

Municipal Setting Designations



MSDs: A new tool for Houston

Richard Chapin
Sr. Project Manager



- I will talk about the MSD process only.
- The applicant's representative will talk about the site and their clean up activities.
- Please hold your questions about the site until the applicant's presentation.
- Please restrict your questions to the slide that is showing or wait till the end of the presentation



Agenda

- Why are we here?
- Whom does it impact?
- What is an MSD?
- Why support an MSD?
- Steps in processing an MSD
- Particulars on this application
(Representatives of Applicant to speak)
- Public comment and questions



Why Are We Here?

- Inform you about an application for the City to support a Municipal Setting Designation (MSD) on a site
- Explain what is a MSD and what it does for the applicant, the local community, and the City
- Give you a chance to tell the City what you think about the site and the process.



Whom Does It Impact?

- Unless you are the applicant:
 - A MSD does not affect your property
 - A MSD does not affect your water well
 - There are no requirements on you
- Drinking water supplied by the City is not effected

The MSD Approach



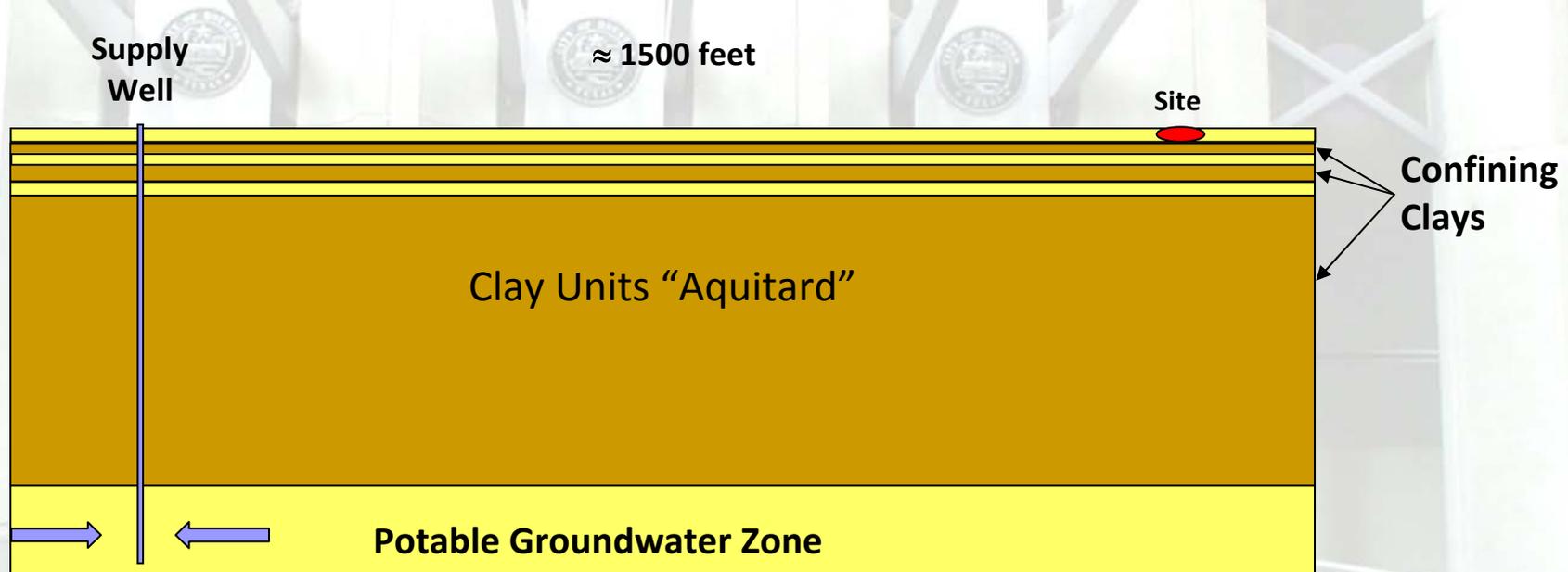
- Voluntary restriction to prevent the use of contaminated groundwater
- Alternate method to address groundwater contamination
 - State program created in 2003, administered by Texas Commission on Environmental Quality (TCEQ)
 - City process created in November 2007, administered by Public Works & Engineering
- Property owner requests participation (can be private or public owners)

Groundwater Contamination



- Houston has shallow groundwater contamination scattered across the city from former uses (industrial sites and businesses)
- Houston's drinking water come from either deep aquifers or surface water
- This program only considers very shallow contamination (up to 200' below the ground surface)

Shallow Contamination



Drinking Water Supply Wells typically get water from 600 feet or deeper below the surface.

Impacted groundwater is typically between 20 and 60 feet below the surface.

