CITY OF HOUSTON

PUBLIC WORKS AND ENGINEERING
PLANNING & DEVELOPMENT DIVISION

Application for Approval of Municipal Setting Designation

APPLICANT INFORMATION

Applicant's Name: CCG Houston I, LP

☐Individual ☒Private Entity ☐Public Entity ☐Non-Profit Entity ☐Other _____

Address: 3131 Turtle Creek, Suite 900 (Street) Dallas (City) Texas (State) 75219 (Zip)

Phone No.: 210.520.1511 Fax No.: 210.520.2336

Email: jfernandes@componentcapitalgroup.com

Contact Information

Name of Contact: Michael F. Marcon (InControl Technologies)

Title: Principal

Address: 3845 FM 1960 W, Suite 195 (Street) Houston (City) Texas (State) 77068 (Zip)

Phone No.: 281-580-8892 Fax No.: 281-580-8853

Email: Michael Marcon (mmarcon@incontroltech.com)

SITE INFORMATION

Site HCAD No(s): 0420740000094

Site Name: North 45 Plaza

Site Size: 10.2-acres

Site Address: 10922 North Freeway, Houston, Texas 77037

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

Owner: CCG Houston I, LP

Owner Address: 3131 Turtle Creek, Suite 900 (Street) Dallas (City) Texas (State) 75219 (Zip)

Name of Contact: Jeremy Fernandes

Title: Owners

Organization: CCG Houston I, LP

Phone No.: 210.520.1511 Fax No.: 210.520.2336

Email: jfernandes@componentcapitalgroup.com

Appendix B

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

The proposed MSD area is approximately 10.2-acres (444,312 square feet) of land located north of downtown Houston, Harris County, Texas. The affected property is located in a commercial area along the I-45 N corridor (**Figure B1**). Bussey Elementary school is located adjacent east of the subject property and is the only non-commercial property within 500-feet of the subject property. **Figure B1** provides a description of the surrounding land use within 500-feet of the site.

Prior to the development of the current strip shopping center, the subject property was undeveloped. Historically, two dry cleaners operated on the subject property. However, only one (Crown Cleaners, Suite 10922) operated an on-site dry cleaning plant. The property is currently used as a retail strip center (**Figure B1**). Future use of the subject property is expected to remain the same.

- North – bounded by W Goodson Drive followed by a car dealership;
- East – an elementary school (Bussey Elementary School, Aldine ISD) followed by residential development;
- South – Dyna Drive followed by commercial development;
- West – Interstate 45 Frontage Roads and main lanes followed by commercial development.

LEGEND

Proposed MSD Boundary

500-ft Radius

N

0 300 600

Approximate Scale
(Feet)

InControl Technologies, Inc.
3845 Cypress Creek Parkway, Suite 195
Houston, Texas 77068
(281) 580-8892 FAX (281) 580-8853

Surrounding Property Map

CLIENT: Component Capital Group			PM: MFM
LOCATION: 10822-10990 North Freeway Houston, TX 77037			CHECKED:
DETAILED: 4/23/13	DESIGNED: CP	PROJECT NO: 538-110	FIGURE: **B1**

Appendix C

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 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 contaminant of concern, to the extent known.
g. Depth to groundwater for each affected zone.

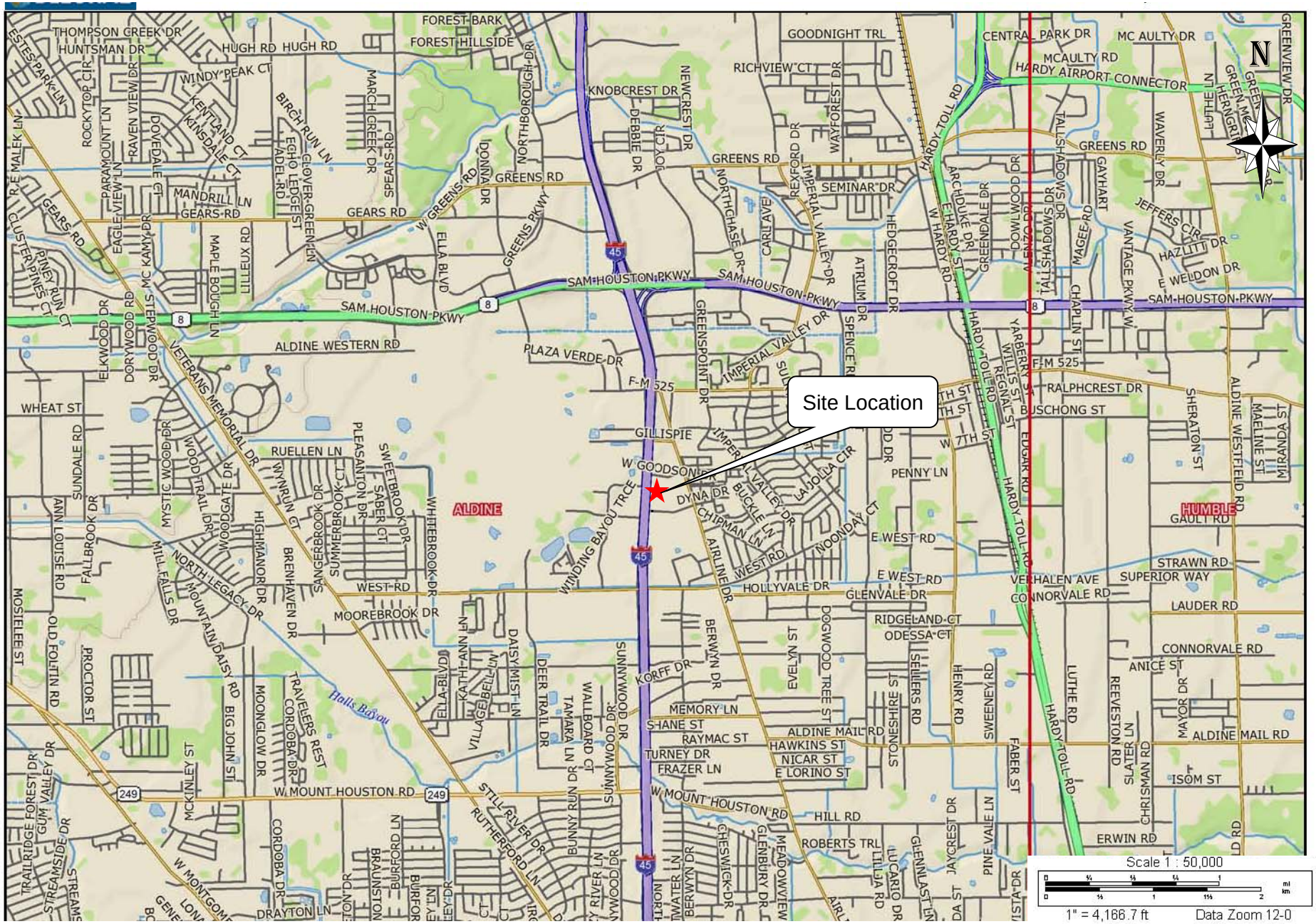
The following is a listing of figures included in **Appendix C**.

