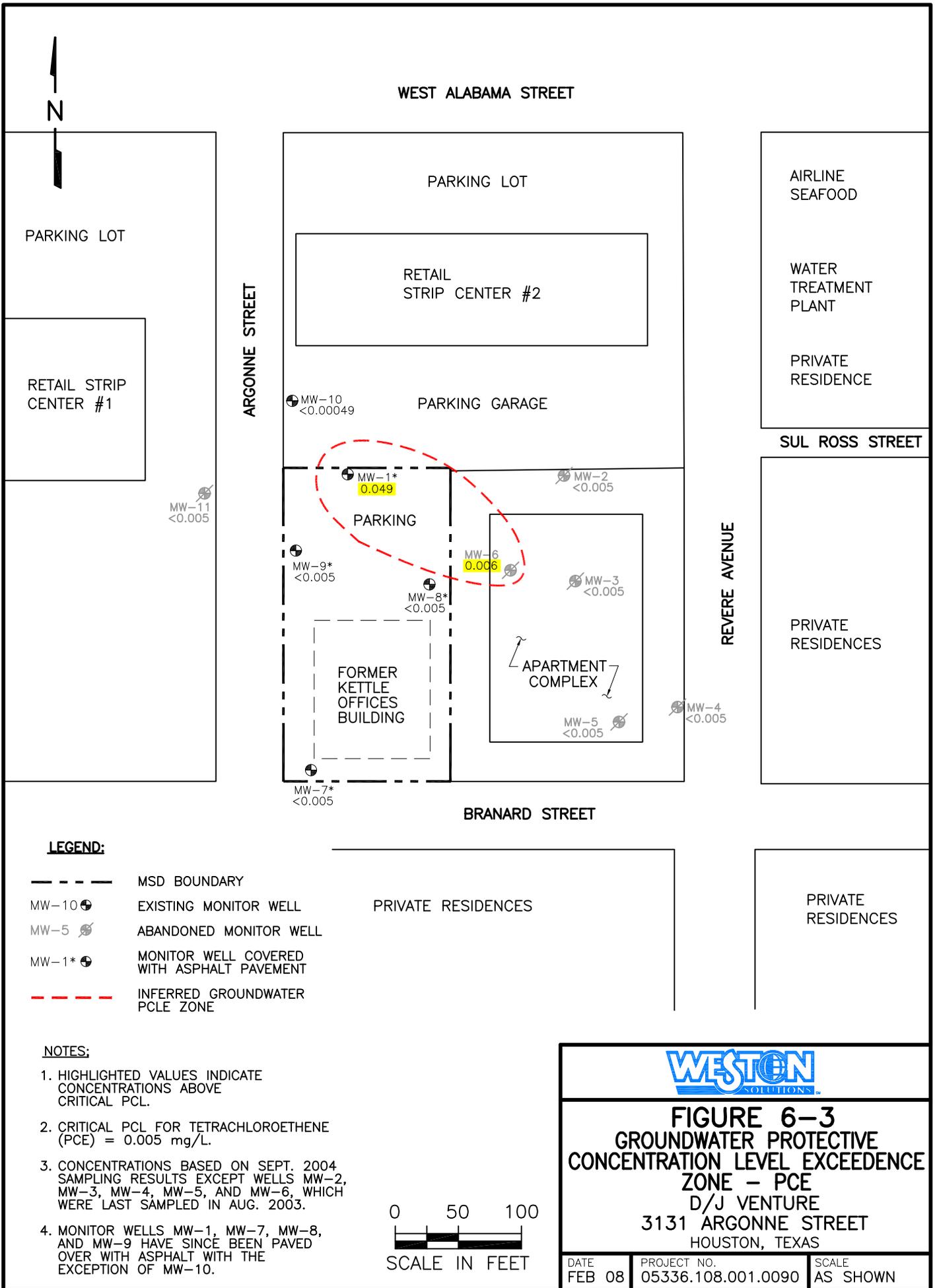




FIGURE 6-1
GROUNDWATER PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - 1,2-DCA
 D/J VENTURE
 3131 ARGONNE STREET
 HOUSTON, TEXAS

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LEGEND:

- MSD BOUNDARY
- MW-10 EXISTING MONITOR WELL
- MW-5 ABANDONED MONITOR WELL
- MW-1* MONITOR WELL COVERED WITH ASPHALT PAVEMENT
- - - - - INFERRED GROUNDWATER PCE ZONE

NOTES:

1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR TETRACHLOROETHENE (PCE) = 0.005 mg/L.
3. CONCENTRATIONS BASED ON SEPT. 2004 SAMPLING RESULTS EXCEPT WELLS MW-2, MW-3, MW-4, MW-5, AND MW-6, WHICH WERE LAST SAMPLED IN AUG. 2003.
4. MONITOR WELLS MW-1, MW-7, MW-8, AND MW-9 HAVE SINCE BEEN PAVED OVER WITH ASPHALT WITH THE EXCEPTION OF MW-10.

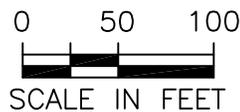
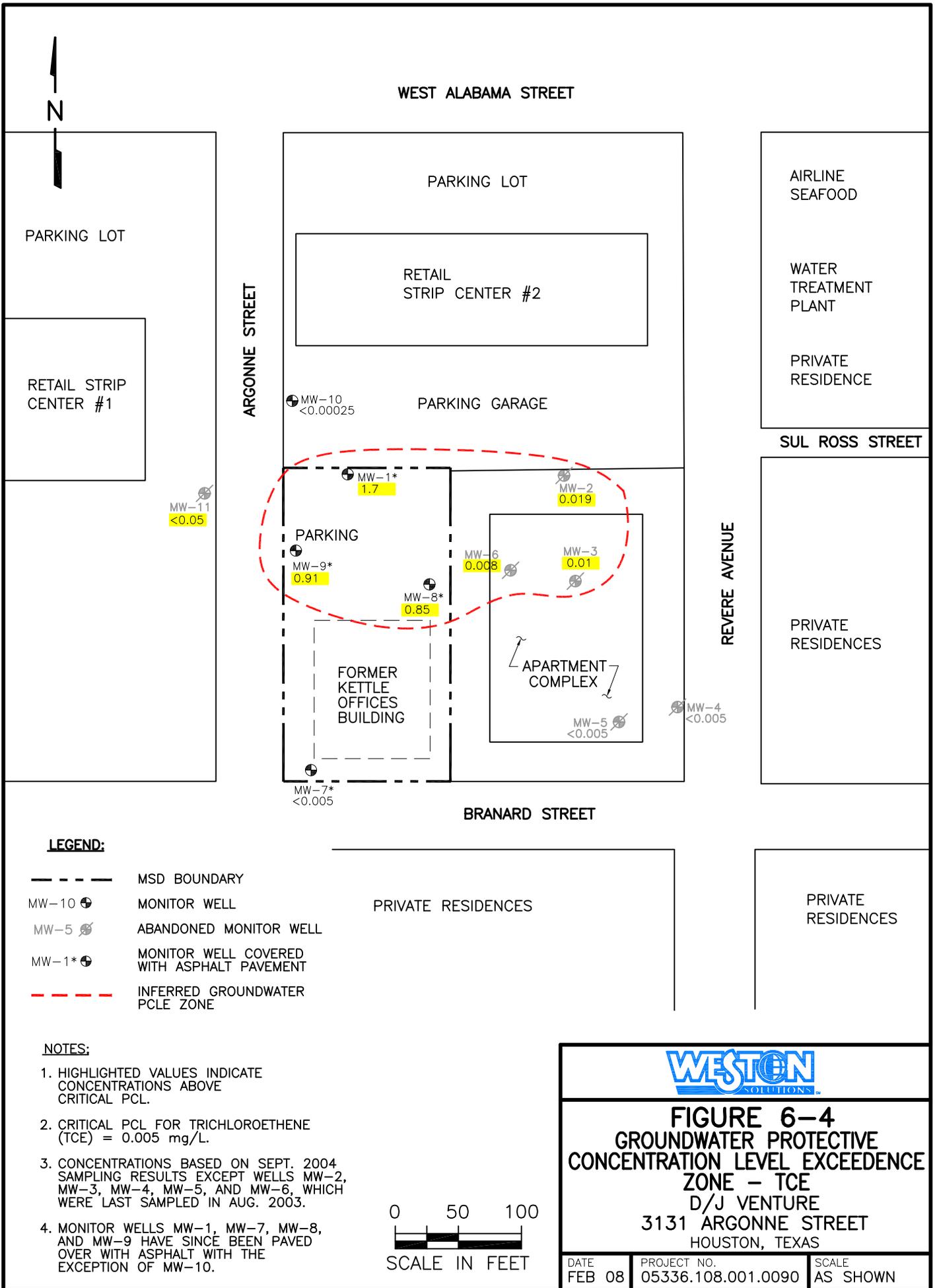