Problems of Traditional Remediation Methods



- Groundwater must be cleaned to drinking water standards even if:
 - There is no need or desire to use it, or
 - Water bearing zone is too silty, too salty, or low producing
- Groundwater remediation to drinking water standards is inefficient, costly, and can take decades



A MSD Does not

- Does not excuse the applicant from reducing other risks to the public
- Owner must still address:
 - Ingestion of contaminated soil
 - Inhalation of vapors
 - Physical contact with contamination
 - Migration to surface water

City's Expectations of a MSD Applicant:



- Site must already be in a State or Federal clean up program
- Site must have been thoroughly investigated
- Data must show that the groundwater plume is stable or diminishing.
- A P.E. or P.G. must be willing to certify that the plume is stable or contracting.



Today's Meeting

- Mandatory step in the process
- Applicant has requested City support for application:
 - MSD # 2009-013
 - “Rummel Creek Village Shopping Center”
- Gather input from surrounding property owners
- TCEQ cannot approve an MSD without the City Council's support

Why Support A MSD?



- Protects the public from consumption of shallow contaminated groundwater (drinking water is supplied by the City through a separate system)
- Encourages cleanup of contaminated sites through participation in a State or Federal program
- Promotes redevelopment of under-utilized properties



Next Steps

- Based on input from this meeting and the public hearing, City will consider supporting a MSD
- If supported, applicant submit their application to TCEQ
- TCEQ grants or denies MSD
- If granted, City files restriction on property deed

The MSD Website



City of Houston eGovernment Center - Windows Internet Explorer

http://www.houstontx.gov/

File Edit View Favorites Tools Help

Favorites City of Houston eGovernment Center

 **City of Houston** *En Español*
The Official Site for Houston, Texas

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Friday, November 6 - 2009



- Boards & Commissions
- Brownfields
- Building Permits
- Code Enforcement
- Code of Ordinances
- Delinquent Taxpayers
- E.B. Cape Training Center
- Flexible Workplace Initiative
- LARA / Houston HOPE
- Municipal Settings Designations
- MWDBE / SBE Directory
- One Stop Business Center
- Real Property For Sale
- Register as a City Supplier
- more ...

of Houston's Residential Energy Efficiency Program receives federal funds to help weatherize low-income homes for Houstonians

"Meet the Buyer" Purchasing Forum Information and Registration

LED Traffic Light Installation Reaches Milestone With Energy Cost Savings Already Being Seen

- Houston Expands Single-Stream Recycling Program, To Reward Residents for Recycling with RecycleBank
- Courts celebrate Municipal Courts Week Nov. 2-6, 2009 (.pdf)

Public Hearing



- Date: December 16, 2009
- Time: 9:00 am
- Place: City Council Chambers
- Address: 901 Bagby, Second Floor
- Address: Houston, Texas 77002

Any person wishing to speak on this issue must contact the City Secretary's office at (713) 247-1840 to reserve time not later than 8:30 am on 12/16/2009.

Contact Information



Richard Chapin
Senior Project Manager
Dept. of Public Works & Engineering
City of Houston,
611 Walker, 19th Floor
Houston, Texas 77002

msd@cityofhouston.net
(713) 837-0928

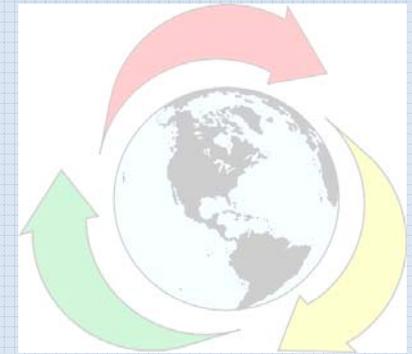
Rummel Creek Village Shopping Center MSD #2009-013-SRS



Presented By:

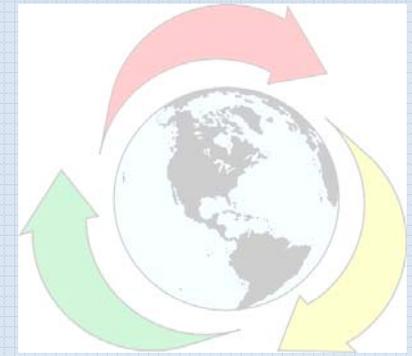
John D. Brusenhan, P.E.
InControl Technologies, Inc.
3845 FM 1960 West; Suite 195
Houston, Texas 77068
(281) 580-8892

