

CITY OF HOUSTON



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

Application for Approval of Municipal Setting Designation

APPLICANT INFORMATION

Applicant's Name: _____

Individual Private Entity Public Entity Non-Profit Entity Other _____

Address: _____
(Street) (City) (State) (Zip)

Phone No.: _____ Fax No.: _____

Email: _____

Contact Information

Name of Contact: _____

Title: _____

Address: _____
(Street) (City) (State) (Zip)

Phone No.: _____ Fax No.: _____

Email: _____

SITE INFORMATION

Site HCAD No(s): _____

Site Name: _____

Site Size: _____

Site Address: _____
(Street) (City) (State) (Zip)

(List all owners – additional sheet is attached, if needed)

Owner: _____

Owner Address: _____
(Street) (City) (State) (Zip)

Name of Contact: _____

Title: _____

Organization: _____

Phone No.: _____ Fax No.: _____

Email: _____

EXECUTIVE SUMMARY

The designated property (Site) consists of an approximate 0.386-acre tract of land located within a heavily industrialized section of the Houston, Texas metropolitan area. The designated property address is 3206 Holmes Road. The area of affected groundwater consists of approximately 16 acres and encompasses portions of the properties located at 3101 Holmes Road (Texas Steel Conversion, Inc.), and 3240 Holmes Road (Gulf Winds International), as well as City of Houston right-of-way (Holmes Road, Canyon Street, Mariah Street), Union Pacific Railroad right-of-way, and TxDOT right-of-way (SH 288 & IH-610). Historically, the Site and surrounding area have been developed primarily for industrial use. The most recent tenant of the Site was an auto salvage yard. Prior to use as an auto salvage yard, the Site was developed as a residential property as early as the 1950s. Prior to 1953, the entire Site consisted of undeveloped grassland. The Site is currently utilized as a parking area and maintains an address listing of 3206 Holmes Road.

The results of previous affected property assessment activities indicate that surface soils within the boundaries of the Site have been impacted by lead and trichloroethylene (TCE) at concentrations which exceed applicable critical TCEQ TRRP PCLs for leaching of contaminants to groundwater ($^{GW}Soil_{Ing}$). Reported TCE impacts in surface soils have not exceeded the $^{Tot}Soil_{Comb}$ PCL.

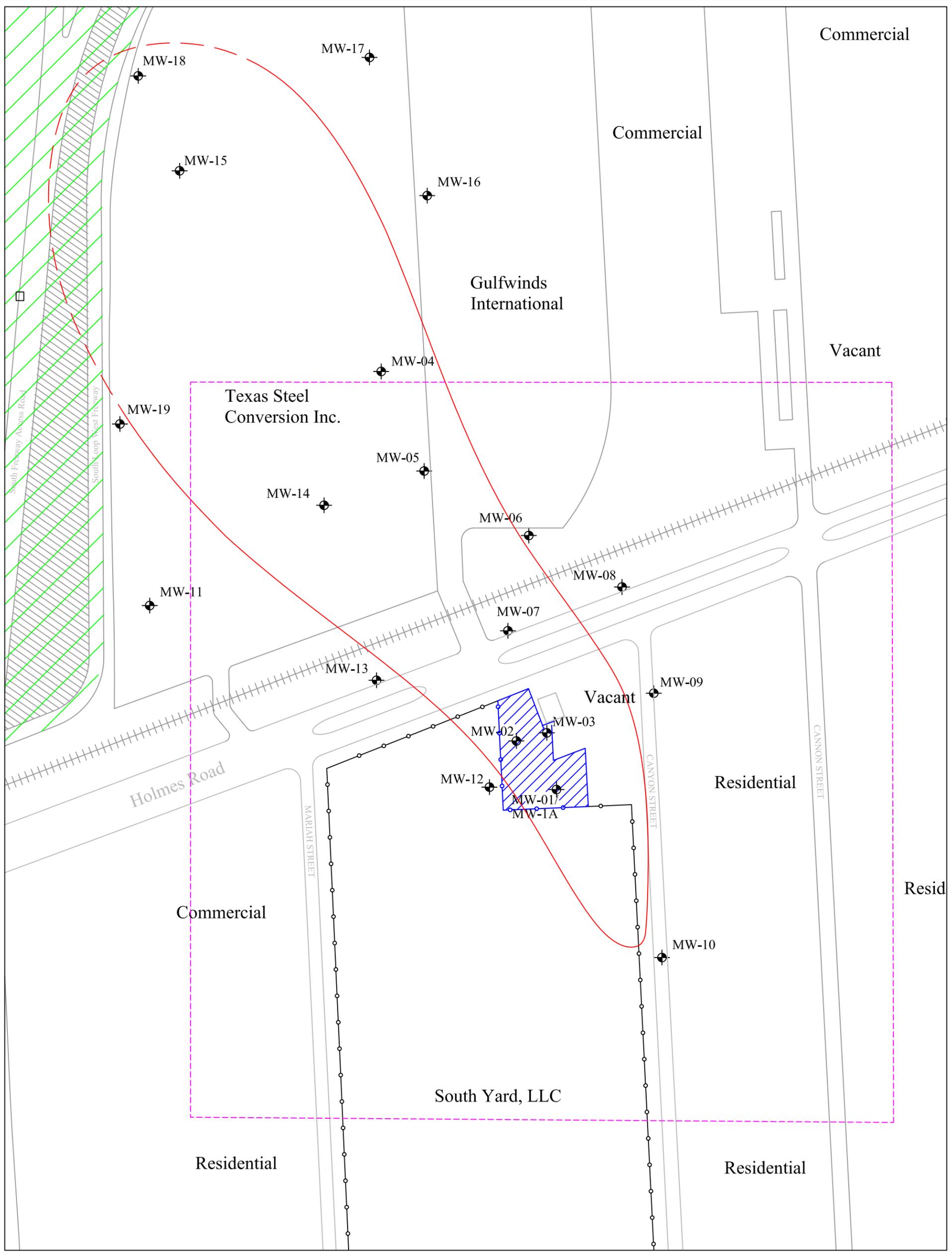
Shallow groundwater underlying the Site and adjacent properties has been impacted by TCE and daughter compounds cis-1,2 DCE and vinyl chloride at concentrations which exceed critical TRRP PCLs for direct ingestion of groundwater ($^{GW}GW_{Ing}$). The shallow groundwater gradient and/or flow direction within the assessment area appears to be generally to the northwest. Based on sampling and analysis results from a network of nineteen (19) permanent groundwater monitor wells, maximum TCE concentrations were reported in groundwater samples collected from the apparent contaminant source area, the 0.386-acre Site (gravel-paved parking area) located at 3206 Holmes Road. The proposed remedy/response action for impacted groundwater is a City of Houston Municipal Setting Designation (MSD), which would restrict access to such impacted groundwater, effectively eliminating the $^{GW}GW_{Ing}$ exposure pathway from consideration.