FIGURE 6-3
GROUNDWATER PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - PCE
 D/J VENTURE
 3131 ARGONNE STREET
 HOUSTON, TEXAS

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WEST ALABAMA STREET

PARKING LOT

PARKING LOT

AIRLINE SEAFOOD

RETAIL STRIP CENTER #1

RETAIL STRIP CENTER #2

WATER TREATMENT PLANT

ARGONNE STREET

PARKING GARAGE

PRIVATE RESIDENCE

MW-10
<0.0025

SUL ROSS STREET

MW-11
<0.05

MW-1*
1.7

MW-2
0.019

PARKING

MW-9*
0.91

MW-6
0.008

MW-3
0.01

MW-8*
0.85

FORMER KETTLE OFFICES BUILDING

APARTMENT COMPLEX

MW-4
<0.005

REVERE AVENUE

PRIVATE RESIDENCES

MW-7*
<0.005

BRANARD STREET

LEGEND:

- MSD BOUNDARY
- MW-10 MONITOR WELL
- MW-5 ABANDONED MONITOR WELL
- MW-1* MONITOR WELL COVERED WITH ASPHALT PAVEMENT
- - - - - INFERRED GROUNDWATER PCLE ZONE

PRIVATE RESIDENCES

PRIVATE RESIDENCES

NOTES:

1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR TRICHLOROETHENE (TCE) = 0.005 mg/L.
3. CONCENTRATIONS BASED ON SEPT. 2004 SAMPLING RESULTS EXCEPT WELLS MW-2, MW-3, MW-4, MW-5, AND MW-6, WHICH WERE LAST SAMPLED IN AUG. 2003.
4. MONITOR WELLS MW-1, MW-7, MW-8, AND MW-9 HAVE SINCE BEEN PAVED OVER WITH ASPHALT WITH THE EXCEPTION OF MW-10.

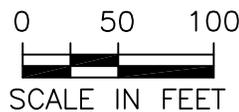
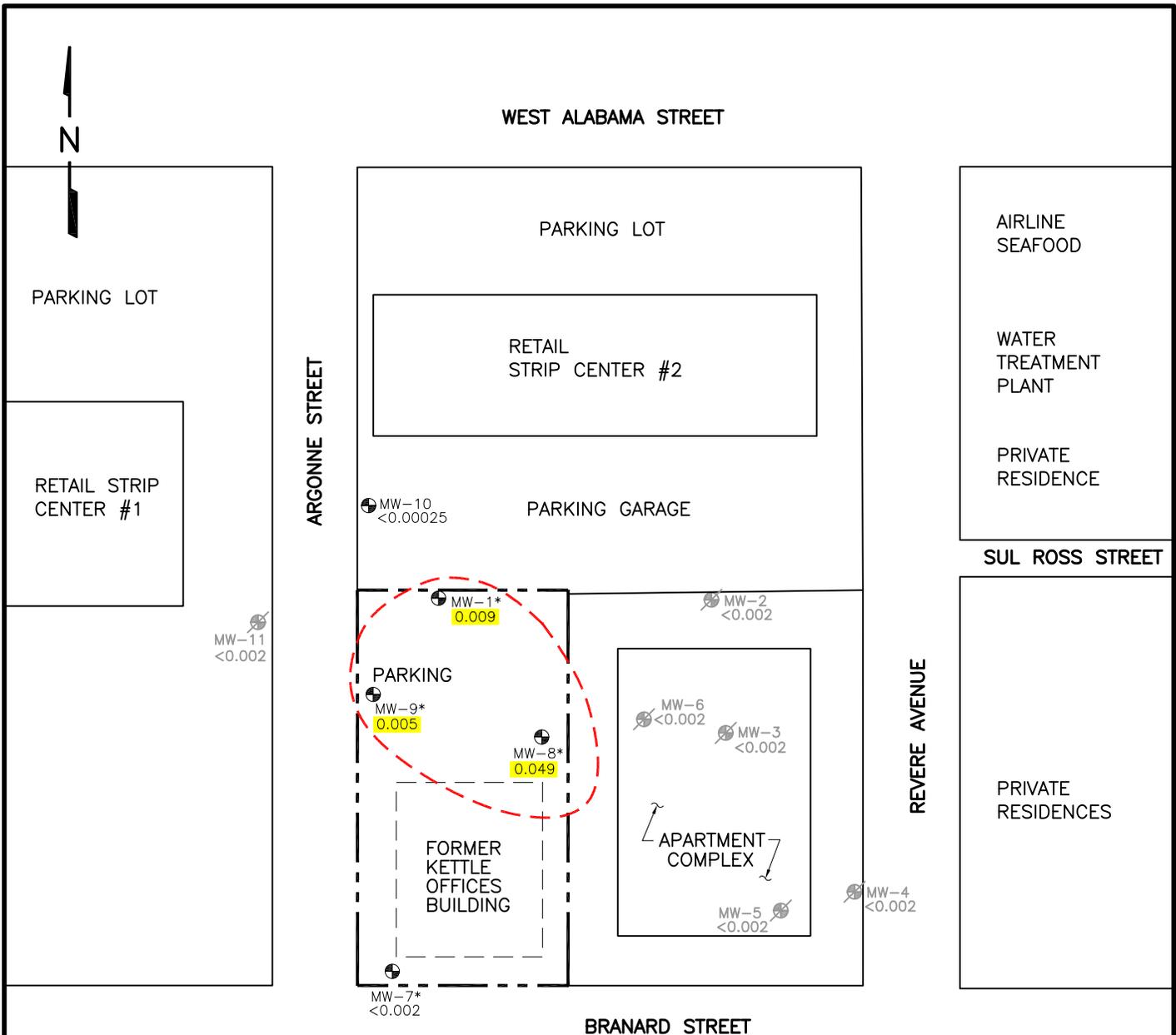


FIGURE 6-4
GROUNDWATER PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - TCE
 D/J VENTURE
 3131 ARGONNE STREET
 HOUSTON, TEXAS

DATE FEB 08	PROJECT NO. 05336.108.001.0090	SCALE AS SHOWN
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LEGEND:

- MSD BOUNDARY
- MW-10 EXISTING MONITOR WELL
- MW-5 ABANDONED MONITOR WELL
- MW-1* MONITOR WELL COVERED WITH ASPHALT PAVEMENT
- - - - - INFERRED GROUNDWATER PCLE ZONE

NOTES:

1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR VINYL CHLORIDE (VC) = 0.002 mg/L.
3. CONCENTRATIONS BASED ON SEPT. 2004 SAMPLING RESULTS EXCEPT WELLS MW-2, MW-3, MW-4, MW-5, AND MW-6, WHICH WERE LAST SAMPLED IN AUG. 2003.
4. MONITOR WELLS MW-1, MW-7, MW-8, AND MW-9 HAVE SINCE BEEN PAVED OVER WITH ASPHALT WITH THE EXCEPTION OF MW-10.