Benefits of a MSD



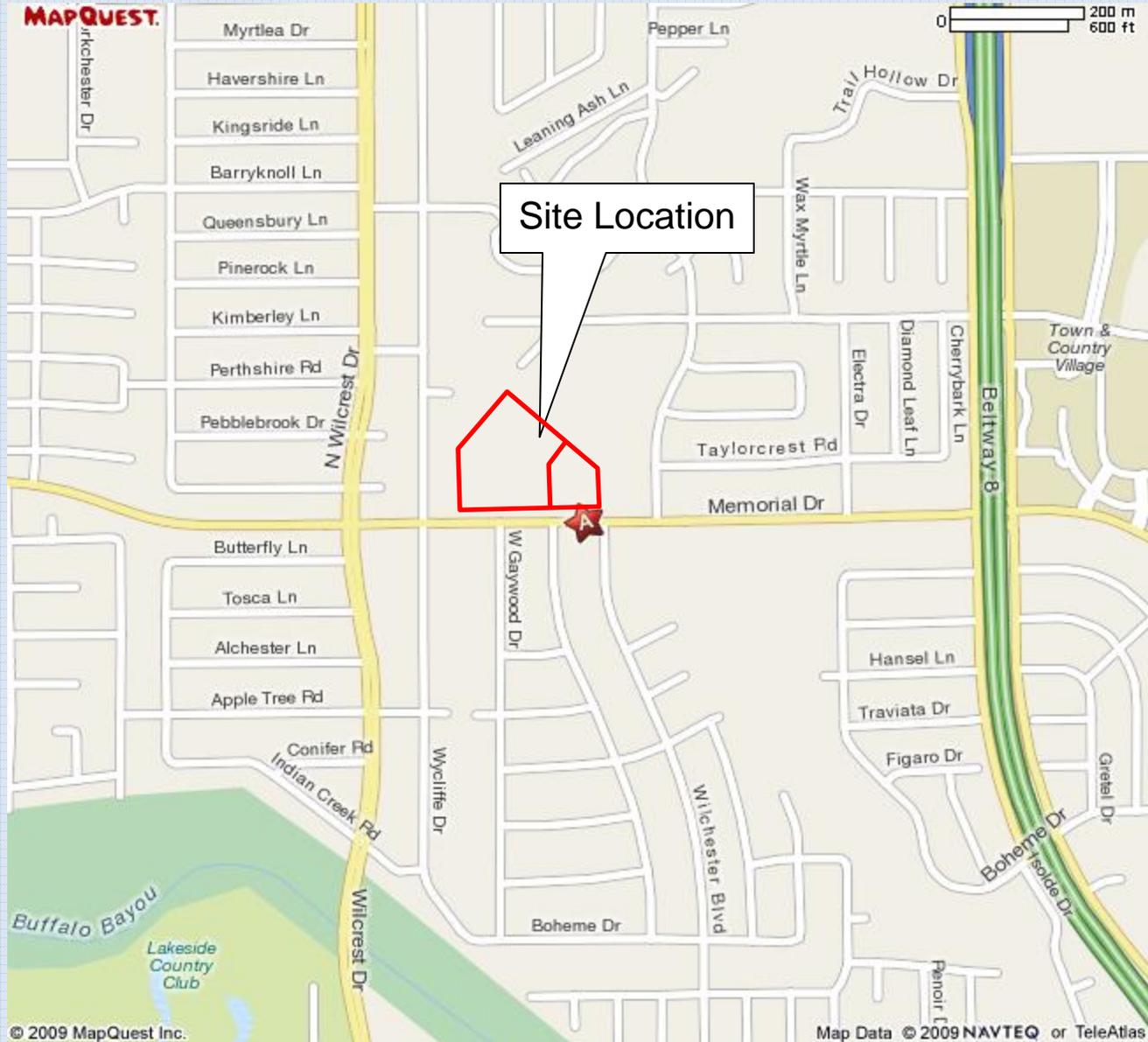
- Protects the public from the consumption of shallow contaminated groundwater (drinking water is supplied by the City through a separate system)
- Encourages cleanup of contaminated sites through participation in a State or Federal program
- Promotes the re-development of under-utilized properties

Rummel Creek Village Shopping Center



- The Site consists of two adjacent and separate shopping centers – Rummel Creek and West Office Shopping Centers. Dry cleaners historically operated at both shopping centers.
- During a historical investigation, a release of dry cleaning related chlorinated solvents was discovered from both of the dry cleaning facilities to the shallow groundwater.
- The property was enrolled in the Texas Voluntary Cleanup Program in August 1998.
- Investigations completed between 1998 and 2002 defined the horizontal and vertical extents of the contaminants in soil and groundwater.

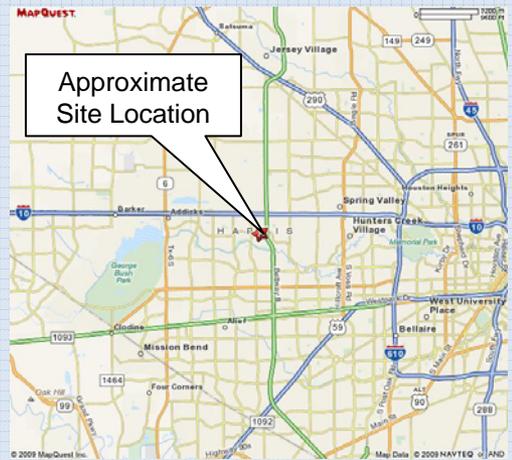
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Rummel Creek Shopping Center