APPENDIX B

A description of the current use, and, to the extent know, the anticipated use(s), of the designated property and properties within 500 feet of the boundary of the designated property.

The designated property consists of approximately 0.386 acres and encompasses all of the property located at 3206 Holmes Road, Houston, Harris County, Texas.

A 500-foot field survey was previously conducted around the designated property. The general Site vicinity consists of industrial, undeveloped, and residential properties. Underground public utilities are recorded to be located within the limits of the designated property. Potable water within 500 feet of the designated property is provided by the City of Houston. Based on the results of the field survey, no sensitive receptors exist within a 500-foot radius of the designated property. The attached **Figure B-1** depicts current property use within 500 feet of the designated property boundary.



LEGEND:

Designated Property Boundary	Railroad Track	Trichloroethene PCLE Zone	Groundwater Monitor Well Locations
Roads/Pavement	TxDOT ROW (Inaccessible)	Source Area	500-ft Boundary

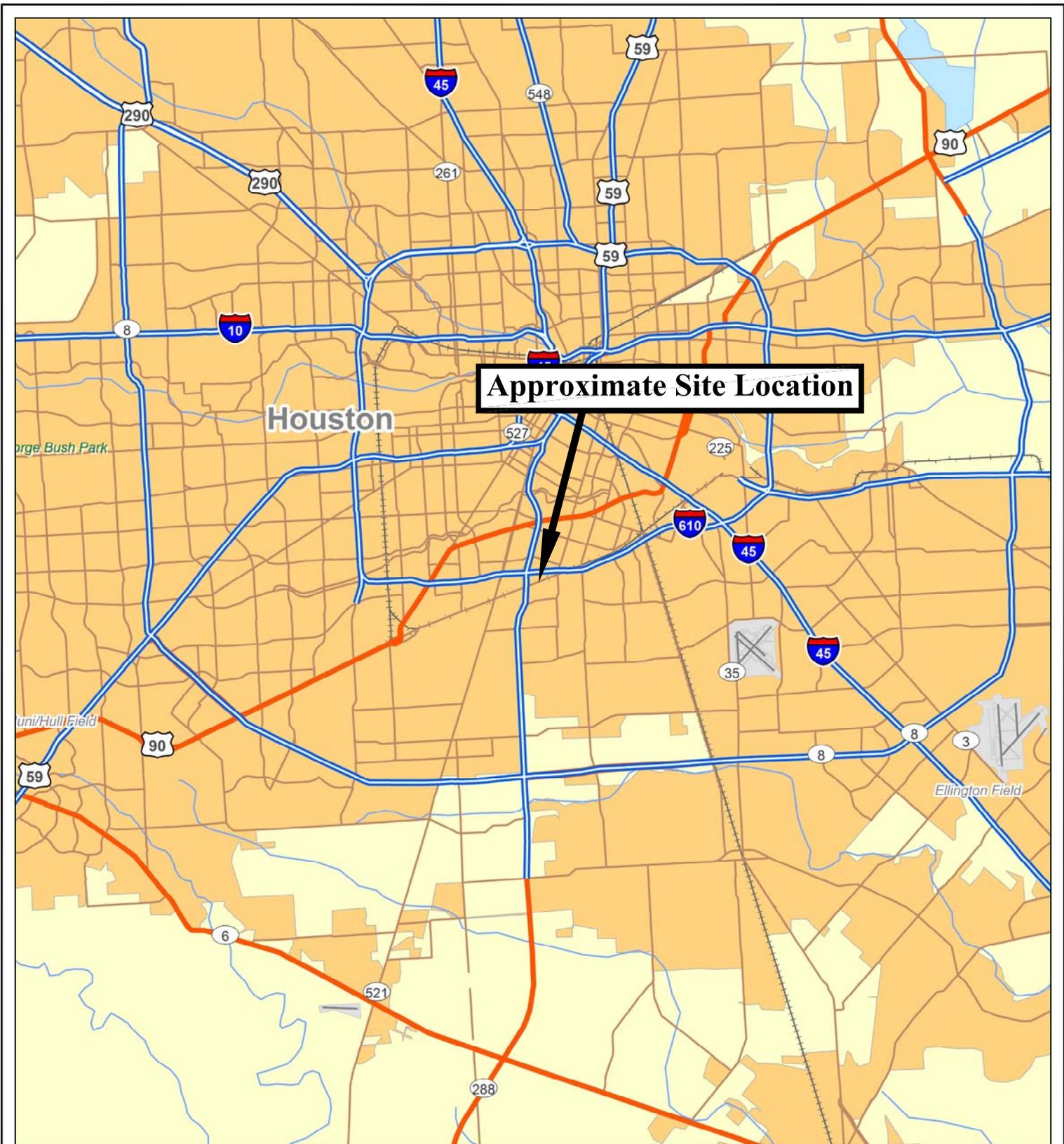
		<i>Job Number:</i> 10-0060	POTENTIAL RECEPTORS MAP SOUTH YARD, LLC 3206 HOLMES ROAD HOUSTON, HARRIS COUNTY, TEXAS	FIGURE B-1
	SCALE: 1" = 150' 	<i>File Name:</i> FIGURE 2G		
		<i>Drawn By:</i> JMJ		
		<i>Approved:</i> DH		
		<i>Date:</i> 5/11/2012		
		<i>Revised:</i>		

APPENDIX C

A site map(s) showing:

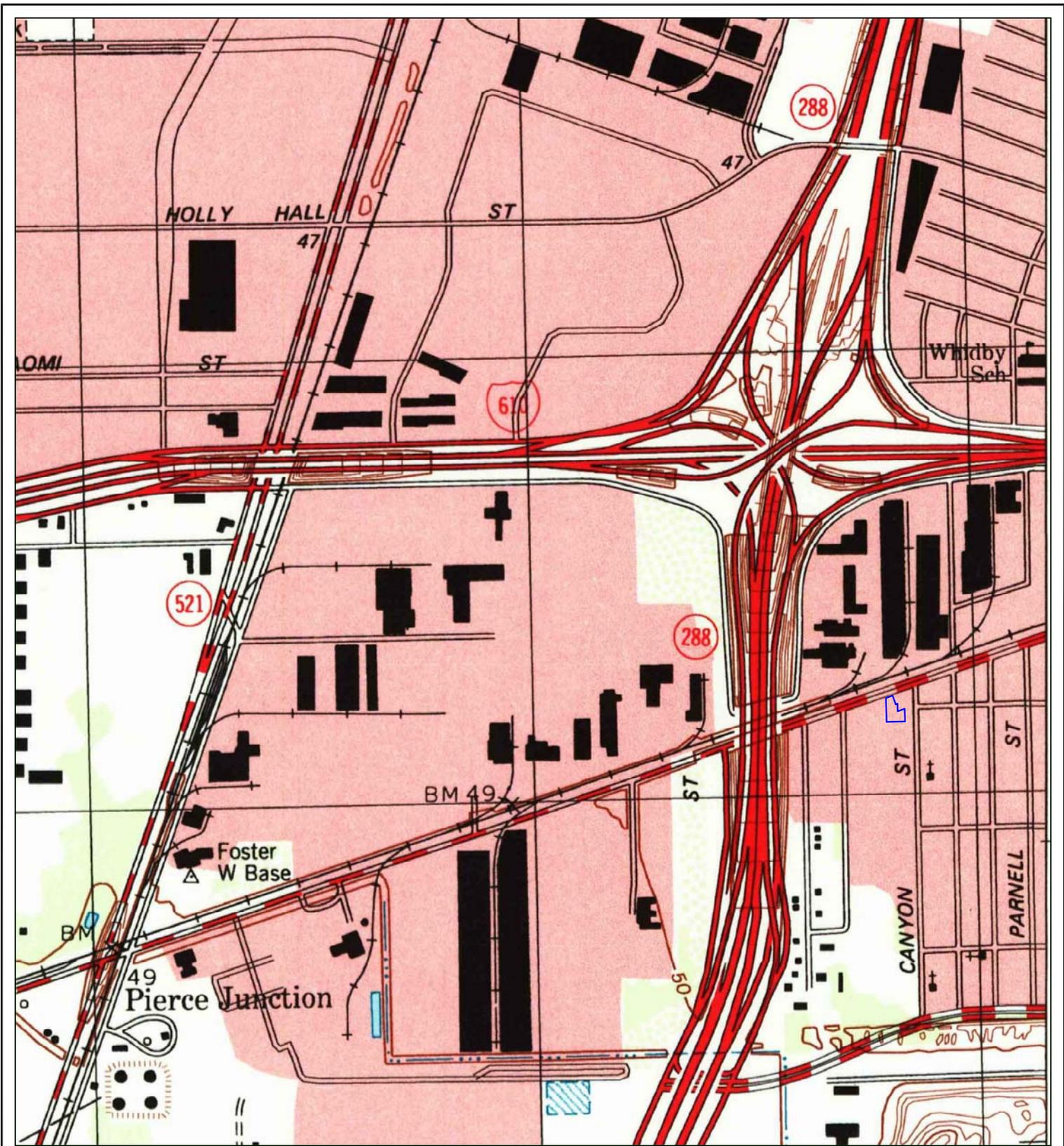
- a. The location of the designated property.*
- b. The topography of the designated property as indicated on publicly available sources, which must note the watershed including the nearest surface water body and whether the designated property is located in a floodplain or floodway, as those terms are defined in Chapter 19 of the Code of Ordinances.*
- 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 exceedence zone for each contaminate of concern, to the extent known.*

See attached figures.



Legend:

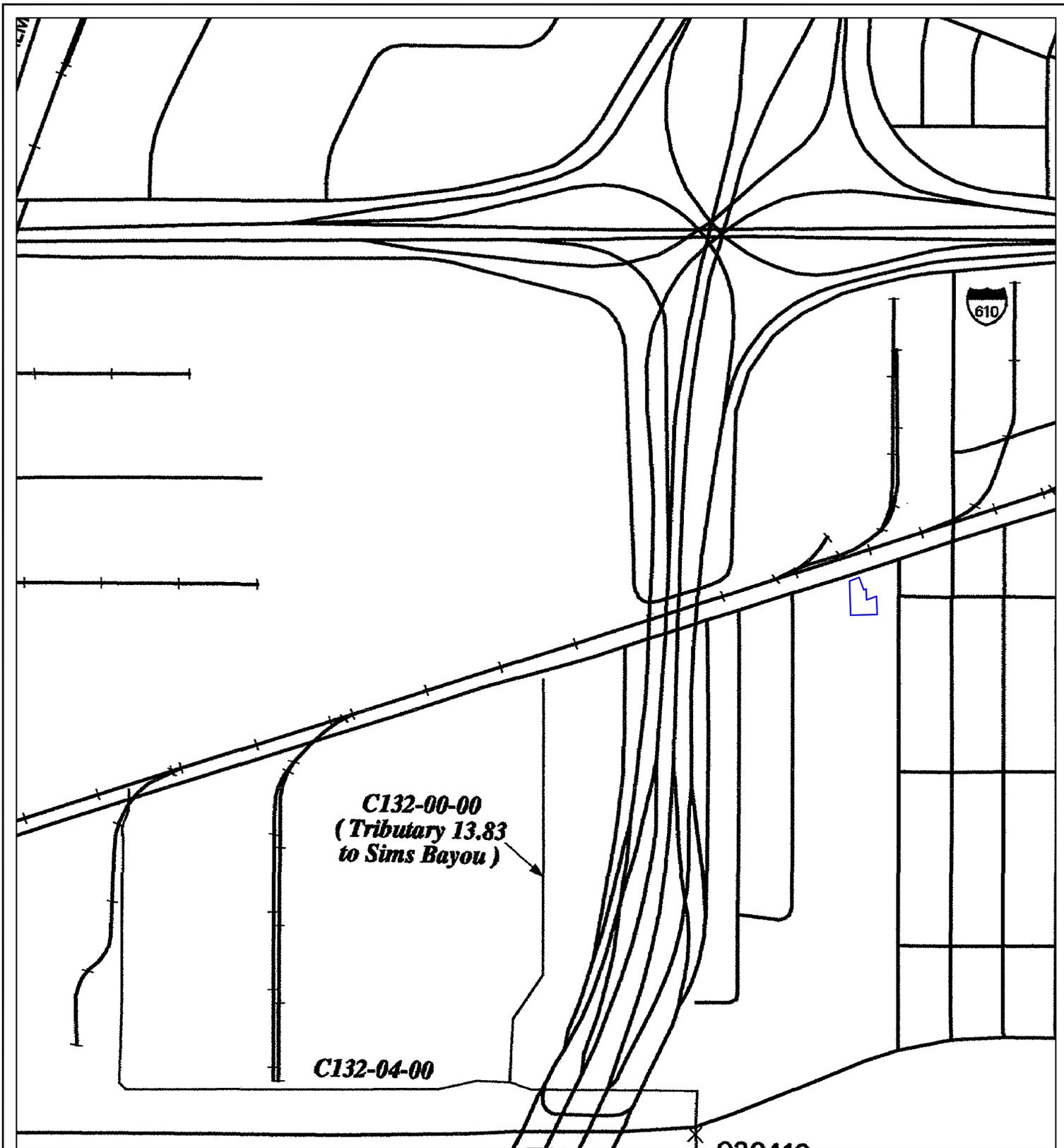
	 ese partners	SITE LOCATION MAP		FIGURE a-1				
	SCALE: 1" = 20,000' 	SOUTH YARD, LLC 3206 HOLMES ROAD HOUSTON, HARRIS COUNTY, TEXAS						<i>Job Number</i> 10-0060