Figure C1 – Topographic Map
Figure C2 – Flood Plain and Watershed Map
Figure C3 – Groundwater PCLE zones (January 2013)
Figure C4 – Sample Location Map
Figure C5 – Groundwater Gradient Map (January 2013)
Figure C6-1 – Cross-Section A-A'
Figure C6-2 – Cross-Section B-B'

The subject property is located within the Greens Bayou watershed and the property is located outside the 100-year floodplain (**Figure C2**).

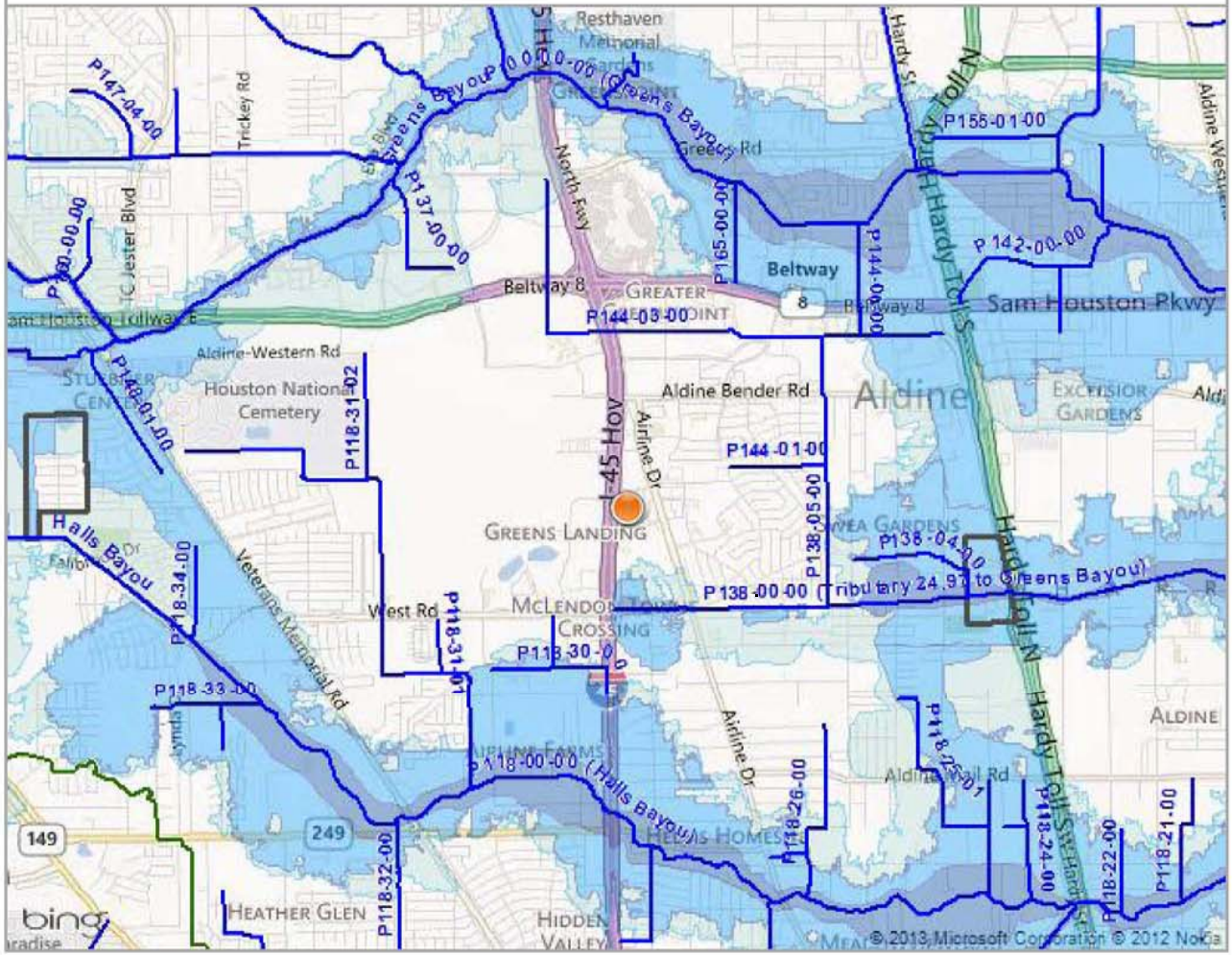
Figure C3 depicts the entire groundwater PCLE zone within the proposed MSD boundary during the most recent sampling event. These zones were developed based on several environmental samples collected from both soil and groundwater. **Figure C4** shows the locations of the soil and groundwater samples. Groundwater in this area tends to flow to the east or northeast (**Figures C5**). The first groundwater bearing unit was determined to be a low yield (Class 3) groundwater resource. Due to the nature of the first groundwater bearing unit, the direction of groundwater flow is variable. It was toward the northeast during the most recent groundwater monitoring events. However, historical groundwater gradients have been to the east. The primary chemicals of concern (COCs) are PCE and TCE (**Figure C3**).