West Office Shopping Center

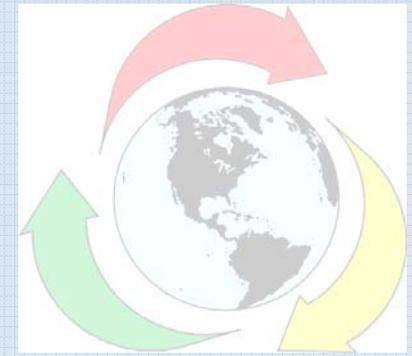


Proposed MSD Boundary

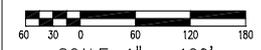
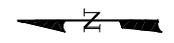


Dry Cleaning Facilities

Rummel Creek Village Shopping Center

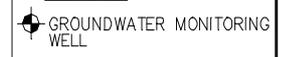


- Chlorinated solvents (tetrachloroethene (PCE) and its degradation products) are the constituents identified in the groundwater plume (between approx. 20 and 30 feet below ground)
- Soil impacts were limited to small localized areas adjacent to the dry cleaning facilities.
- Groundwater flow is towards the south.
- Impacts were delineated in a shallow, narrow plume extending approximately 1,200 feet off-site into a residential area.

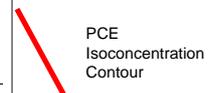


SCALE: 1" = 120'

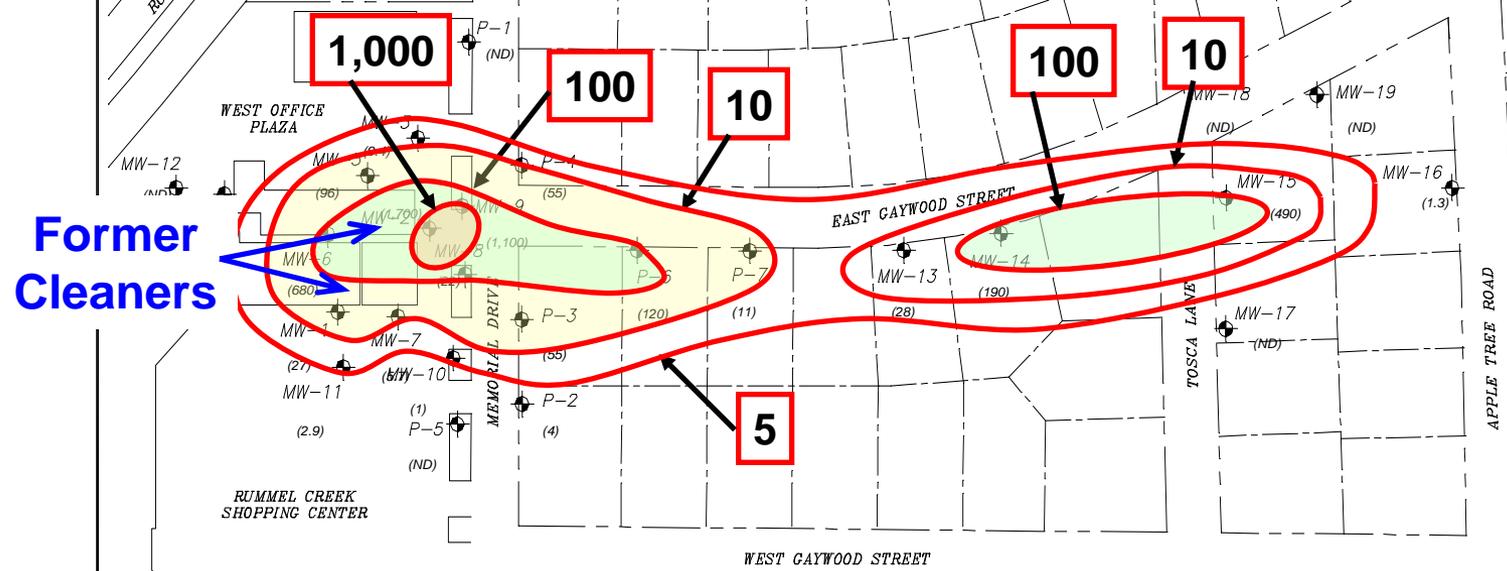
LEGEND:



GROUNDWATER MONITORING WELL



PCE Isoconcentration Contour



Former Cleaners

**PCE Concentration
June 2001**

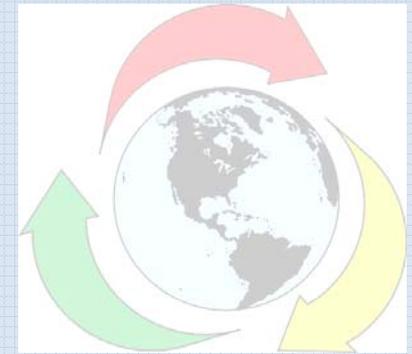
InControl Technologies, Inc.
3845 F.M. 1960 West, Suite 318
Houston, Texas 77068
(281) 580-8892 FAX (281) 580-8853