LEGEND:

— Designated Property Boundary

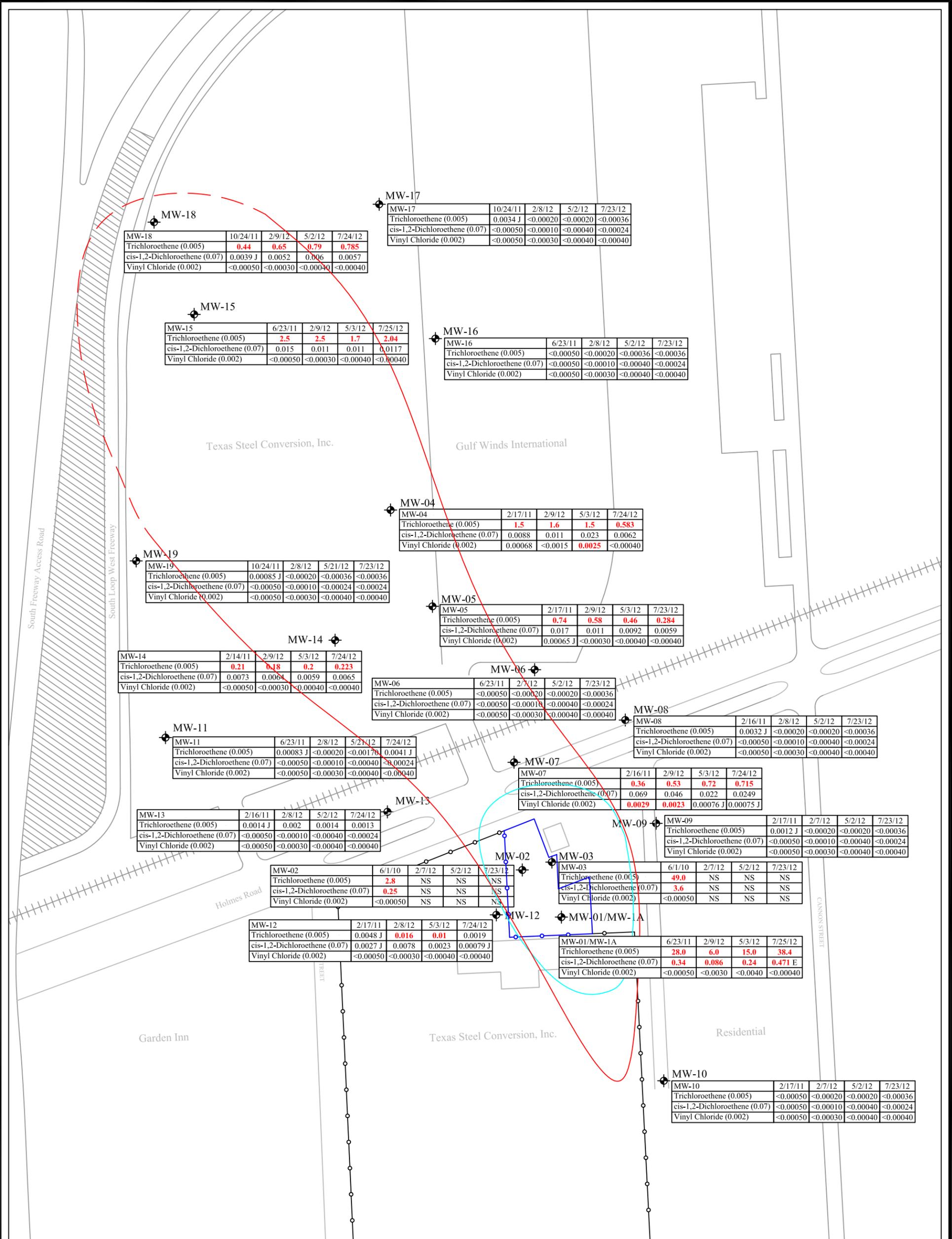
		TOPOGRAPHIC MAP		FIGURE b-1											
USGS 7.5 MINUTE QUADRANGLE: Bellaire, Texas 1995	SCALE: 1" = 1,000' 	SOUTH YARD, LLC 3206 HOLMES ROAD HOUSTON, HARRIS COUNTY, TEXAS <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black;"><i>Job Number</i></td> <td style="border-bottom: 1px solid black;"><i>File Name</i></td> <td style="border-bottom: 1px solid black;"><i>Drawn By</i></td> <td style="border-bottom: 1px solid black;"><i>Approved</i></td> <td style="border-bottom: 1px solid black;"><i>Date</i></td> <td style="border-bottom: 1px solid black;"><i>Revised</i></td> </tr> <tr> <td>10-0060</td> <td>ecochklistopo</td> <td>DAH</td> <td>TAO</td> <td>3/31/11</td> <td>6/19/2012</td> </tr> </table>			<i>Job Number</i>	<i>File Name</i>	<i>Drawn By</i>	<i>Approved</i>	<i>Date</i>	<i>Revised</i>	10-0060	ecochklistopo	DAH	TAO	3/31/11
<i>Job Number</i>	<i>File Name</i>	<i>Drawn By</i>	<i>Approved</i>	<i>Date</i>	<i>Revised</i>										
10-0060	ecochklistopo	DAH	TAO	3/31/11	6/19/2012										



Legend:

- Designated Property Boundary
 - Zone X - Areas outside the 500-year floodplain
- Zone AE- Areas inside the 100-year floodplain
 - Zone X - Areas inside the 500-year floodplain

		<p>FLOOD INSURANCE RATE MAP</p> <p>SOUTH YARD, LLC 3206 HOLMES ROAD HOUSTON, HARRIS COUNTY, TEXAS</p>	<p>FIGURE</p> <p>b-2</p>												
<p>FM48201C0870L</p>	<p>SCALE: 1" = 700'</p>	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Job Number</th> <th>File Name</th> <th>Drawn By</th> <th>Approved</th> <th>Date</th> <th>Revised</th> </tr> </thead> <tbody> <tr> <td>10-0060</td> <td>fema</td> <td>MAB</td> <td>DAH</td> <td>6/28/2012</td> <td></td> </tr> </tbody> </table>	Job Number	File Name	Drawn By	Approved	Date	Revised	10-0060	fema	MAB	DAH	6/28/2012		
Job Number	File Name	Drawn By	Approved	Date	Revised										
10-0060	fema	MAB	DAH	6/28/2012											