The subsurface geology is presented in cross-section in **Figures C6-1 and C6-2**.



InControl Technologies, Inc. 3845 Cypress Creek Parkway, Suite 195 Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853	Topographic Map Aldine 4.5-minute Quad	CCG Houston I, LP	LOCATION: North 45 Plaza Houston, TX 77037			CHECKED:
			DETAILED: 4/23/13	PM: CP	PROJECT NO: 538-110	FIGURE: **C1**

Flood Education Mapping Tool



LEGEND

- Floodway
- 1% (100-year) Floodplain
- 0.2% (500-year) Floodplain
- 1% (100-year) Coastal Floodplain
- LOMR Boundary
- Open Channels
- Enclosed Channels
- Watershed Boundaries
- Harris County Boundary

N

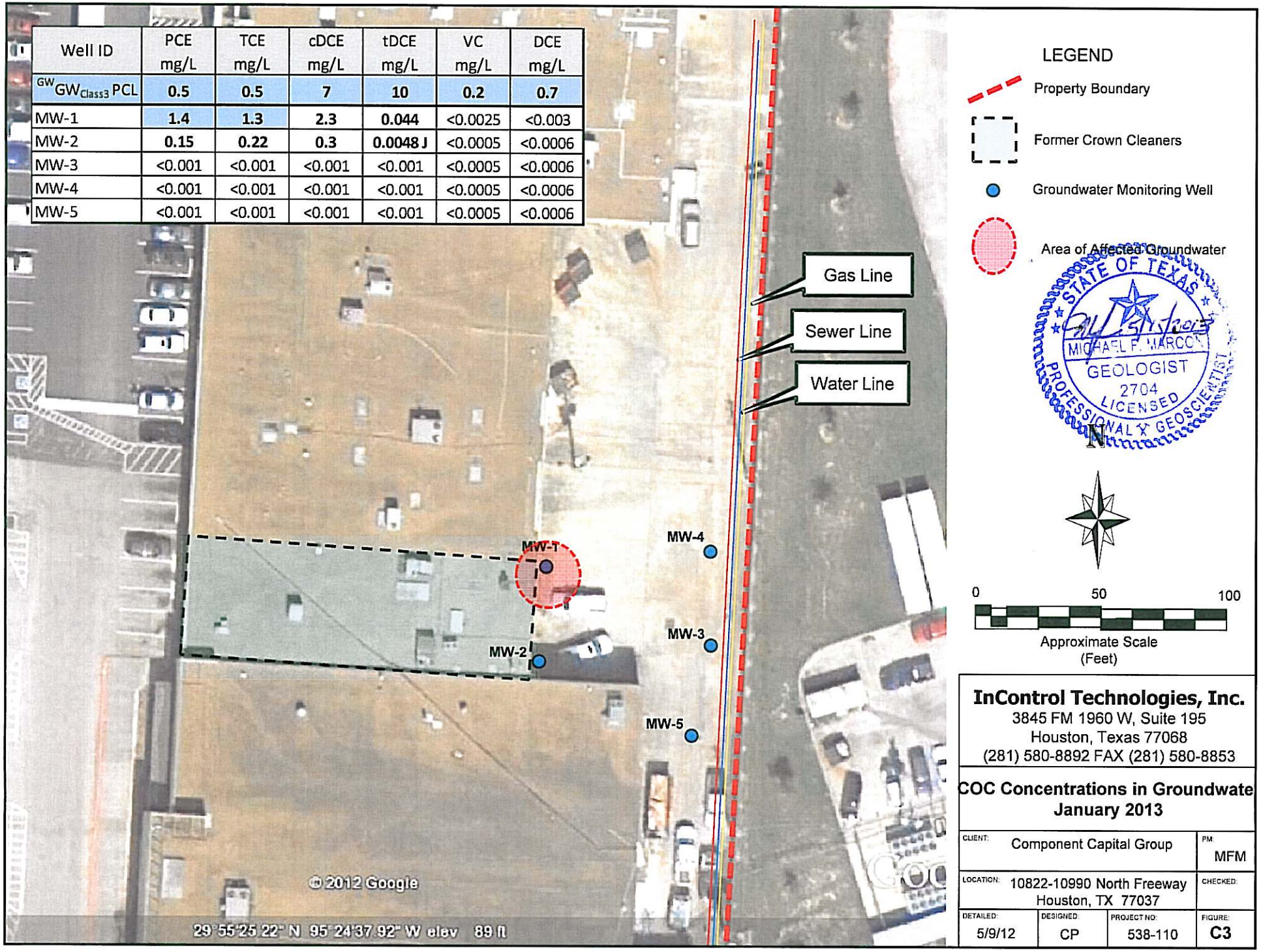
1 in = 5216 ft

(1 : 62594.68)

DISCLAIMER: The Harris County Flood Control District's Flood Education Mapping Tool is for general information purposes only and may not be suitable for legal, engineering or surveying purposes. The floodplains shown on this mapping tool are those delineated on the Federal Emergency Management Agency's (FEMA) effective Flood Insurance Rate Map (FIRM or floodplain map) for Harris County that was adopted in 2007, as well as updates that have been made through a Letter of Map Revision (LOMR) since 2007. This mapping tool is not an effective FIRM. The effective FIRM is produced, maintained and published by FEMA and not by the Harris County Flood Control District. Please visit FEMA's Map Service Center at www.msc.fema.gov to view the effective FIRM for Harris County. For an official floodplain determination, please contact an insurance agent or mortgage lender. This map is a representation and approximation of the relative location of geographic information, land marks and physical addresses.