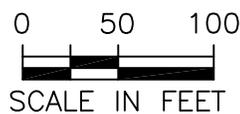
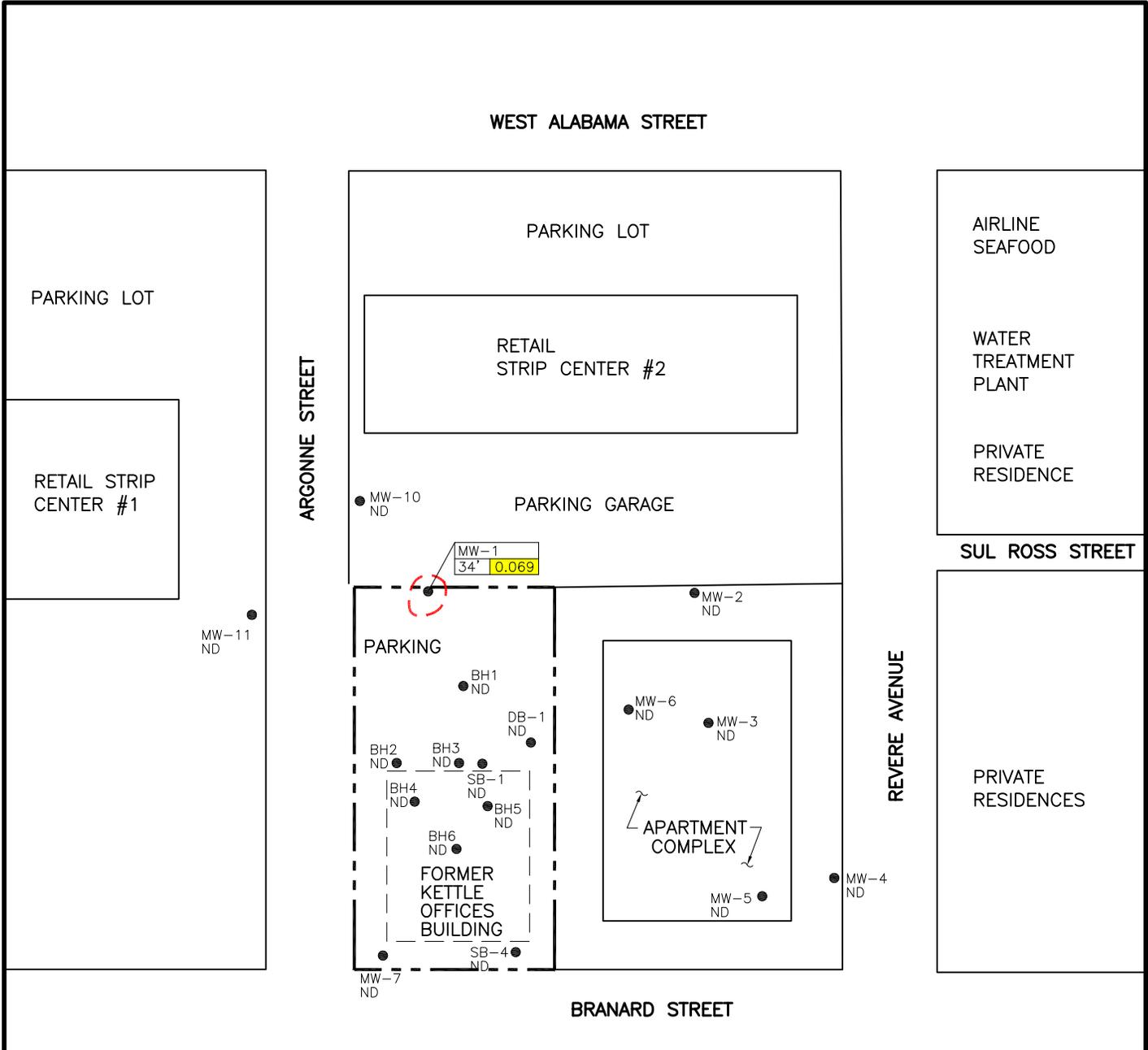




FIGURE 6-5
GROUNDWATER PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - VC
 D/J VENTURE
 3131 ARGONNE STREET
 HOUSTON, TEXAS

DATE FEB 08	PROJECT NO. 05336.108.001.0090	SCALE AS SHOWN
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WEST ALABAMA STREET

PARKING LOT

PARKING LOT

AIRLINE SEAFOOD

RETAIL STRIP CENTER #1

RETAIL STRIP CENTER #2

WATER TREATMENT PLANT

ARGONNE STREET

PARKING GARAGE

PRIVATE RESIDENCE

SUL ROSS STREET

MW-11 ND

MW-1
34" 0.069

PARKING

MW-2 ND

REVERE AVENUE

BH1 ND

MW-6 ND

MW-3 ND

PRIVATE RESIDENCES

BH2 ND

BH3 ND

DB-1 ND

BH4 ND

SB-1 ND

BH5 ND

APARTMENT COMPLEX

BH6 ND

SB-4 ND

MW-5 ND

MW-4 ND

MW-7 ND

BRANARD STREET

PRIVATE RESIDENCES

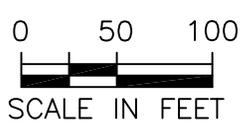
PRIVATE RESIDENCES

LEGEND:

- MSD BOUNDARY
- SB-1 ● SOIL BORINGS
- - - - INFERRED SOIL PCLE ZONE
- ND NON DETECT (<MDL)

NOTES:

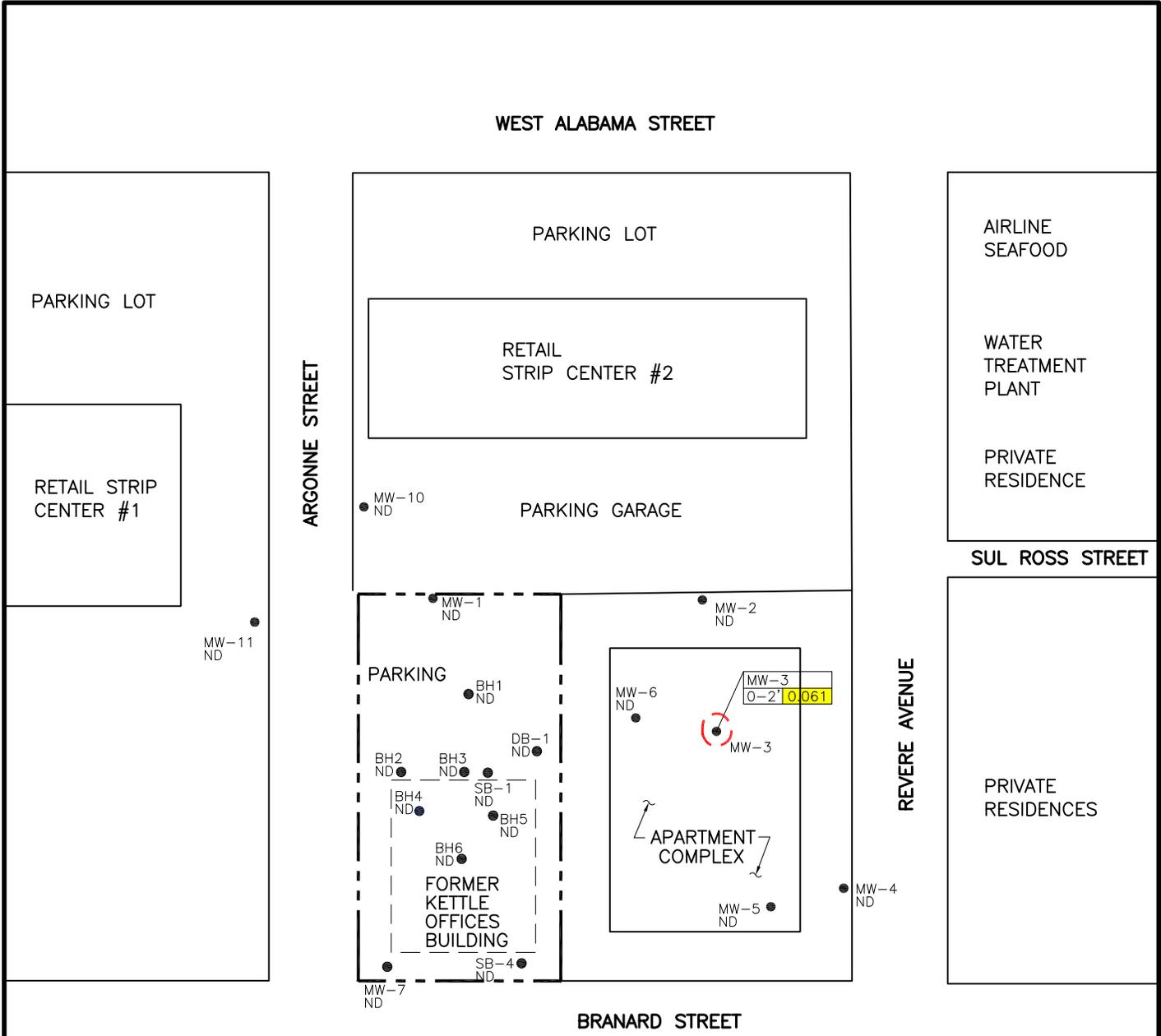
1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR 1,2-DICHLOROETHANE (1,2-DCA) = 0.014 mg/kg.
3. CONCENTRATIONS BASED ON 2003 SAMPLING RESULTS.