LEGEND:

- Approximate Property Boundary
- cis-1,2-Dichloroethene PCLE Zone

- Trichloroethene PCLE Zone
- - - Inferred Trichloroethene PCLE Zone

- Groundwater Monitor Well Locations
- NS Not Sampled

Groundwater Monitor Well ID		Date Sampled
MW-10	2/17/11	
Trichloroethene (0.005)		0.198
Constituent	Critical PCL (m/L)	



Job Number: 10-0060
 File Name: figurec-1
 Drawn By: BC
 Approved: DH
 Date: 8/14/2012
 Revised:

GROUNDWATER CONCENTRATION MAP (7-23-2012)

AFFECTED PROPERTY ASSESSMENT REPORT
 SOUTH YARD, LLC
 3206 HOLMES ROAD
 HOUSTON, HARRIS COUNTY, TEXAS

FIGURE
c-1



SCALE:
1" = 150'

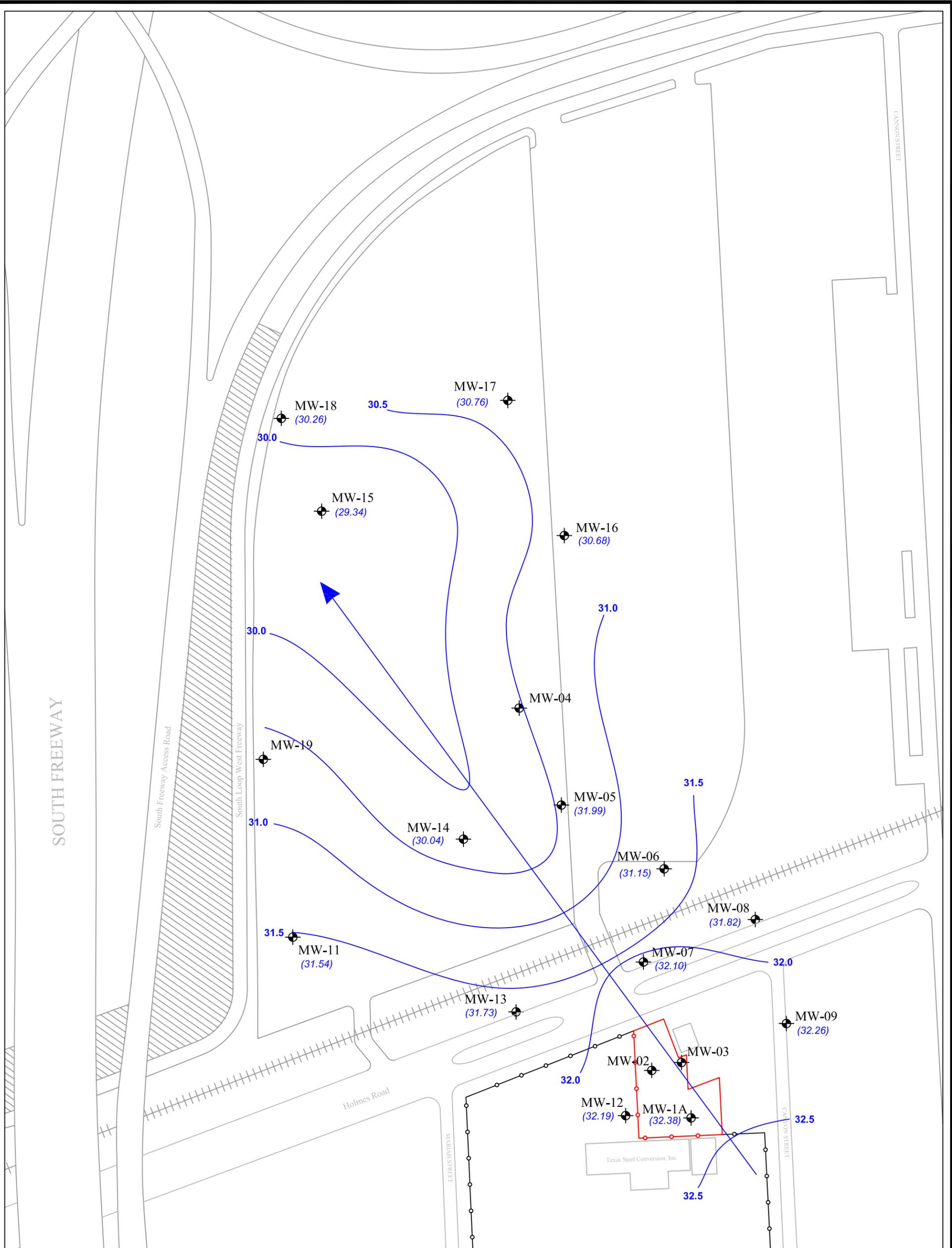




LEGEND:

- Designated Property Boundary
- Roads/Pavement
-  Groundwater Monitor Well Locations
-  Railroad Tack
-  Temporary Monitor Well Locations
-  Soil Boring Locations

		<i>Job Number:</i> 10-0060	<h3 style="margin: 0;">GROUNDWATER MONITOR WELL AND SOIL BORING LOCATION MAP</h3> <p style="margin: 5px 0;">SOUTH YARD, LLC 3206 HOLMES ROAD HOUSTON, HARRIS COUNTY, TEXAS</p>	<h1 style="margin: 0;">FIGURE d-1</h1>
	<p>SCALE: 1" = 150'</p> 	<i>File Name:</i> figure C-4		
<i>Drawn By:</i> JMJ	<i>Date:</i> 12/8/2011			
<i>Approved:</i> DH	<i>Revised:</i> 6/19/2012			
<i>Date:</i> 12/8/2011				