InControl Technologies, Inc. 3845 Cypress Creek Parkway, Suite 195 Houston, Texas 77068 (281) 580-8892 FAX (281) 580-8853	Flood Plain and Watershed Map	CCG Houston I, LP	LOCATION: North 45 Plaza Houston, TX 77037			CHECKED:
			DETAILED: 4/23/13	PM: CP	PROJECT NO: 538-110	FIGURE: **C2**

Well ID	PCE mg/L	TCE mg/L	cDCE mg/L	tDCE mg/L	VC mg/L	DCE mg/L
$^{GW}GW_{Class3}$ PCL	**0.5**	**0.5**	**7**	**10**	**0.2**	**0.7**
MW-1	**1.4**	**1.3**	**2.3**	**0.044**	<0.0025	<0.003
MW-2	**0.15**	**0.22**	**0.3**	**0.0048 J**	<0.0005	<0.0006
MW-3	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0006
MW-4	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0006
MW-5	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0006



LEGEND

- Property Boundary
- Former Crown Cleaners
- Groundwater Monitoring Well
- Area of Affected Groundwater

STATE OF TEXAS
MICHAEL F. MARCO
GEOLOGIST
2704
LICENSED
PROFESSIONAL GEOSCIENTIST

N

0 50 100

Approximate Scale (Feet)

InControl Technologies, Inc.
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(281) 580-8892 FAX (281) 580-8853

COC Concentrations in Groundwate
January 2013

CLIENT:	PM:
Component Capital Group	MFM
LOCATION: 10822-10990 North Freeway Houston, TX 77037	CHECKED:
DETAILED: 5/9/12 / DESIGNED: CP / PROJECT NO: 538-110	FIGURE: C3

InControl Technologies, Inc.
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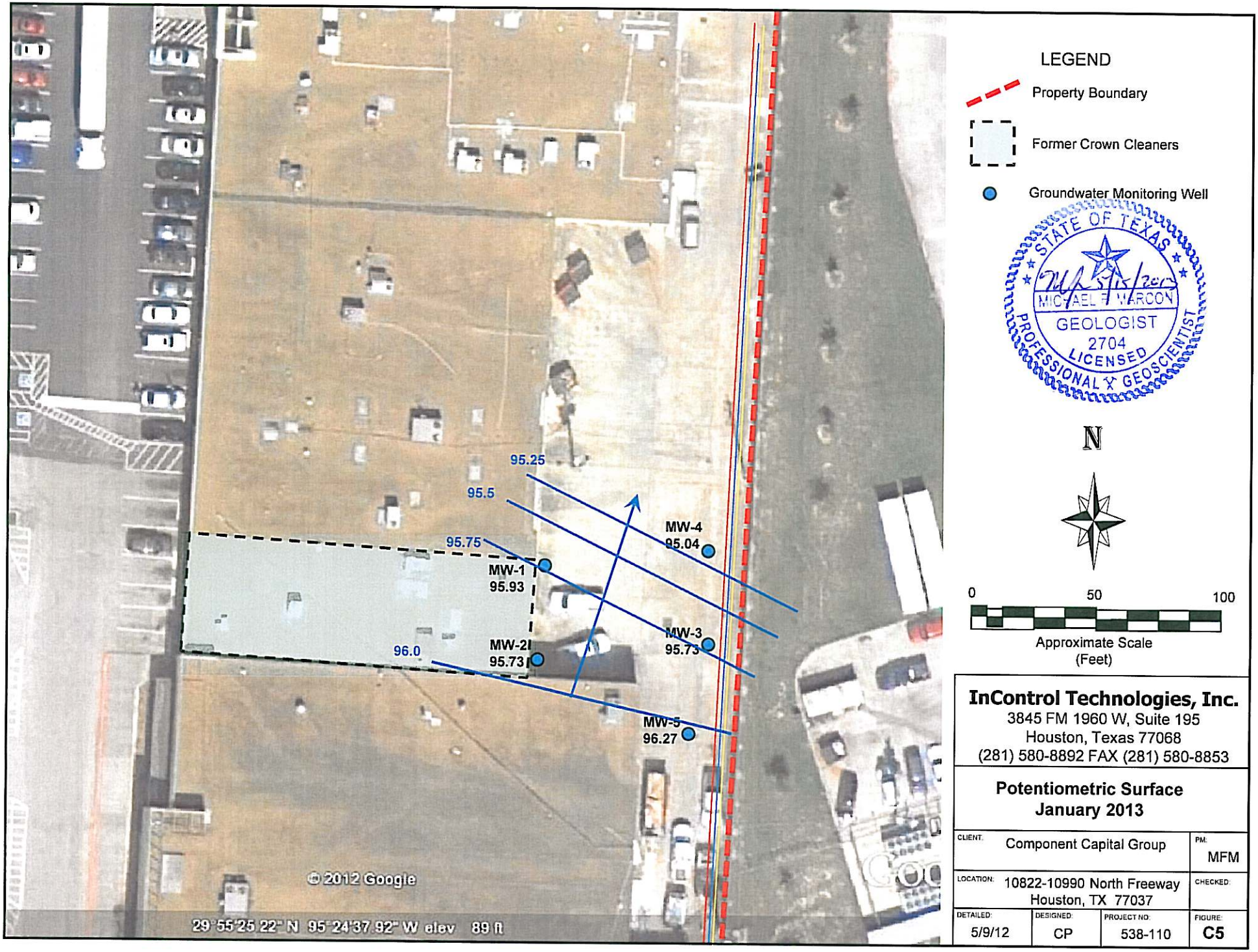
(281) 580-8892 FAX (281) 580-8853