WESTON SOLUTIONS

FIGURE 7-1
SOIL PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - 1,2-DCA
D/J VENTURE
3131 ARGONNE STREET
HOUSTON, TEXAS

DATE FEB 08	PROJECT NO. 05336.108.001.0090	SCALE AS SHOWN
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LEGEND:

- MSD BOUNDARY
- SB-1 ● SOIL BORINGS
- - - - INFERRED SOIL PCLE ZONE
- ND NON DETECT (<MDL)

NOTES:

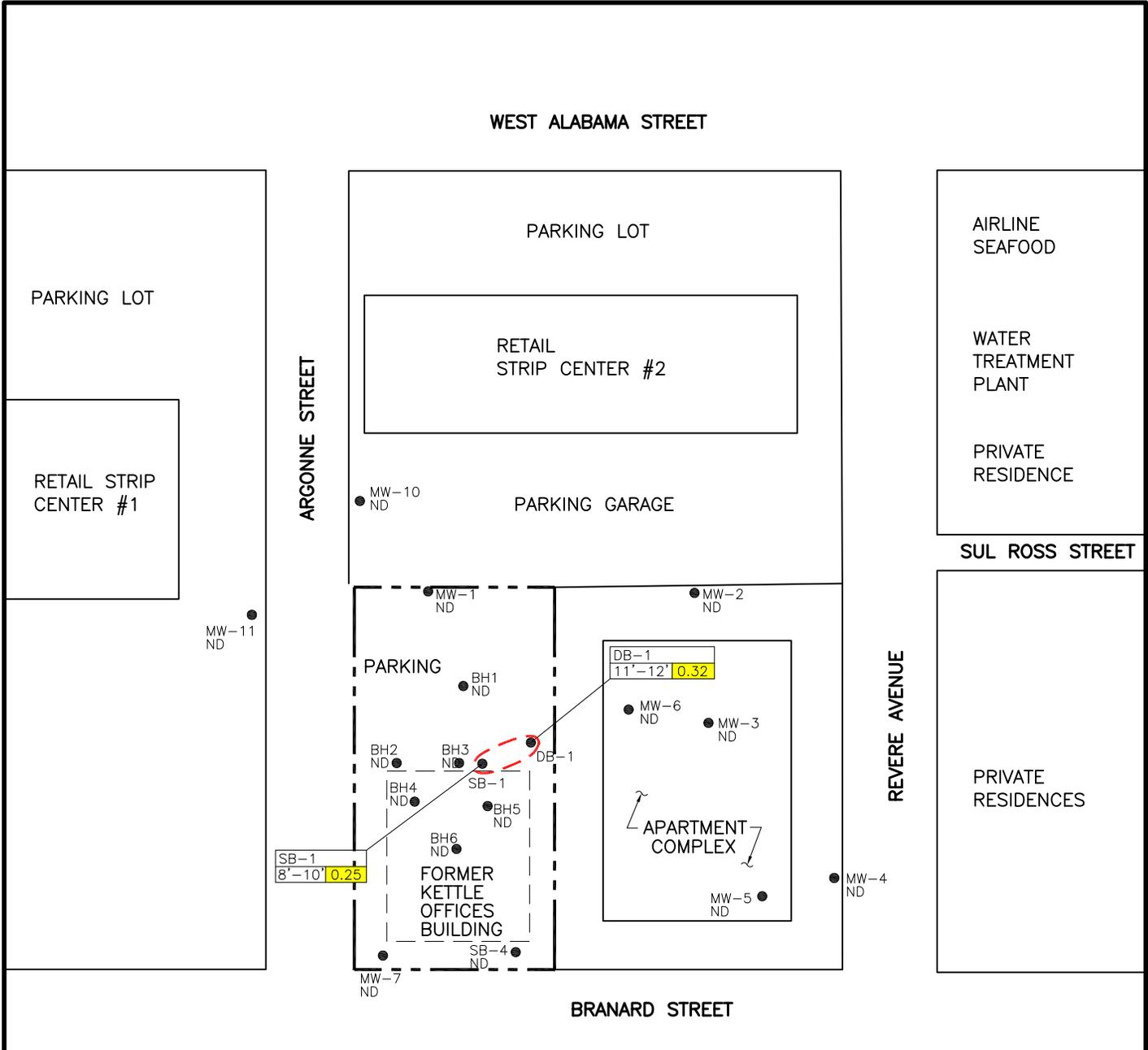
1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR 1,1-DICHLOROETHENE (1,1-DCE) = 0.05 mg/kg.
3. CONCENTRATIONS BASED ON 2003 SAMPLING RESULTS.



WESTON SOLUTIONS

FIGURE 7-2
SOIL PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - 1,1-DCE
D/J VENTURE
3131 ARGONNE STREET
HOUSTON, TEXAS

DATE FEB 08	PROJECT NO. 05336.108.001.0090	SCALE AS SHOWN
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LEGEND:

- MSD BOUNDARY
- SB-1 ● SOIL BORINGS
- - - - INFERRED SOIL PCLE ZONE
- ND NON DETECT (<MDL)

NOTES:

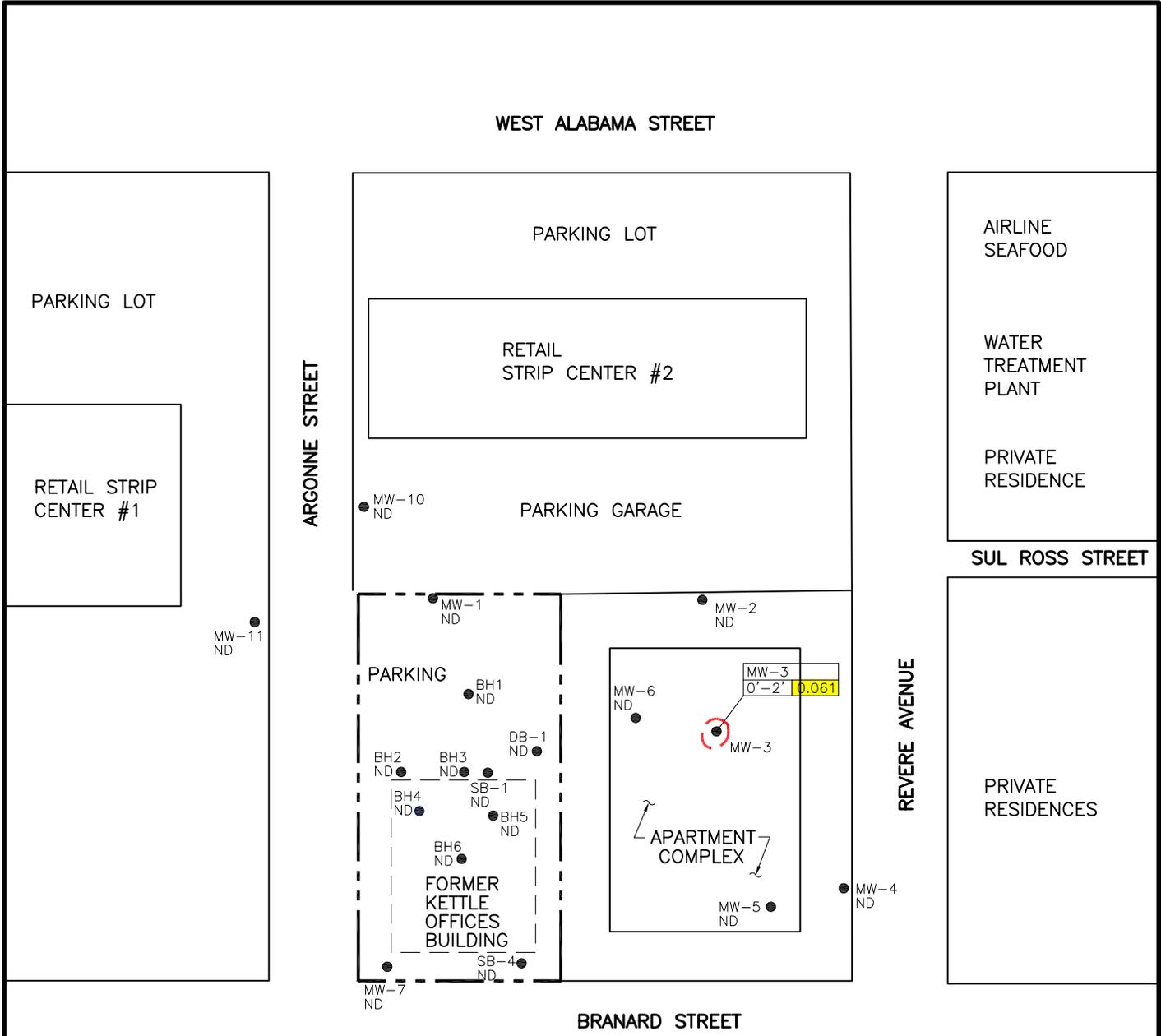
1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR Cis-1,2-DICHLOROETHENE (Cis-1,2-DCE) = 0.25 mg/kg.
3. CONCENTRATIONS BASED ON 2003 SAMPLING RESULTS.