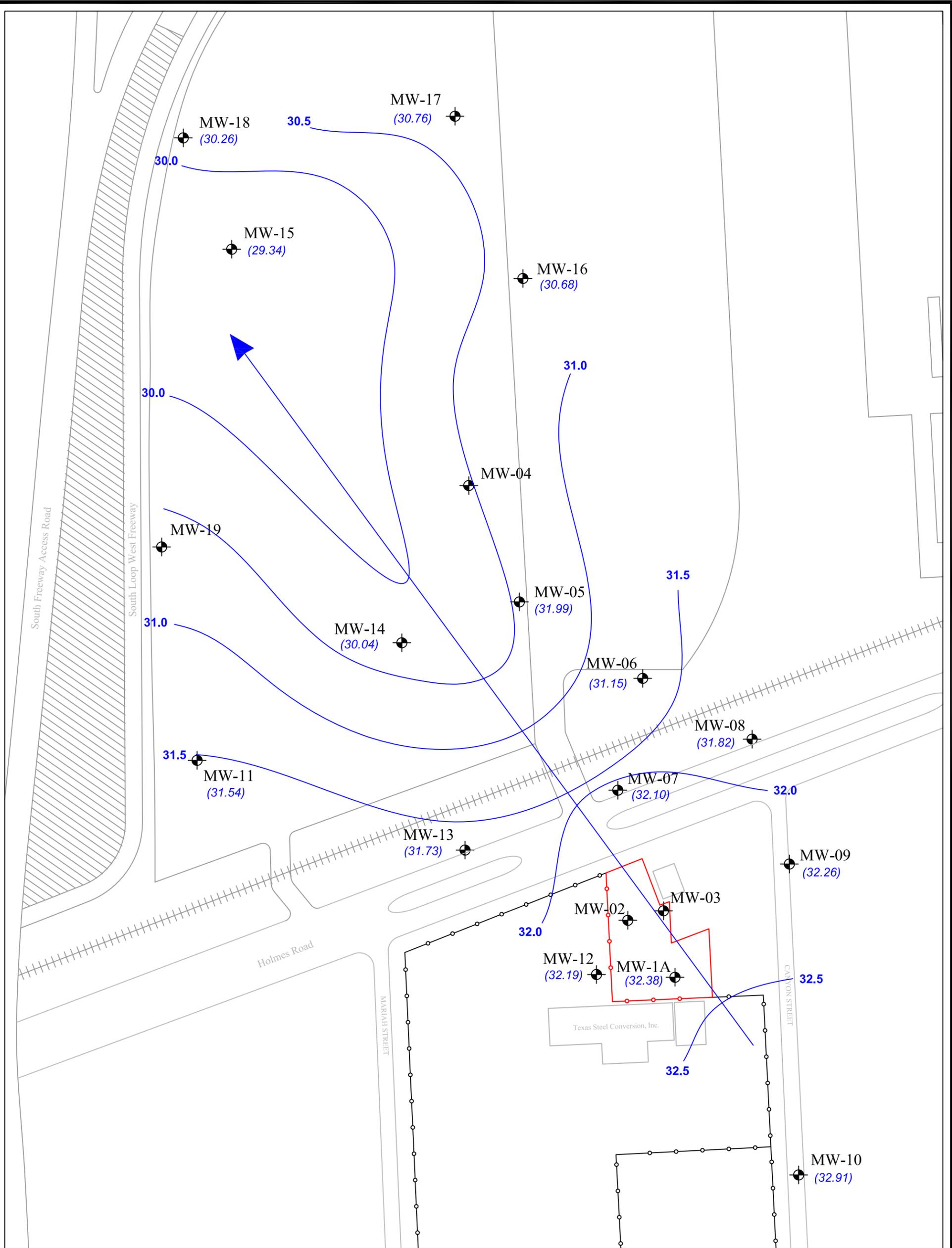


LEGEND:

— Designated Property Boundary
 —77 Groundwater Gradient
 Groundwater Monitor Well Locations
(22.26) Measured Groundwater Elevation
 Groundwater Flow Direction

 SCALE: 1" = 150' 	<i>Job Number:</i> 10-0060	GROUNDWATER GRADIENT MAP 11-14-2011 SOUTH YARD, LLC 3206 HOLMES ROAD HOUSTON, HARRIS COUNTY, TEXAS
	<i>File Name:</i> figure5a	
	<i>Drawn By:</i> AM	
	<i>Approved:</i> DH	
	<i>Date:</i> 12/8/2011	
<i>Revised:</i>		

FIGURE
e-1



LEGEND:

- Designated Property Boundary
- 77 Groundwater Gradient
- ⊕ Groundwater Monitor Well Locations
- (22.26) Measured Groundwater Elevation
- Groundwater Flow Direction



SCALE:
1" = 150'