RUMMEL CREEK SHOPPING CENTER

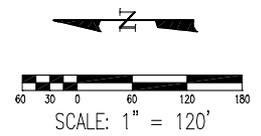
CLIENT:	SRS SHOPPING CENTER HOUSTON, TEXAS	P.L.M.
LOCATION:	HOUSTON, TEXAS	CHECKED:
DATE:		FIGURE:

RC-02 (11-01)

Remediation Activities



- In January 1996, approximately 30 cubic yards of impacted soil was removed from the source area in the narrow alleyway between the two dry cleaning facilities.
- Between July 2001 and April 2002, remediation of the groundwater consisted of In-Situ Chemical Oxidation. This consisted of the injection of potassium permanganate (KMnO_4) into the groundwater to reduce concentrations.
- Starting in 2003, the groundwater response action has consisted of the periodic injection of a solution of bacteria and nutrients into the groundwater to degrade the concentrations. Multiple phases of the biological injections have been conducted in the past 5 years.
- Remedial efforts have reduced concentrations approximately 95 percent across the groundwater plume.

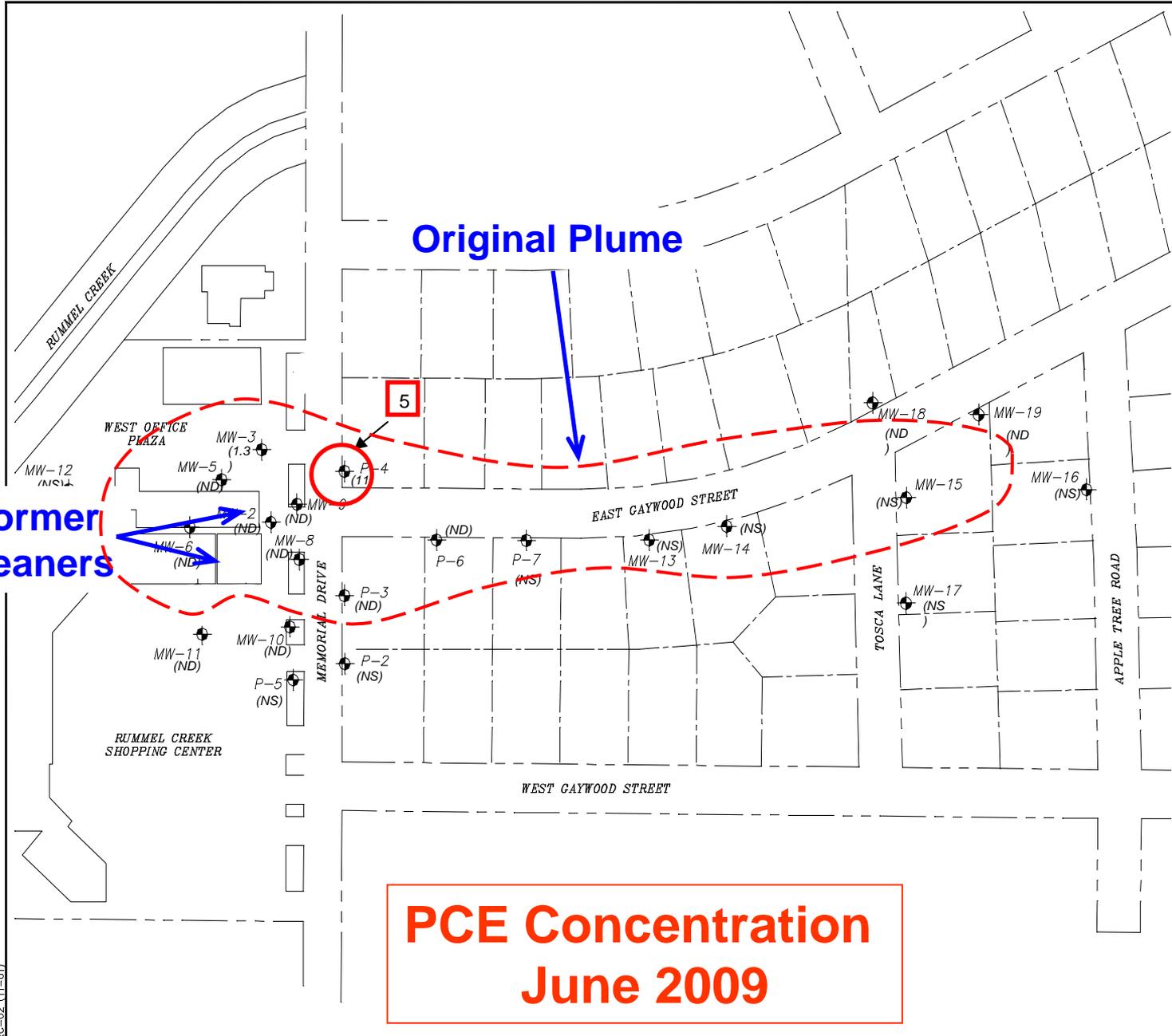


- LEGEND:**
- ◆ GROUNDWATER MONITORING WELL
 - (ND) PCE Concentration (ug/L)
 - PCE Isoconcentration Contour