Sample Location Map

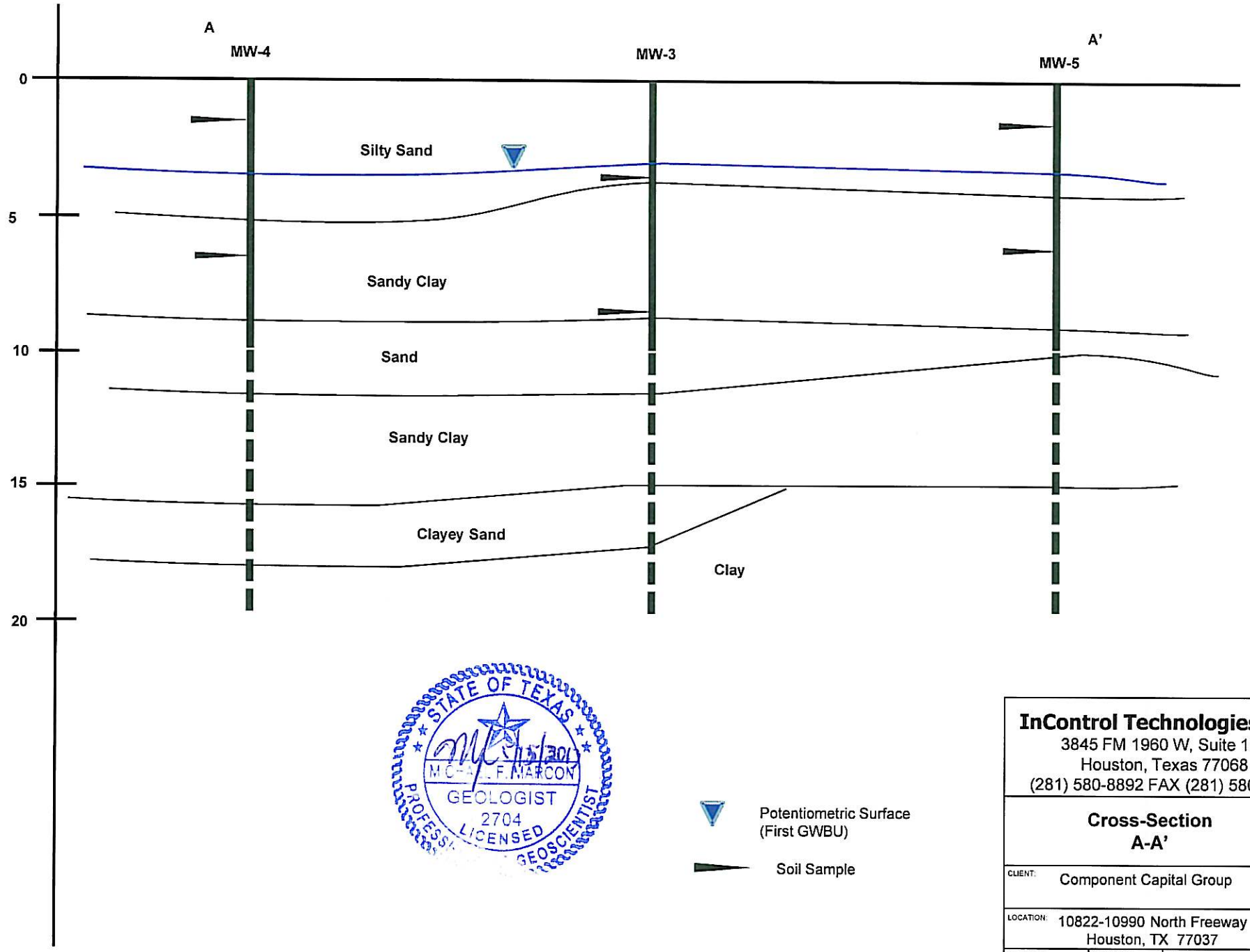
CLIENT: Component Capital Group			PM: MFM
LOCATION: 10822-10990 North Freeway Houston, TX 77037			CHECKED:
DETAILED: 5/9/12	DESIGNED: CP	PROJECT NO: 538-110	FIGURE: C4



InControl Technologies, Inc.
3845 FM 1960 W, Suite 195
Houston, Texas 77068
(281) 580-8892 FAX (281) 580-8853

Potentiometric Surface
January 2013

CLIENT: Component Capital Group			PM: MFM
LOCATION: 10822-10990 North Freeway Houston, TX 77037			CHECKED:
DETAILED: 5/9/12	DESIGNED: CP	PROJECT NO: 538-110	FIGURE: C5



STATE OF TEXAS
MICHAEL F. MARCON
GEOLOGIST
2704
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PROFESSIONAL GEOSCIENTIST

Potentiometric Surface (First GWBU)