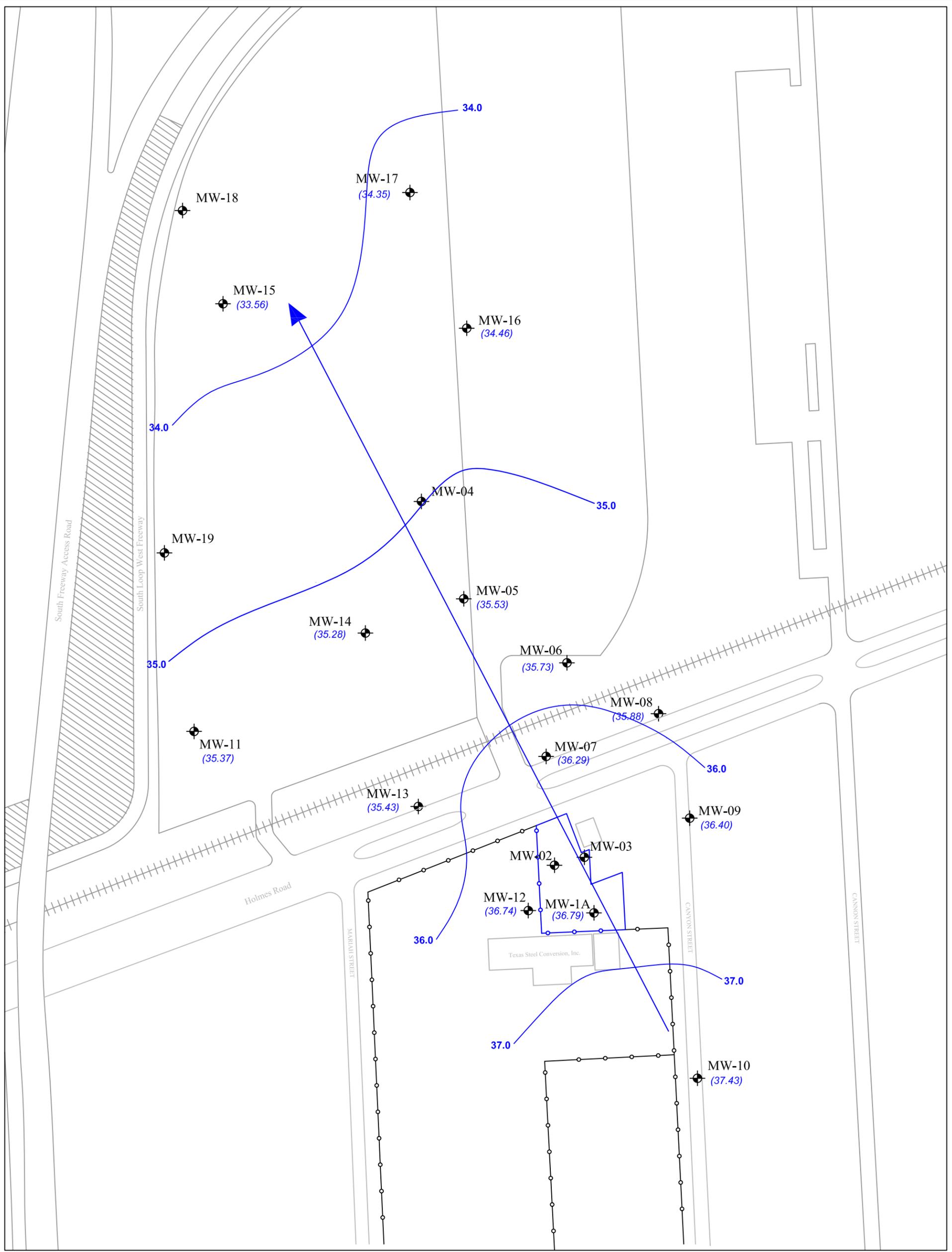


Job Number:	10-0060
File Name:	figure5a
Drawn By:	BC
Approved:	DH
Date:	12/22/2011
Revised:	6/19/2012

GROUNDWATER GRADIENT MAP 2-22-2012

SOUTH YARD, LLC
3206 HOLMES ROAD
HOUSTON, HARRIS COUNTY, TEXAS

FIGURE
e-2

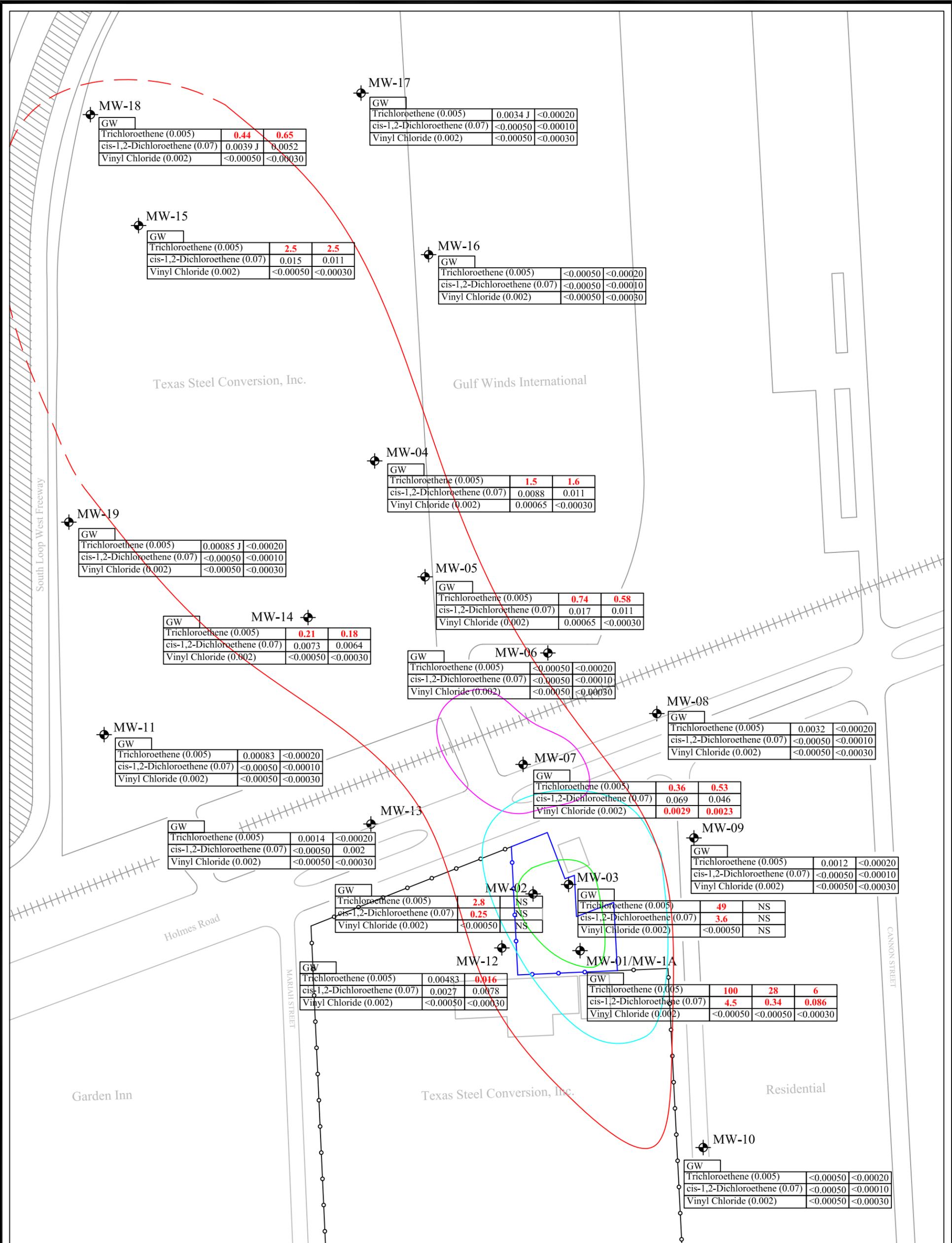


LEGEND:

— Approximate Property Boundary
 — Groundwater Gradient Contour (ft.)
 Groundwater Monitor Well Locations
(37.43) Measured Groundwater Elevation (ft. above MSL)
 Groundwater Flow Direction

 SCALE: 1" = 150' 	<i>Job Number:</i> 10-0060	GROUNDWATER GRADIENT MAP (7-23-2012) SOUTH YARD, LLC 3206 HOLMES ROAD HOUSTON, HARRIS COUNTY, TEXAS
	<i>File Name:</i> FIGURE 1C	
	<i>Drawn By:</i> BC	
	<i>Approved:</i> DH	
	<i>Date:</i> 8/13/2012	
<i>Revised:</i>		

FIGURE
e-3



LEGEND:

- Designated Property Boundary
- cis-1,2-Dichloroethene PCLE Zone
- Vinyl Chloride PCLE Zone
- - - Inferred Trichloroethene PCLE Zone
- Estimated Extent of DNAPL
- Groundwater Monitor Well Locations
- NS - Not Sampled

GW	Media Sampled		
Trichloroethene (0.005)	0.0032	0.0032	Reported Concentration
Constituent	Critical PCL (m/L)		

		Job Number: 10-0060
		File Name: figureC-6
		Drawn By: BC
		Approved: DH
		Date: 12/20/2012
		Revised: 6/19/2012

PCLE ZONE MAP

SOUTH YARD, LLC
3206 HOLMES ROAD
HOUSTON, HARRIS COUNTY, TEXAS

FIGURE
f-1

APPENDIX D

For each contaminant of concern within the ingestion protective concentration level exceedence zone provide the following:

- a. A description of the ingestion protective concentration level exceedence zone and the non-ingestion protective concentration level exceedence 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, trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2 DCE), and vinyl chloride (VC) have been identified in the shallow groundwater-bearing unit. COCs have only been identified in the shallow groundwater bearing unit, and soil sampling has failed to identify significant concentrations of contaminants of concern in soils. Based on the most recent environmental sampling data TCE, cis-1,2 DCE, and VC exceed their respective TCEQ Tier 1 PCLs in groundwater. A description of each COC, the ingestion and non-ingestion PCLE zone, vertical and horizontal extent, and geochemical properties is provided below.