Original Plume

Former Cleaners

**PCE Concentration
June 2009**

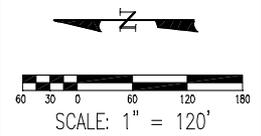


RC-92 (11-01)

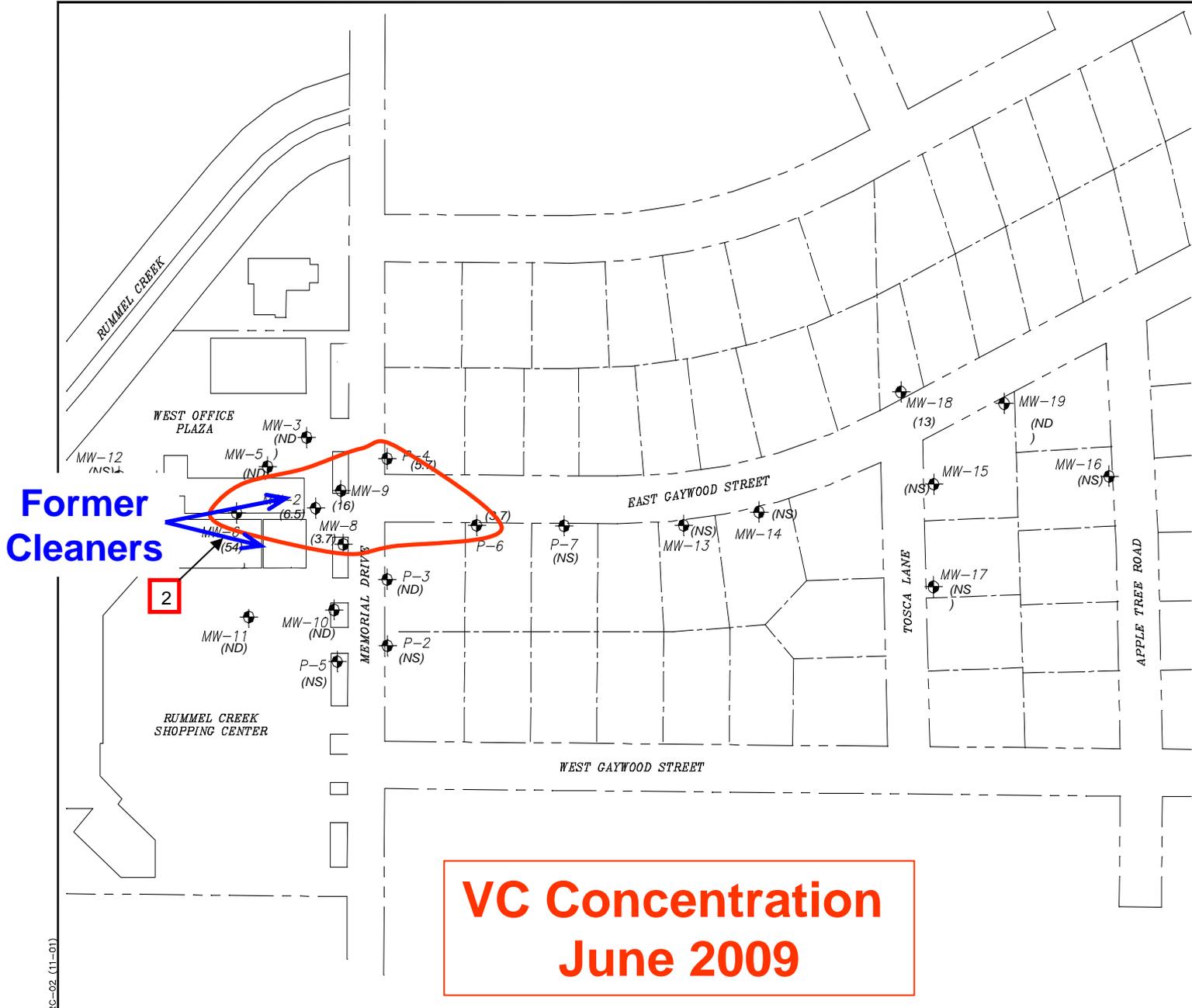
InControl Technologies, Inc.
 3845 F.M. 1960 West, Suite 318
 Houston, Texas 77068
 (281) 580-8892 FAX (281) 580-8853