Soil Sample

InControl Technologies, Inc.
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Houston, Texas 77068
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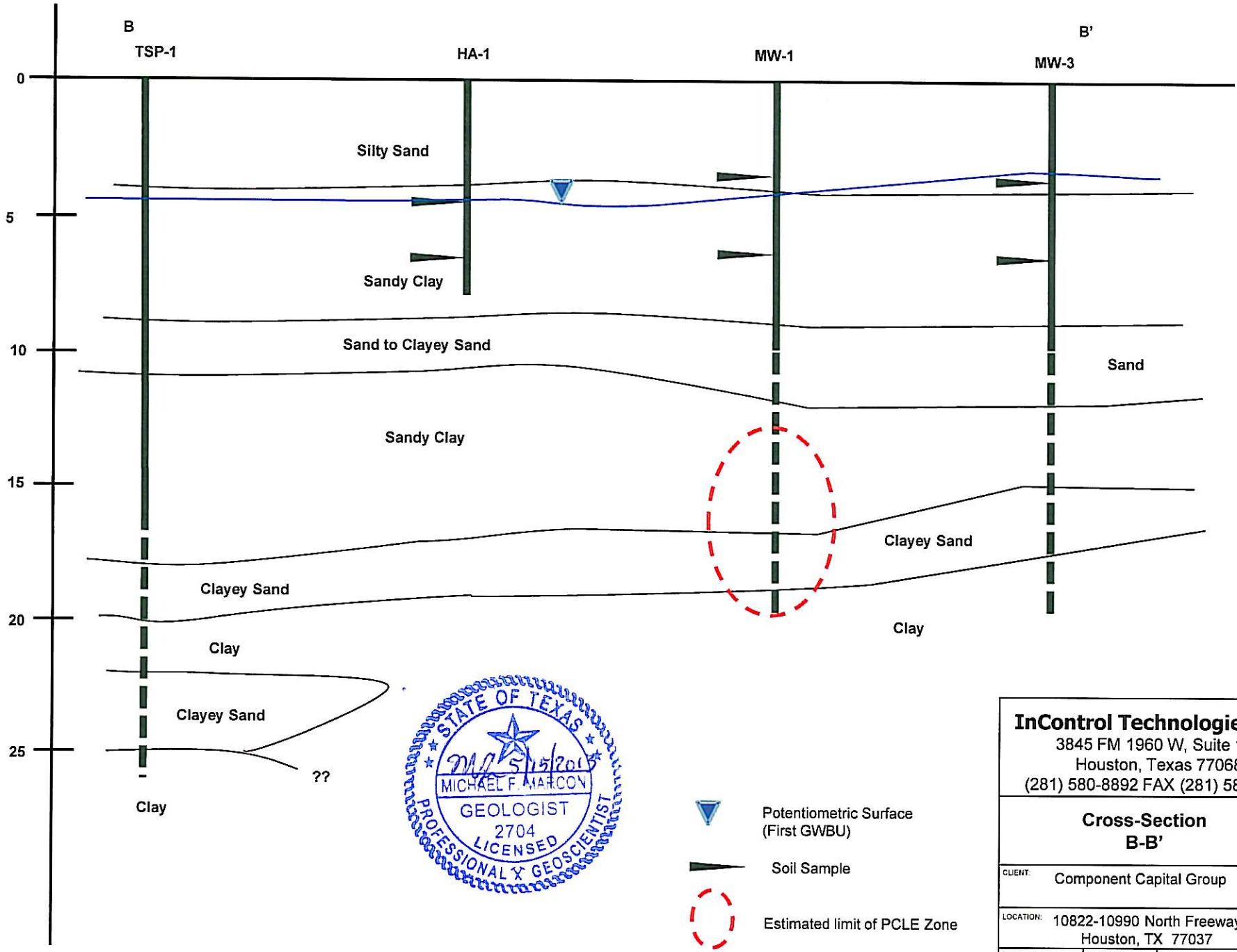
Cross-Section A-A'

CLIENT: Component Capital Group			PM: MFM
LOCATION: 10822-10990 North Freeway Houston, TX 77037			CHECKED:
DETAILED: 1/31/13	DESIGNED: CP	PROJECT NO: 538-110	FIGURE: C6-1



InControl Technologies, Inc.
3845 FM 1960 W, Suite 195
Houston, Texas 77068
(281) 580-8892 FAX (281) 580-8853

Cross-Section B-B'

CLIENT: Component Capital Group			PM: MFM
LOCATION: 10822-10990 North Freeway Houston, TX 77037			CHECKED:
DETAILED: 1/31/13	DESIGNED: CP	PROJECT NO.: 538-110	FIGURE: C6-2

Appendix D

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) Groundwater PCLE Zone – A review of recent groundwater sampling data indicates that the COCs that currently exceed the Tier 1 $^{GW}GW_{Class}$ PCLs are tetrachloroethene (PCE) and trichloroethene (TCE). The PCLE zones are depicted on **Figure C3** and are discussed in more detail below. The area of affected groundwater has been delineated (**Figure C3**). According to the most recent groundwater data, the plume appears to be stable. Soil samples collected from the hand auger borings advanced around the location of the former dry cleaning machine reported concentrations of PCE, TCE, and vinyl chloride above the laboratory method detection limit; however, these concentrations are less than the Tier 1 $^{GW}Soil_{Class3}$ PCLs.

Presently, a small groundwater PLCE zone exists around groundwater monitoring well MW-1 (**Figure C3, Figure C6-2**) and there are no soil PCLE zones identified at the subject property. A comparison of the groundwater sampling results with applicable non-ingestion protective concentration levels ($^{Air}GW_{Inh-V}$) indicates that none of the groundwater samples reported a COC concentration above the $^{Air}GW_{Inh-V}$ PCL. Therefore, based on the recent groundwater monitoring results, there is no non-ingestion protective concentration level exceedance zone within the proposed MSD boundary.

Based on a review of boring logs, the first groundwater is encountered at a depth of approximately 15 feet below ground surface (ft bgs) and is a thin unit approximately 2- to 3-feet thick. The bottom of the first groundwater bearing unit is estimated at approximately 18-ft bgs and is underlain by a stiff clay unit. The groundwater bearing unit is a clayey silt unit which produces less than 150 gallons per day (gpd). This unit is not capable of supplying a usable quantity of groundwater to be considered a future source of potable water.