WESTON SOLUTIONS

FIGURE 7-3
SOIL PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - Cis-1,2-DCE
D/J VENTURE
3131 ARGONNE STREET
HOUSTON, TEXAS

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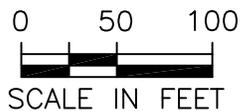


LEGEND:

- MSD BOUNDARY
- SB-1 ● SOIL BORINGS
- - - - INFERRED SOIL PCLE ZONE
- ND NON DETECT (<MDL)

NOTES:

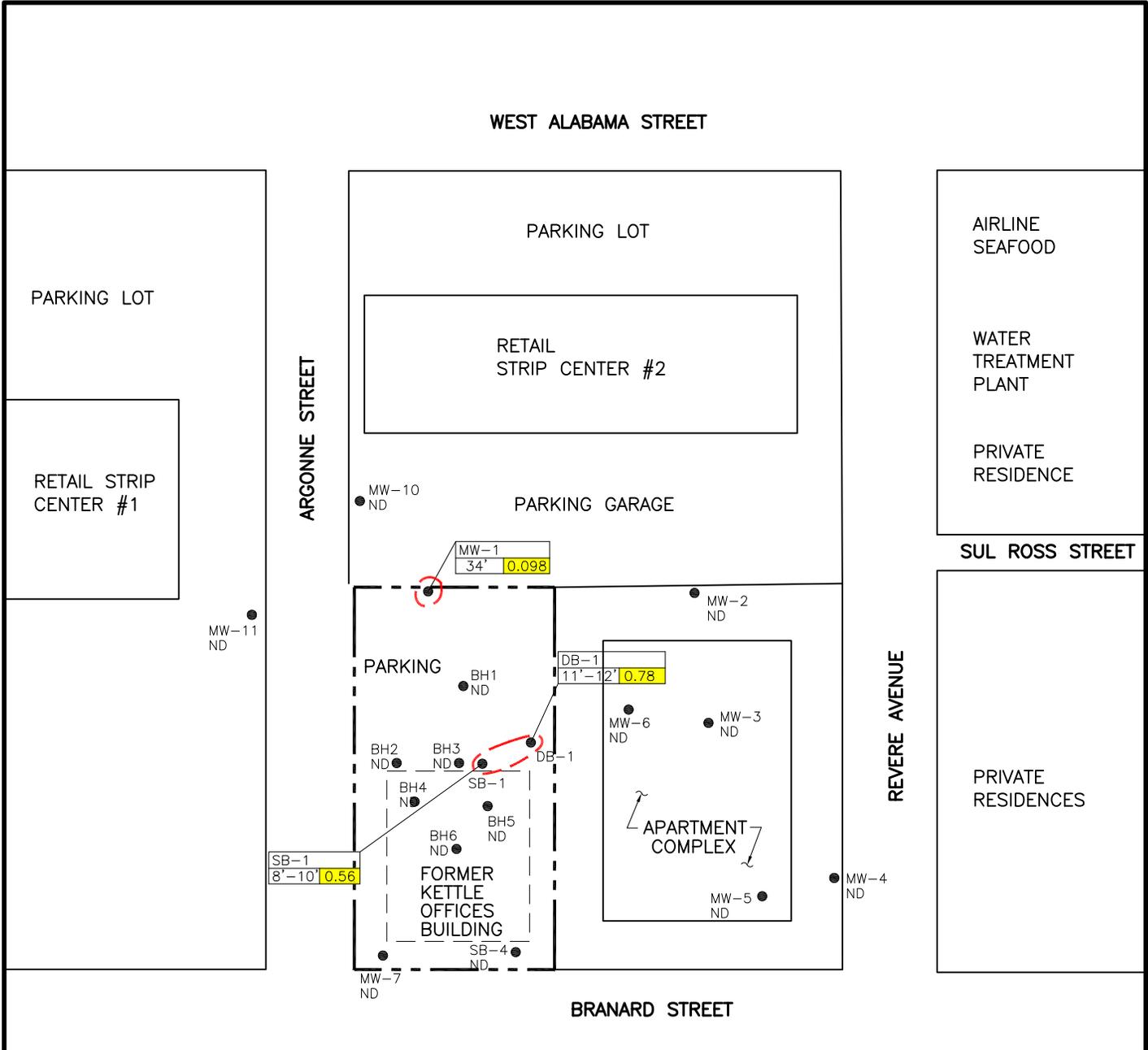
1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR TETRACHLOROETHENE (PCE) = 0.05 mg/kg.
3. CONCENTRATIONS BASED ON 2003 SAMPLING RESULTS.



WESTON SOLUTIONS

FIGURE 7-4
SOIL PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - PCE
D/J VENTURE
3131 ARGONNE STREET
HOUSTON, TEXAS

DATE FEB 08	PROJECT NO. 05336.108.001.0090	SCALE AS SHOWN
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LEGEND:

- MSD BOUNDARY
- SB-1 ● SOIL BORINGS
- - - - INFERRED SOIL PCLE ZONE
- ND NON DETECT (<MDL)

NOTES:

1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR TRICHLOROETHENE (TCE) = 0.034 mg/kg.
3. CONCENTRATIONS BASED ON 2003 SAMPLING RESULTS.