**RUMMEL CREEK
SHOPPING CENTER**

CLIENT:	SRS SHOPPING CENTER HOUSTON, TEXAS	P.I.M.	JB
LOCATION:	HOUSTON, TEXAS	CHECKED:	
DATE:	6/8/09	PROJECT NO.:	
FIGURE:			4



- LEGEND:**
- GROUNDWATER MONITORING WELL
 - (ND) VC Concentration (ug/L)
 - VC Isoconcentration Contour

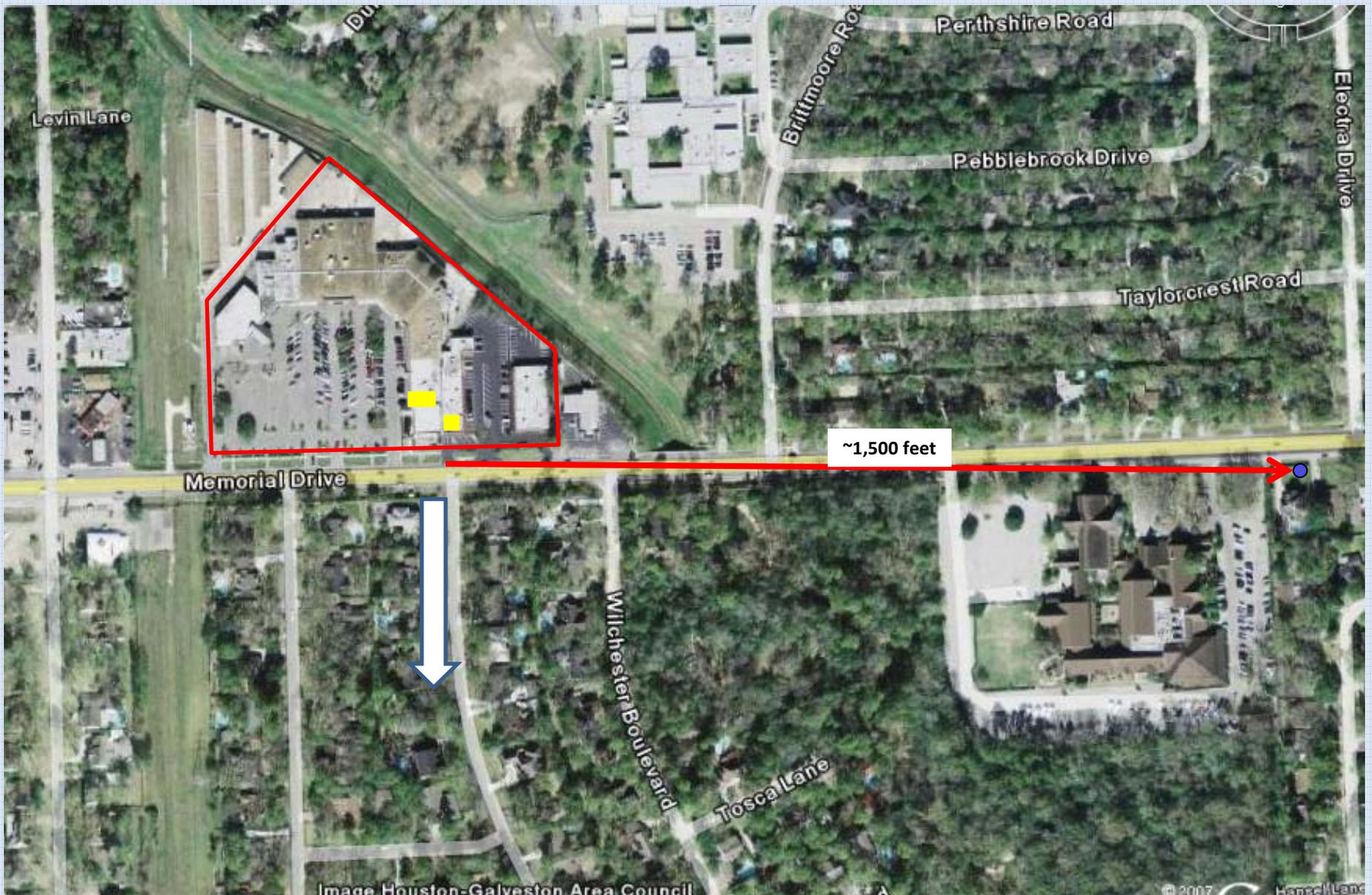


InControl Technologies, Inc.
 3845 F.M. 1960 West, Suite 318
 Houston, Texas 77068
 (281) 580-8892 FAX (281) 580-8853