B) Groundwater Data Ingestion PCL Exceedences – The following table represents the most groundwater monitoring data for the site. Only concentrations observed in MW-1 exceed the $^{GW}GW_{Class3}$ PCL.

Table D1 – Groundwater ingestion PCL Exceedances in First Groundwater Bearing Unit

		PCE (mg/L)	TCE (mg/L)	Cis-1,2-DCE (mg/L)	Trans-1,2-DCE (mg/L)
Tier 1 $^{GW}GW_{Class\ 3}$ PCLs		0.5	0.5	7	10
Tier 1 $^{Air}GW_{Inh\text{-}V}$ PCLs		500	24	1,200	770
Monitoring Well ID	Sample Date	Concentration (mg/L)			
MW-1	1/413	**1.4**	**1.3**	2.3	0.044
MW-2	1/4/13	0.15	0.22	0.3	0.0048 J
MW-3	1/4/13	<0.001	<0.001	<0.001	<0.001
MW-4	1/4/13	<0.001	<0.001	<0.001	<0.001
MW-5	1/4/13	<0.001	<0.001	<0.001	<0.001

Notes – Values in **Bold** exceed the $^{GW}GW_{Class\ 3}$ PCL (ingestion PCLE)

All groundwater COC concentrations observed at the site to date are less than the $^{Air}GW_{Inh\text{-}V}$ non-ingestion PCL. Therefore, based on the monitoring data there is no non-ingestion PCLE zone on the subject property.

C) Groundwater COCs – The chemicals of concern (COCs) detected in groundwater samples (PCE, TCE, cis-1,2-DCE, and vinyl chloride) are associated with the historic dry cleaner operations within the proposed MSD boundary.

Chlorinated solvents are characterized by their high volatilities, high densities, low viscosities, low interfacial tension, low absolute solubilities, high relative solubilities, low portioning to soil materials and low degradability. Chlorinated solvents will dissolve in water at low concentrations but once the groundwater has reached the saturation limit for that compound, the chlorinated solvent will form a separate phase in equilibrium with the water. Because chlorinated solvents have higher densities relative to water, the separate phase may “sink”. However, these compounds tend to form micro-droplets which adhere to the soil particles within the saturated unit. It is also common for these chemicals to collect within the capillary fringe between the vadose zone and the saturated unit. Because of these characteristics, these compounds are referred to as “dense non-aqueous phase liquids” (DNAPLs). In extremely high concentrations DNAPLs can penetrate the water table and form “pools” on the top of less permeable layers. Historically, DNAPL has not been identified in any of the monitor wells within the groundwater monitor well network and is not expected to be present at this site given the relatively low concentration of chlorinated solvents detected in groundwater.

Based on the field observations and laboratory results, it appears that the groundwater COCs on the subject property are primarily dissolved in the shallow groundwater.

Appendix E

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.

Appendix E contains tables summarizing the concentration levels for the primary chemicals of concern in soil and groundwater. The tables include the concentration level, the ingestion protective concentration limits ($^{GW}Soil_{Class3}$ for soil and $^{GW}GW_{Class3}$ for groundwater), the non-ingestion protective concentration limits for soil ($^{Tot}Soil_{Comb}$ and $^{Air}Soil_{Inh\text{-}V}$) and groundwater ($^{Air}GW_{Inh\text{-}V}$), the critical protective concentration limits assuming no MSD is in place ($^{GW}Soil_{Class3}$ for soil and $^{GW}Soil_{Class3}$ for groundwater), and the critical PCLs assuming that an MSD is in place ($^{Tot}Soil_{Comb}$ for soil and $^{Air}GW_{Inh\text{-}V}$ for groundwater).

Table E1 is a summary of Volatile Organic Compounds (VOCs) in Soil

Table E2 is a summary of Volatile Organic Compounds (VOCs) in Groundwater

Table E1
Volatile Organic Compounds in Soil
North 45 Plaza
10922 North Freeway
Houston, Texas

Sample ID	Sample Depth (ft)	Sample Date	Tetrachloroethene (mg/kg)	Trichloroethene (mg/kg)	cis-1,2-Dichloroethene (mg/kg)	trans-1,2-Dichloroethene (mg/kg)	Vinyl chloride (mg/kg)	1,1-Dichloroethene (mg/kg)
Residential $^{GW}Soil_{Class\ 3}$ PCL			**5**	**3.4**	**25**	**49**	**2.2**	**5**
Residential $^{Tot}Soil_{Comb}$ PCL			**450**	**18**	**140**	**590**	**3.7**	**2,300**
Residential $^{Air}Soil_{Inh\text{-}V}$ PCL			**940**	**31**	**920**	**920**	**43**	**5,200**
HA-1	4-5	5/17/2012	<0.0012	<0.0019	**0.094**	<0.0011	**0.21**	NA
	6-7	5/17/2012	**0.22**	**0.068**	**0.16**	<0.0011	**0.025**	NA
HA-2	4-5	5/17/2012	<0.0012	<0.0019	<0.0018	<0.0011	**0.032**	NA
	6-7	5/17/2012	<0.0012	<0.0019	**0.088**	<0.0011	**0.11**	NA
MW-1	2.5-5	6/20/2012	<0.0012	<0.0019	<0.0018	<0.0011	<0.0012	<0.0018
	7.5-10	6/20/2012	**0.014**	**0.021**	**0.049**	<0.0011	<0.0012	<0.0018
MW-2	2.5-5	6/20/2012	<0.0012	<0.0019	<0.0018	<0.0011	<0.0012	<0.0018
	5-7.5	6/20/2012	<0.0012	<0.0019	**0.008**	<0.0011	<0.0012	<0.0018
MW-3	2.5-5	6/20/2012	<0.0012	<0.0019	<0.0018	<0.0011	<0.0012	<0.0018
	7.5-10	6/20/2012	<0.0012	<0.0019	<0.0018	<0.0011	<0.0012	<0.0018
MW-4	0-2.5	6/21/2012	<0.0012	<0.0019	<0.0018	<0.0011	<0.0012	<0.0018
	5-7.5	6/21/2012	<0.0012	<0.0019	<0.0018	<0.0011	<0.0012	<0.0018
MW-5	0-2.5	6/21/2012	<0.0012	<0.0019	<0.0018	<0.0011	<0.0012	<0.0018
	5-7.5	6/21/2012	<0.0012	<0.0019	<0.0018	<0.0011	<0.0012	<0.0018