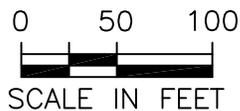
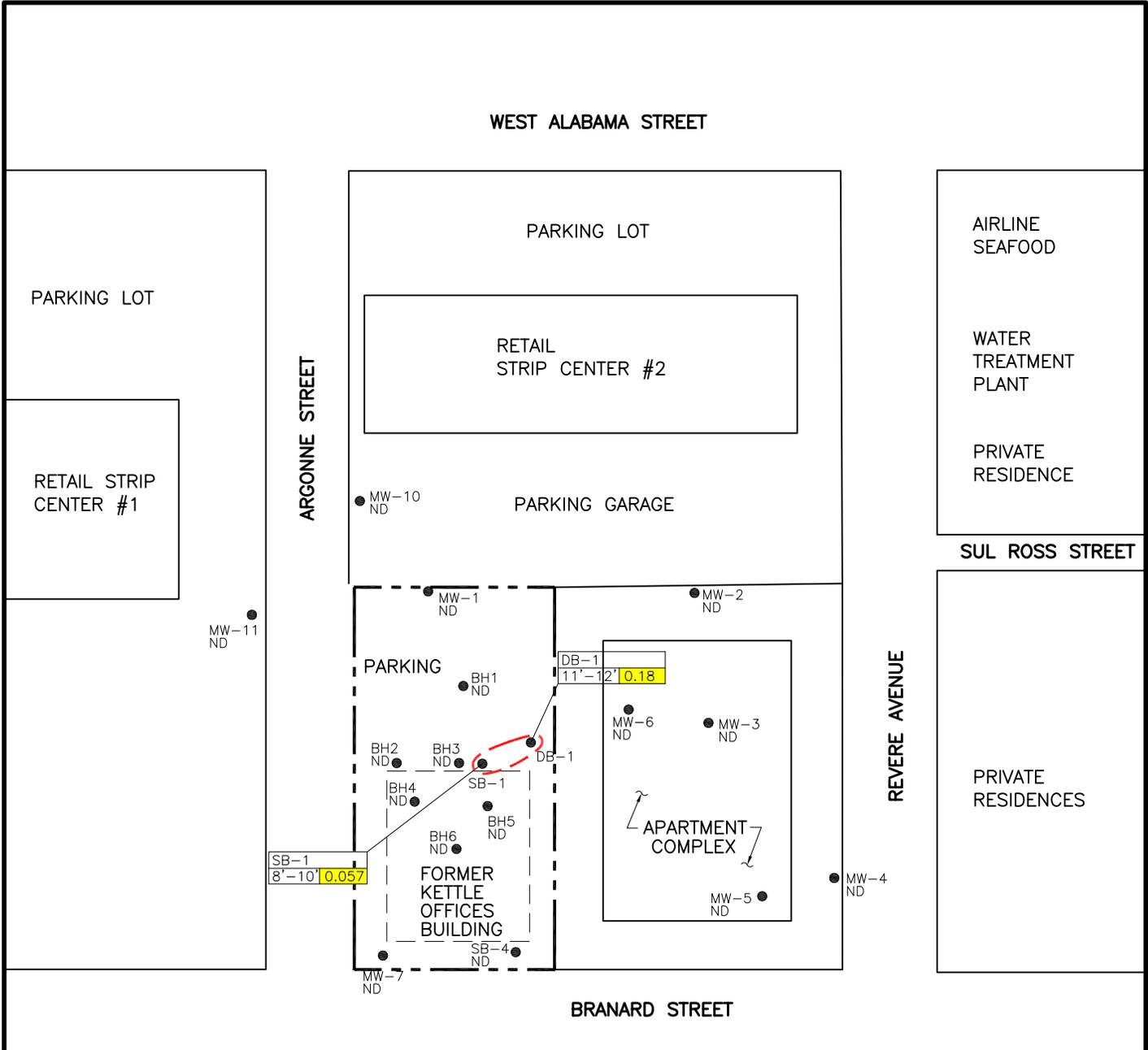




FIGURE 7-5
SOIL PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - TCE
 D/J VENTURE
 3131 ARGONNE STREET
 HOUSTON, TEXAS

DATE FEB 08	PROJECT NO. 05336.108.001.0090	SCALE AS SHOWN
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LEGEND:

- MSD BOUNDARY
- SB-1 ● SOIL BORINGS
- - - - INFERRED SOIL PCLE ZONE
- ND NON DETECT (<MDL)

NOTES:

1. HIGHLIGHTED VALUES INDICATE CONCENTRATIONS ABOVE CRITICAL PCL.
2. CRITICAL PCL FOR VINYL CHLORIDE (VC) = 0.022 mg/kg.
3. CONCENTRATIONS BASED ON 2003 SAMPLING RESULTS.



WESTON SOLUTIONS

FIGURE 7-6
SOIL PROTECTIVE
CONCENTRATION LEVEL EXCEEDENCE
ZONE - VC
D/J VENTURE
3131 ARGONNE STREET
HOUSTON, TEXAS

DATE FEB 08	PROJECT NO. 05336.108.001.0090	SCALE AS SHOWN
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Appendix C

A description of the current use, and, to the extent known, the anticipated uses, of the designated property and properties within 500 feet of the boundary of the designated property.

A map depicting the designated property and adjacent properties is presented in Appendix B, (Figures 1-1 and 1-2). The designated property is currently used as a surface parking lot for a nearby restaurant and consists of asphalt pavement. The intended future use of the designated property is most likely commercial/industrial; however the property may also be used for future residential development. The properties within 500 feet of the designated property are mixed commercial/residential and are described below.

- Properties located immediately to the north and northwest of the designated property consist of a parking garage and two retail strip centers. The adjacent property to the east consists of a recently constructed residential apartment complex.
- Properties to the northeast include primarily commercial properties including a seafood grocer and a water treatment plant.
- Properties to the south of the designated property consist primarily of private residences.

The future use of the property and surrounding property will remain mixed use commercial/residential typical of an urban setting.

Appendix D

(TCEQ MSD Reference No. 5)

For each contaminant of concern within the ingestion protective concentration level exceedance zone, to the extent known, provide the following:

- a. A description of the ingestion protective concentration level exceedance zone and the non-ingestion protective concentration level exceedance zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface.*
- b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.*
- c. Its basic geochemical properties (e.g., whether the contaminant of concern migrates with groundwater, floats or is soluble in water).*

Based on historical environmental investigations at the designated property, six COCs have been identified in the soils above the residential ingestion PCL and five COCs have been identified in the shallow groundwater-bearing unit above the residential ingestion PCL.

A description of each COC, the ingestion and non-ingestion PCLE zone, vertical and horizontal extent, and geochemical properties is provided below for COCs in soil and groundwater.

Groundwater

Non-ingestion PCL exceedances have not been identified in groundwater for all five COCs including PCE, TCE, cis-1,2-DCE, 1,2-DCA and VC.

Soils

Non-ingestion PCL exceedances have not been identified in soils for all six COCs including PCE, TCE, cis-1,2-DCE, 1,1-DCE, 1,2-DCA and VC.

COCs in Groundwater at Designated Property

COC: 1,2-DCA	
Maximum Concentration in most recent analytical data	1.1 mg/L
Ingestion-Based PCL (Residential ^{GW} GW _{ing})	0.005 mg/L
Ingestion-Based PCLE Zone: (Approximate)	Length: 150 ft Width: 100 ft Total Area: 0.34 acres
Non-Ingestion - Based PCL (^{Air} GW _{Inh.v})	33 mg/L
Non-Ingestion - Based PCLE Zone	None
Geochemical/Physical Properties	
Molecular Weight	98.96
Specific Gravity	1.2351
Solubility in Water	Low solubility
Groundwater Migration	variable
COC: cis-1,2-DCE	
Maximum Concentration in most recent analytical data.	0.16 mg/L
Ingestion-Based PCL (Residential ^{GW} GW _{ing})	0.07 mg/L
Ingestion-Based PCLE Zone: (Approximate)	Length: 160 ft Width: 130 ft Total Area: 0.48 acres
Non-Ingestion - Based PCL (^{Air} GW _{Inh.v})	16,000 mg/L
Non-Ingestion - Based PCLE Zone	None
Geochemical/Physical Properties	
Molecular Weight	96.95
Density/Specific Gravity	1.284
Solubility in Water	Low solubility
Groundwater Migration	along groundwater gradient
COC: PCE	
Maximum Concentration in most recent analytical data.	0.049 mg/L
Ingestion-Based PCL (Residential ^{GW} GW _{ing})	0.005 mg/L
Ingestion-Based PCLE Zone: (Approximate)	Length: 170 ft Width: 80 ft Total Area: 0.31 acres
Non-Ingestion - Based PCL (^{Air} GW _{Inh.v})	330 mg/L
Non-Ingestion - Based PCLE Zone	None
Geochemical/Physical Properties	
Molecular Weight	165.83
Density/Specific Gravity	1.6227
Solubility in Water	Low solubility
Groundwater Migration	along groundwater gradient

COCs in Groundwater at Designated Property (cont.)