COC: Trichloroethene (TCE)

Maximum Concentration: 100 mg/L
Ingestion-Based PCL (Residential ^{GW}GW_{ing}): 0.005 mg/l
Ingestion-Based PCLE Zone: (Approximate)
Length: 1,500 ft (estimated)
Width: 470 ft
Min. Depth: 18 ft bgs
Max. Depth: 35 ft bgs
Total Area: 16 acres (estimated)
Non-Ingestion - Based PCL (^{Air}GW_{inh-v}): 120 mg/L
Non-Ingestion - Based PCLE Zone: None

Geochemical/Physical Properties

Molecular Weight 131.4
Density/Specific Gravity 1.46
Solubility in Water Moderate (0.1%)
Groundwater Migration variable

COC: cis-1,2-Dichloroethene (Cis-1,2 DCE)

Maximum Concentration: 4.5 mg/L
Ingestion-Based PCL (Residential ^{GW}GW_{ing}) 0.07 mg/L
Ingestion-Based PCLE Zone: (Approximate)
Length: 490 ft
Width: 281 ft

Min. Depth: 18 ft bgs

Max. Depth: 35 ft bgs

Total Area: 3.2 acres (estimated)

Non-Ingestion - Based PCL (^{Air}GW_{inh-v}) 1,200 mg/L

Non-Ingestion - Based PCLE Zone None

Geochemical/Physical Properties

Molecular Weight 97

Density/Specific Gravity 1.27

Solubility in Water Moderate (0.4%)

Groundwater Migration variable

COC: Vinyl Chloride (VC)

Maximum Concentration: 0.0029 mg/L

Ingestion-Based PCL (Residential ^{GW}GW_{ing}) 0.002 mg/L

Ingestion-Based PCLE Zone: (Approximate)

Length : 215 ft

Width: 125 ft

Min. Depth: 18 ft bgs

Max Depth: 35 ft bgs

Total Area: 0.62 acres (estimated)

Non-Ingestion - Based PCL (^{Air}GW_{inh-v}): 3.8 mg/L

Non-Ingestion - Based PCLE Zone None

Geochemical/Physical Properties

Molecular Weight 62.489

Density/Specific Gravity 0.91

Solubility in Water insoluble

Groundwater Migration variable

APPENDIX E

Provide for each contaminant of concern within the designated groundwater:

- a. A description of the ingestion protective concentration level exceedence zone and the non-ingestion protective concentration level exceedence 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 groundwater at the designated property, as well as those COCs that are 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, Table 1**.

APPENDIX F

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

- a. 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.*
- b. The critical protective concentration level without the municipal setting designation, highlighting any exceedences.*

Groundwater

TCE and its daughter products were detected at concentrations exceeding their respective TRRP ^{GW}GW_{Ing} Tier 1 PCLs. Based on the proposed response actions, institutional controls such as this MSD will be used to gain closure for groundwater at the designated property, thus eliminating the groundwater ingestion pathway. **Table 1** in **Appendix F** presents the maximum concentration of each COC in the groundwater at the designated property.

Table 1

COC	^{GW} GW _{Ing}		^{Air} GW _{Inh-V}		Conc
	Ingestion PCL		Non-Ingestion PCL		(mg/L)
	(mg/L)	Tier	(mg/L)	Tier	Max
TCE	0.005	1	120	1	100
cis 1,2-DCE	0.07	1	1,200	1	4.5
Vinyl Chloride	0.002	1	3.8	1	0.0029

Note:

Yellow highlight indicates critical PCL without MSD

Soils

Trichloroethene was detected in surface soil at the subject Site (3206 Holmes Road) at concentrations exceeding the TRRP Tier 1 ^{Soil}GW_{Ing} PCL. Cis-1,2 DCE and vinyl chloride were either not detected or did not exceed critical TRRP Tier 1 PCLs in any of the soil samples collected. **Table 2** in **Appendix F** depicts the maximum soil concentration for chlorinated compounds at the site. None of the chlorinated VOC detections in soil or groundwater exceed critical TRRP inhalation criteria.

Table 2

COC	Tot ^{Soil} Comb PCL			GW ^{Soil} ing ¹ PCL			Air ^{Soil} Inh-V			Conc (mg/kg)
	(mg/kg)	Tier	Source area size (acres)	(mg/kg)	Tier	Source area size (acres)	(mg/kg)	Tier	Source area size (acres)	Max
TCE	120	1	0.5	0.034	1	0.5	150	1	0.5	0.091
cis 1,2-DCE	140	1	0.5	0.25	1	0.5	920	1	0.5	0.0055
Vinyl Chloride	3.7	1	0.5	0.022	1	0.5	43	1	0.5	<0.0012

Note:

Yellow highlight indicates critical PCL without MSD

APPENDIX G

*A statement as to whether the plume of contamination is stable (i.e. no change), or contracting, and delineated, **with the basis for that statement**. Please include historical sampling data.*

Based on the historical groundwater monitoring that has been performed, the following conclusions have been drawn for the designated property:

Groundwater is impacted by chlorinated hydrocarbons and associated daughter products. Degradation by reductive dechlorination has resulted in the formation of typical daughter products, cis-1,2-dichloroethene and vinyl chloride. The groundwater contaminant plume appears to extend a minimum distance of approximately 1,400 feet northwest (downgradient) of the apparent source area. MW-10, the upgradient delineating monitor well within the study area, is located approximately 350 feet southeast of the apparent source area. Off-site delineation of impacted groundwater to critical PCLs to the north of the designated property, along the presumed contaminant plume axis, was not technically practicable due to the presence of an expansive Texas Department of Transportation (TxDOT) right-of-way (ROW) corridor, specifically the SH 288 and IH-610 interchange. However, the groundwater contaminant plume has been delineated to the south, east, and west.

Concentrations of TCE have remained stable and are decreasing in the source area monitoring wells. As is expected, daughter products such as cis-1,2-dichloroethene and vinyl chloride have been detected in source area wells and several downgradient wells, with reported stable or decreasing concentrations.