Notes:

Bold	Concentration reported above laboratory detection limits
<	Analyzed for but not detected at concentrations greater than the laboratory detection limit.
J	Estimated
	Exceeds critical PCL

Table E2
Volatile Organic Compounds in Groundwater
North 45 Plaza
10922 North Freeway
Houston, Texas

Sample ID	Sample Date	Tetrachloroethene (mg/L)	Trichloroethene (mg/L)	cis-1,2-Dichloroethene (mg/L)	trans-1,2-Dichloroethene (mg/L)	Vinyl chloride (mg/L)	1,1-Dichloroethene (mg/L)
Residential $^{GW}GW_{Class\ 3}$ PCL		**0.5**	**0.5**	**7**	**10**	**0.2**	**0.7**
Residential $^{Air}GW_{Inh\text{-}V}$ PCL		**500**	**24**	**1,200**	**770**	**3.8**	**1,700**
TP-1	5/17/2012	<0.0017	<0.0011	<0.0025	<0.001	<0.001	NA
TP-2	5/17/2012	**0.095**	**0.15**	**0.38**	**0.0023 J**	**0.02**	NA
TP-3	5/17/2012	**0.061**	**0.057**	**0.16**	**0.0012 J**	**0.021**	NA
MW-1	6/25/2012	**0.38**	**0.63**	**2.2**	**0.011 J**	**0.11**	<0.0065
	1/4/2013	**1.4**	**1.3**	**2.3**	**0.044**	<0.0025	<0.003
MW-2	6/25/2012	**0.26**	**0.34**	**0.78**	**0.0049 J**	**0.029**	**0.0013 J**
	1/4/2013	**0.15**	**0.22**	**0.3**	**0.0048 J**	<0.0005	<0.0006
MW-3	6/25/2012	<0.0017	<0.0011	<0.0025	<0.001	<0.001	<0.0013
	1/4/2013	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0006
MW-4	6/25/2012	<0.0017	<0.0011	<0.0025	<0.001	<0.001	<0.0013
	1/4/2013	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0006
MW-5	6/25/2012	**0.0022 J**	<0.0011	<0.0025	<0.001	<0.001	<0.0013
	1/4/2013	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0006

Notes:

Bold	Concentration reported above laboratory detection limits
<	Analyzed for but not detected at concentrations greater than the laboratory detection limit
J	Estimated
	Exceeds critical PCL

Appendix F

If the plume extends beyond the limits of property owners listed in this application, list the owners of the additional property beneath which the plume(s) extend(s), and a summary of the interactions with those property owners about the plume(s) and this MSD application. *Please Note: You are not required under this item to notify affected property owners, only to provide a summary of who affected property owners are, and if there have been any communications. No contact can be an acceptable answer.*

Not applicable. The extent of impacted groundwater does not extend beyond the limits of the subject property.

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.

Shallow groundwater has been affected by dissolved phase chemicals including PCE and TCE. These chemicals are believed to be associated with the historic operations of a dry cleaner in Suite 1022. The former Crown Cleaners was in operation circa 1997 through 2011. These chemicals are no longer used at the site and are a result of historical activities. These chemicals tend to move rapidly in the sub-surface environment and quickly reach equilibrium as long as there is no ongoing contributing mass source. Several soil samples collected from the onsite property did not reported COCs at concentrations greater than the applicable Tier 1 $^{GW}Soil_{Class3}$ PCLs (**Table E1**). In addition, there is no significant contributing source of mass to groundwater.

The only PCLE zone is associated with MW-1. MW-1 is located immediately adjacent to the former lint trap; a known source of releases at dry cleaner sites. The only other groundwater monitoring well with detectable levels of COCs is MW-2. MW-2 is also located in close proximity to the lint trap and rear of the former dry cleaners. The transmissivity and ultimately the ability for groundwater mobility is very low. Not only does this result in a very small confined plume, it also creates a condition of stability. Wells located immediately down gradient of the source do not report any detectable concentrations of chlorinated solvents. For three consecutive quarters, the concentration of the target compounds of concern have been relatively stable with no signs of expanding.

The lateral extent of groundwater impact in the shallow groundwater bearing unit has been delineated and according to the most recent groundwater data, the plume appears to be stable (**Table E2**). Groundwater data suggests a natural attenuation, including bioattenuation, has occurred with the presence of the breakdown compounds (TCE, cis-1,2-DCE, and VC). These results indicate that the site is actively undergoing bio-transformation which further supports the natural attenuation and stability of the plume. **Figure C3** depicts the COC plume in shallow groundwater.

In summary, the groundwater data collected to date indicates that the area of affected groundwater is stable, and was the result of historic releases associated with past operations within the proposed MSD boundary. Given that these chemicals of concern are no longer used, there is no potential for further contribution.