COC: TCE	
Maximum Concentration in most recent analytical data	1.7 mg/L
Ingestion-Based PCL (Residential ^{GW} GW _{ing})	0.005 mg/L
Ingestion-Based PCLE Zone: (Approximate)	Length: 280 ft Width: 130 ft Total Area: 0.84 acres
Non-Ingestion - Based PCL (^{Air} GW _{Inh.v})	160 mg/L
Non-Ingestion - Based PCLE Zone	None
Geochemical/Physical Properties	
Molecular Weight	131.39
Specific Gravity	1.4649
Solubility in Water	Low solubility
Groundwater Migration	along groundwater gradient
COC: VC	
Maximum Concentration in most recent analytical data	0.049 mg/L
Ingestion-Based PCL (Residential ^{GW} GW _{ing})	0.002 mg/L
Ingestion-Based PCLE Zone: (Approximate)	Length: 170 ft Width: 120 ft Total Area: 0.47 acres
Non-Ingestion - Based PCL (^{Air} GW _{Inh.v})	3.6 mg/L
Non-Ingestion - Based PCLE Zone	none
Geochemical/Physical Properties	
Molecular Weight	62.5
Specific Gravity	0.9106
Solubility in Water	Slightly soluble
Groundwater Migration	along groundwater gradient

COCs in Soils at Designated Property

COC: PCE	
Maximum Concentration in most recent analytical data	0.061 mg/kg
Ingestion-Based PCL (Residential ^{GW} Soil)	0.05 mg/kg
Ingestion-Based PCLE Zone: (Approximate)	Length: 20 ft Width: 20 ft Total Area: 400 ft ²
Non-Ingestion - Based PCL (^{Tot} Soil _{Comb})	98 mg/kg
Non-Ingestion - Based PCLE Zone	none
Geochemical/Physical Properties	
Molecular Weight	165.83
Specific Gravity	1.6227
Solubility in Water	Low solubility
COC: TCE	
Maximum Concentration in most recent analytical data.	0.78 mg/kg
Ingestion-Based PCL (Residential ^{GW} Soil)	0.034 mg/kg
Ingestion-Based PCLE Zone: (Approximate)	Length: variable (2 areas) Width: variable (2 areas) Total Area: 1,200 ft ²
Non-Ingestion - Based PCL (^{Tot} Soil _{Comb})	150 mg/kg
Non-Ingestion - Based PCLE Zone	none
Geochemical/Physical Properties	
Molecular Weight	131.39
Density/Specific Gravity	1.4649
Solubility in Water	Low solubility
COC: cis-1,2-DCE	
Maximum Concentration in most recent analytical data.	0.32 mg/kg
Ingestion-Based PCL (Residential ^{GW} Soil)	0.25 mg/kg
Ingestion-Based PCLE Zone: (Approximate)	Length: 40 ft Width: 20 ft Total Area: 800 ft ²
Non-Ingestion - Based PCL (^{Tot} Soil _{Comb})	770 mg/kg
Non-Ingestion - Based PCLE Zone	none
Geochemical/Physical Properties	
Molecular Weight	96.95
Density/Specific Gravity	1.284
Solubility in Water	Low solubility
COC: VC	
Maximum Concentration in most recent analytical data	0.18 mg/kg
Ingestion-Based PCL (Residential ^{GW} Soil)	0.022 mg/kg
Ingestion-Based PCLE Zone: (Approximate)	Length: 40 ft Width: variable 20 ft Total Area: 800 ft ²
Non-Ingestion - Based PCL (^{Tot} Soil _{Comb})	3.7 mg/kg
Non-Ingestion - Based PCLE Zone	none
Geochemical/Physical Properties	
Molecular Weight	62.5
Specific Gravity	0.9106
Solubility in Water	Slightly soluble

COCs in Soils at Designated Property (cont.)

COC: 1,1-DCE	
Maximum Concentration in most recent analytical data	0.061 mg/kg
Ingestion-Based PCL (Residential ^{GW} Soil)	0.05 mg/kg
Ingestion-Based PCLE Zone: (Approximate)	Length: 20 ft Width: 20 ft Total Area: 400 ft ²
Non-Ingestion - Based PCL (¹ otSoil _{Comb})	1,800 mg/kg
Non-Ingestion - Based PCLE Zone	none
Geochemical/Physical Properties	
Molecular Weight	96.95
Specific Gravity	1.218
Solubility in Water	soluble
COC: 1,2-DCA	
Maximum Concentration in most recent analytical data	0.069 mg/kg
Ingestion-Based PCL (Residential ^{GW} Soil)	0.014 mg/kg
Ingestion-Based PCLE Zone: (Approximate)	Length: 30 ft Width: 30 ft Total Area: 900 ft ²
Non-Ingestion - Based PCL (¹ otSoil _{Comb})	11 mg/kg
Non-Ingestion - Based PCLE Zone	none
Geochemical/Physical Properties	
Molecular Weight	98.96
Specific Gravity	1.2351
Solubility in Water	Low solubility

Appendix E

(TCEQ MSD Reference No. 5)

For each contaminant of concern within the designated groundwater, to the extent known:

- a. A description of the ingestion protective concentration level exceedance zone and the non-ingestion protective concentration level exceedance zone, including a specification of the horizontal area and the minimum and maximum depth below ground surface.*
- b. The level of contamination, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.*
- c. Its basic geochemical properties (e.g., whether the contaminant of concern migrates with groundwater, floats or is soluble in water).*

A description of each COC in the groundwater at the designated property defined by a PCLE zone, along with its basic geochemical properties is presented in Appendix D. A tabular listing of the maximum concentration for each groundwater COC is provided in Appendix F.

Appendix F

(TCEQ MSD Reference No. 5)

A table displaying the following information for each contaminant of concern, to the extent known:

- d. The maximum concentration level for soil and groundwater, the ingestion protective concentration level, and the non-ingestion protective concentration level, all expressed as mg/L units.*
- e. The critical protective concentration level without the municipal setting designation, highlighting any exceedances.*

Groundwater

Based on the proposed response actions, institutional controls such as this MSD will be used to gain closure for the groundwater at the designated property, thus eliminating the groundwater ingestion pathway. Table 1 presents the maximum concentration of each COC in the groundwater at the designated property. Highlighted values indicate COC concentrations above the critical residential ingestion assessment level (without the MSD). **There are no non-ingestion PCL exceedances at the designated property (with the MSD).**

Soils

Exposure pathways to impacted soils have been eliminated and/or determined to be incomplete due to surface cover at the designated property. Table 2 presents the maximum concentration of each COC in soils at the designated property. Highlighted values indicate COC concentrations above the critical residential ingestion assessment level (without the MSD). **There are no non-ingestion PCL exceedances at the designated property (with the MSD).**

Appendix F
 Table 1: Maximum COC Concentration in Groundwater
 D/J Venture Site
 3131 Argonne Street
 Houston, Texas

Chemical of Concern	GW _{ing} (w/o MSD) (mg/L)		Air GW _{inh-v} (w/ MSD) (mg/L)		Maximum Concentration										
	0.005	0.07	33	16,000	MW-1 (9/23/2004)	MW-2 (8/22/2003)	MW-3 (8/22/2003)	MW-4 (8/22/2003)	MW-5 (8/22/2003)	MW-6 (8/22/2003)	MW-7 (9/23/2004)	MW-8 (9/23/2004)	MW-9 (9/23/2004)	MW-10 (1/14/2008)	MW-11 (9/23/2004)
1,2-Dichloroethane					1.1000	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.22	<0.00031	<0.005
cis-1,2-Dichloroethene					0.1600	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.11	0.1	<0.00048	<0.005
Tetrachloroethene					0.0490	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.00049	<0.005
Trichloroethene					1.7000	0.019	0.0100	<0.005	<0.005	0.008	<0.005	0.85	0.91	<0.00025	<0.005
Vinyl chloride					0.0090	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.049	0.005	<0.00025	<0.002

Notes:

1. Highlighted concentration levels exceed the TRRP Tier 1 Residential ^{GW}GW_{ing} Protective Concentration Level (i.e. without an MSD).
2. Maximum concentrations from sample dates 8/22/2003, 9/23/2004, and 1/14/2008.
3. The only remaining monitoring well on-site as of the last sampling event on 1/14/2008 was MW-10. Monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, and MW-11 have since been paved over with asphalt. The sampling date denoted under the monitoring well ID in the table indicates the last date the well was sampled.