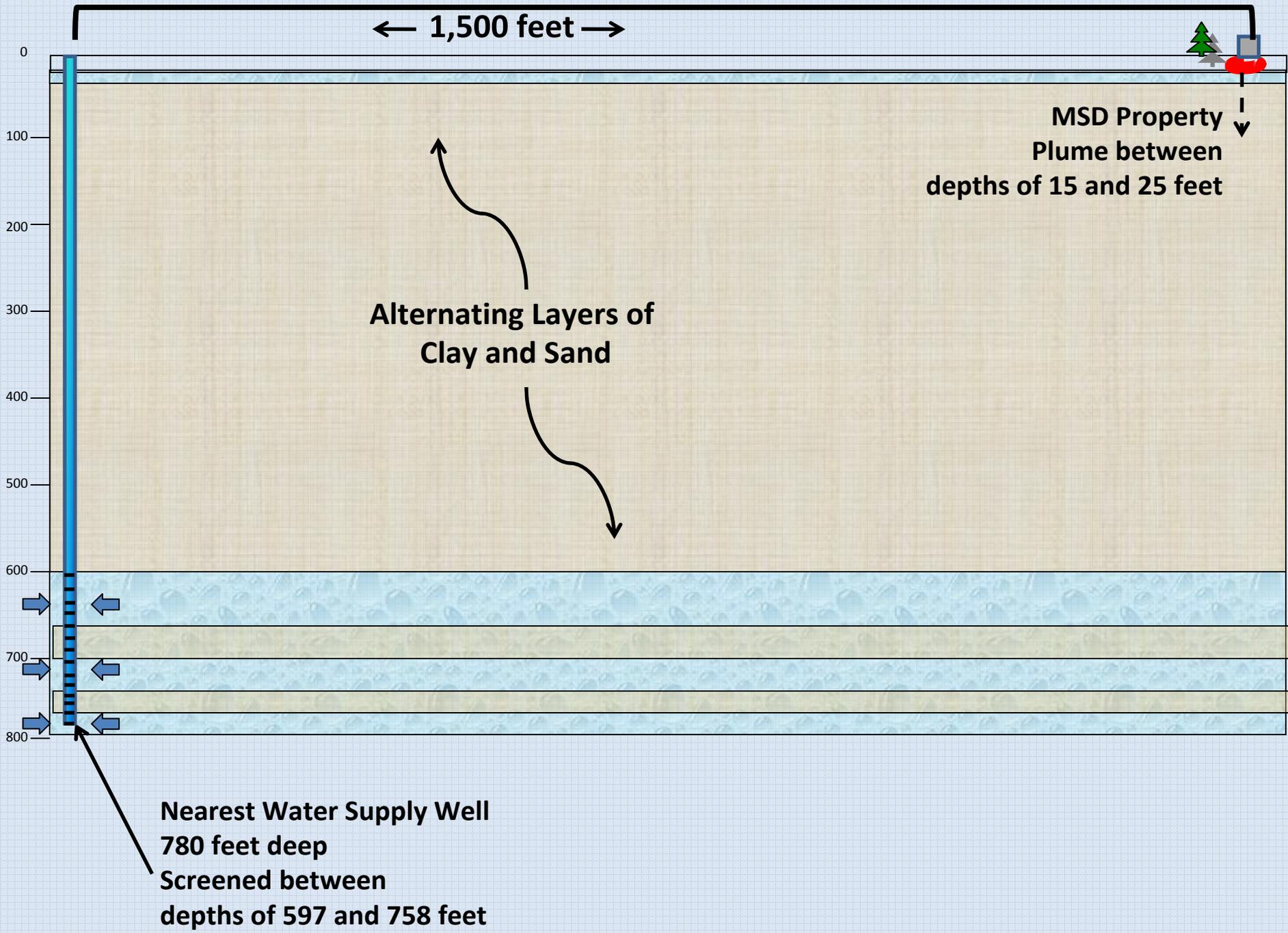
RUMMEL CREEK SHOPPING CENTER

CLIENT:	SRS SHOPPING CENTER HOUSTON, TEXAS	P.I.M.:	JB
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FIGURE:			6

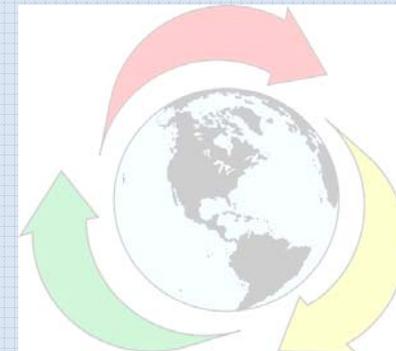
RC-02_(11-01)



The closest active water supply well is approx. 1,500 feet east of the subject property in a cross-gradient direction. The depth of this well is 780 feet.



Summary



- The soil source was removed in 1996.
- Aggressive response actions have reduced the groundwater plume size and concentrations approximately 95 percent.
- The constituents have been vertically and horizontally defined and are not spreading.
- Remediation efforts conducted to date have created declining concentration trends.
- The closest active public water supply well is approximately 1,500 feet away from the subject property in a cross-gradient direction. This well is screened at greater than 700-feet below ground surface.
- The nearest water well in a downgradient direction is approximately 4,000 feet away from the subject property.