Appendix F
 Table 2: Maximum COC Concentrations in Soils
 DJJ Venture Site
 3131 Argonne St.
 Houston, Texas

Boring/Well ID	Sample Depth (ft. bgs)	Maximum Concentrations (mg/kg)									
		^{GW} Soil _{Ing} (w/MSD)	^{TO} Soil _{Comb} (w/MSD)	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride		
DB-1	11-12			0.014	1.800	770	0.250	0.050	0.034	0.022	
DB-1	11-12			<0.0032	<0.0049	0.32	0.038J	98	0.780	3.7	
DB-1	35-36			-	<0.05	0.070	<50.0	<50.0	0.150	0.180	
SB-1	8-10			<0.0033	0.0041J	0.250	<0.0033	<0.0033	0.560	0.057	
SB-1	0-2			-	<0.05	<0.05	<50.0	<50.0	<0.05	<0.05	
SB-1	8-10			-	<0.05	0.11	<50.0	<50.0	0.230	<0.05	
SB-4	8-10			<0.003	<0.0047	<0.0035	<0.003	<0.003	<0.0043	<0.003	
MW-1	0-2			<0.003	<0.0046	<0.0034	<0.003	<0.003	<0.0043	<0.003	
MW-1	34			0.069	<0.0044	0.0054J	0.0054	0.0054	0.098	<0.0029	
MW-2	0-2			<0.0031	<0.0048	<0.0036	<0.0031	<0.0031	<0.0044	<0.0031	
MW-2	33			<0.0027	<0.0043	<0.0032	<0.0027	<0.0027	<0.0039	<0.0027	
MW-3	0-2			<0.061	0.061	<0.061	0.061	0.061	<0.061	<0.061	
MW-4	0-2			<0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056	<0.0056	
MW-5	0-2			<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	
MW-6	0-2			<0.0031	<0.0048	<0.0036	<0.0031	<0.0031	<0.0044	<0.0031	
MW-6	33			<0.003	<0.0047	<0.0035	<0.0030	<0.0030	<0.0043	<0.0030	
MW-7	0-2			<0.0031	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	<0.0061	
BH-01-2.5	2.5			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH-01-9	9			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH-02-2.5	2.5			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH-02-9	9			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH-03-3	3			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH-03-9	9			<0.005	<0.005	<0.005	<0.005	<0.005	0.019	<0.010	
BH05-9-10	9-10			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH05-2-3	2-3			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH04-9-10	9-10			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH04-2-3	2-3			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH06-9-10	9-10			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH06-2-3	2-3			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
BH06-2.5	2-3			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
MW10-10	10.0			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
MW10-33	33.0			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
MW11-10	33.0			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
MW11-32	33.0			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	

Notes:

1. Highlighted concentration levels exceed the TRRP Tier 1 Residential ^{GW}Soil_{Ing} Protective Concentration Level (i.e. without an MSD).

Appendix G

A statement as to whether the plume of contamination is stable, expanding, or contracting, with the basis for that statement. If this information is not known, a statement of why the information is not known should be attached.

Groundwater COCs

Based on historical groundwater monitoring at the site, all concentrations of COCs appear to be stable. Historical groundwater analytical results are shown in Table 3 of this appendix.

Affected groundwater is confined vertically to the shallow groundwater-bearing unit and shows indication of natural attenuation based on the presence of PCE degradation products (with the exception of 1,2-DCA) in the downgradient direction. However, groundwater gauging data at the site has indicated a very flat groundwater gradient. Based on historical groundwater level measurements at the site, the groundwater gradient was toward the southeast in August 2003 (Appendix B: Figure 5-1); to the northwest in January 2004 (Appendix B: Figure 5-2); and appeared to be converging at the site in September 2004 (Appendix B: Figure 5-3). As a result, it appears that the groundwater flow direction may vary seasonally and/or is being influenced by subsurface utilities. The COCs beneath the site appear to be stable based on the presence of PCE degradation products and that the likely historical sources of contamination have since been removed. Fluctuating COC concentration data (sharp increases and/or decreases) noted in well MW-1 appear to be caused by the relatively flat groundwater gradient and possible seasonal variation in the flow direction beneath the designated property.

As noted above, the presence of PCE degradation products indicates that natural attenuation is most likely occurring in the groundwater below the designated property. However, 1,2-DCA is not a degradation product of PCE. Based on the presence of both 1,2-DCA and PCE in some of the same monitor wells (most notably MW-1 and MW-9) at the site, there appears to be two separate chlorinated solvent plumes affecting the groundwater. As noted, the designated property was undeveloped prior to 1944. Thereafter, city directories indicate the site was occupied by the Fann Instrument Corporation and used for manufacturing purposes and after 1986, the property was occupied by an office building (Kettle Offices). Properties to the north, east, and west of the designated property have been developed with several automotive repair facilities, a service station and manufacturing facilities from the 1940s through the present, while the properties to the east and southeast were developed with residences since the 1940s. Based on the nature and duration of historical commercial business operations to the north, west, and east of the designated property, it is likely that an off-site release may have contributed to impacts to the shallow groundwater-bearing unit beneath the designated property.

Soil COCs

Although residual COC concentrations remain, physical barriers consisting of constructed surface cover over affected soil effectively eliminate any potential threat to human health and the environment. Therefore, no further action is needed.

Appendix G
 Table 3: Summary of Historical COC Analytical Results
 D/J Venture Site
 3131 Argonne St.
 Houston, Texas

Boring/Monitoring Well ID	Date Sampled	Summary of Historical COC Analytical Results (mg/L)					
		1,2-Dichloroethane 0.005 mg/L	Cis-1,2-Dichloroethene 0.07 mg/L	Tetrachloroethene 0.005 mg/L	Trichloroethene 0.005 mg/L	Vinyl Chloride 0.002 mg/L	
<i>GW_{Ing}</i>		33 mg/L	16,000 mg/L	330 mg/L	160 mg/L	3.6 mg/L	
<i>Air GW_{Inh-V}</i>		0.048	0.003	<0.002	<0.002	<0.002	
DB-1	5/8/2003	<0.001	0.006	<0.001	0.15	<0.001	
	3/27/2003	0.25	0.048	0.009	0.50	0.002	
TSP-1/MW-1	4/29/2003	0.48	0.094	0.012	0.71	0.003	
	8/21/2003	1.1	0.160	0.049	1.70	0.009	
	9/23/2004	2.5	<1.0	<1.0	4.7	<1.0	
TSP-2/MW-2	3/27/2003	<0.001	0.002	<0.001	0.027	<0.001	
	5/1/2003	<0.005	<0.005	<0.005	0.019	<0.002	
	8/22/2003	<0.001	<0.001	<0.001	0.010	<0.001	
MW-3	5/1/2003	<0.005	<0.005	<0.005	0.010	<0.002	
	8/22/2003	<0.001	<0.001	<0.001	<0.001	<0.001	
MW-4	5/1/2003	<0.005	<0.005	<0.005	<0.005	<0.002	
	8/22/2003	<0.001	<0.001	<0.001	<0.001	<0.001	
MW-5	5/1/2003	<0.005	<0.005	<0.005	<0.005	<0.002	
	8/22/2003	<0.001	<0.001	<0.001	<0.001	<0.001	
MW-6	5/1/2003	<0.005	<0.005	<0.005	<0.005	<0.002	
	8/22/2003	0.27	0.11	0.006	0.006	0.008	
MW-7	5/1/2003	<0.001	<0.001	<0.001	<0.001	<0.001	
	8/22/2003	<0.005	<0.005	<0.005	<0.005	<0.002	
	9/23/2004	<0.005	<0.005	<0.005	<0.005	<0.002	
MW-8	8/22/2003	<0.005	0.015	<0.005	0.70	0.008	
	9/23/2004	<0.005	0.1	<0.005	0.85	0.049	
MW-9	1/24/2004	0.22	0.1	<0.005	1.40	<0.002	
	9/23/2004	<0.005	<0.005	<0.005	0.910	0.005	
MW-10	9/23/2004	<0.00024	<0.00048	<0.00049	<0.0025	<0.00025	
	1/14/2008	<0.005	<0.005	<0.005	<0.0025	<0.00025	
MW-11	9/23/2004	<0.005	<0.005	<0.005	<0.005	<0.002	

Notes:

1. Highlighted concentration levels exceed the TRRP Tier 1 Residential ^{GW}GW_{Ing} Protective Concentration Level (i.e. without an MSD).