

Municipal Setting Designations



MSDs: Another tool for Houston

Ann Marie Stone Sheridan, P.E.
Supervising Engineer



Municipal Setting Designations (MSDs)



Agenda

- City of Houston - Programmatic
 - What the MSD is
 - Who the MSD impacts
 - Steps in the MSD process
 - **Questions / Comments**
- MSD Applicant - Technical
 - BBVA Compass Stadium
2200 Texas Street, Houston, Texas
77003
 - **Questions / Comments**



Environmental Protection in Texas

- The State of Texas has jurisdiction for environmental protection
 - Texas Commission on Environmental Quality (TCEQ)

- Environmental Complaints



- By Phone: 1-888-777-3186

- Online: <http://www5.tceq.texas.gov/oce/complaints/>

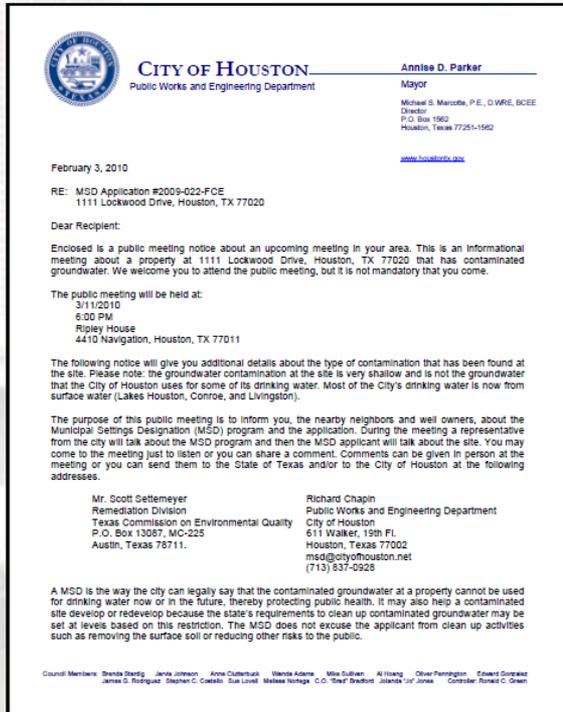


- By Phone: 311

- Online: http://webintake.houstontx.gov/web_intake/Controller

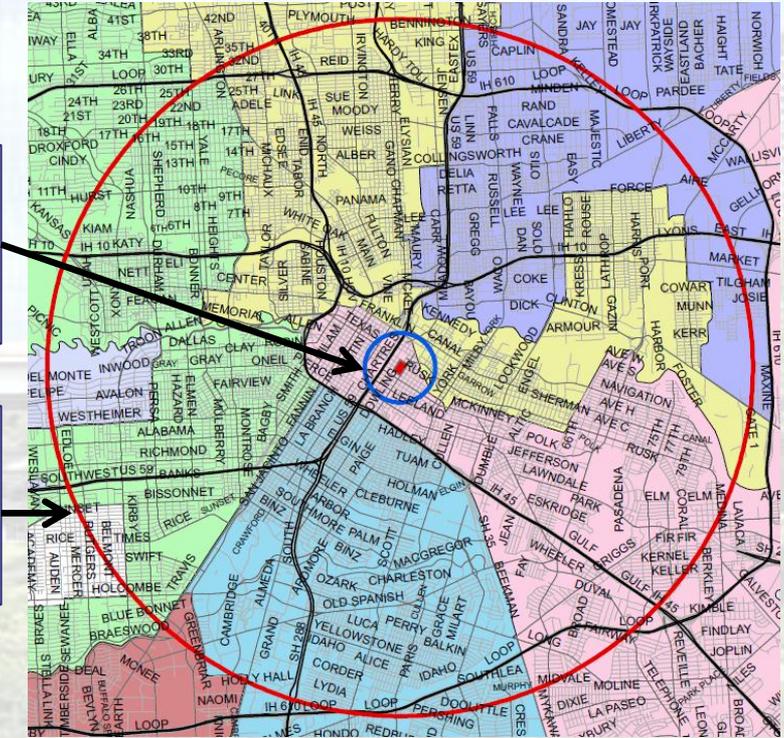


MSD Notice Letters



Property Owners
First-Class Mail
½-Mile Radius
City Requirement

Water Well Owners
Certified Mail
5-Mile Radius
State Requirement



If you received a notice through certified mail that means you have a water well according to the State's records



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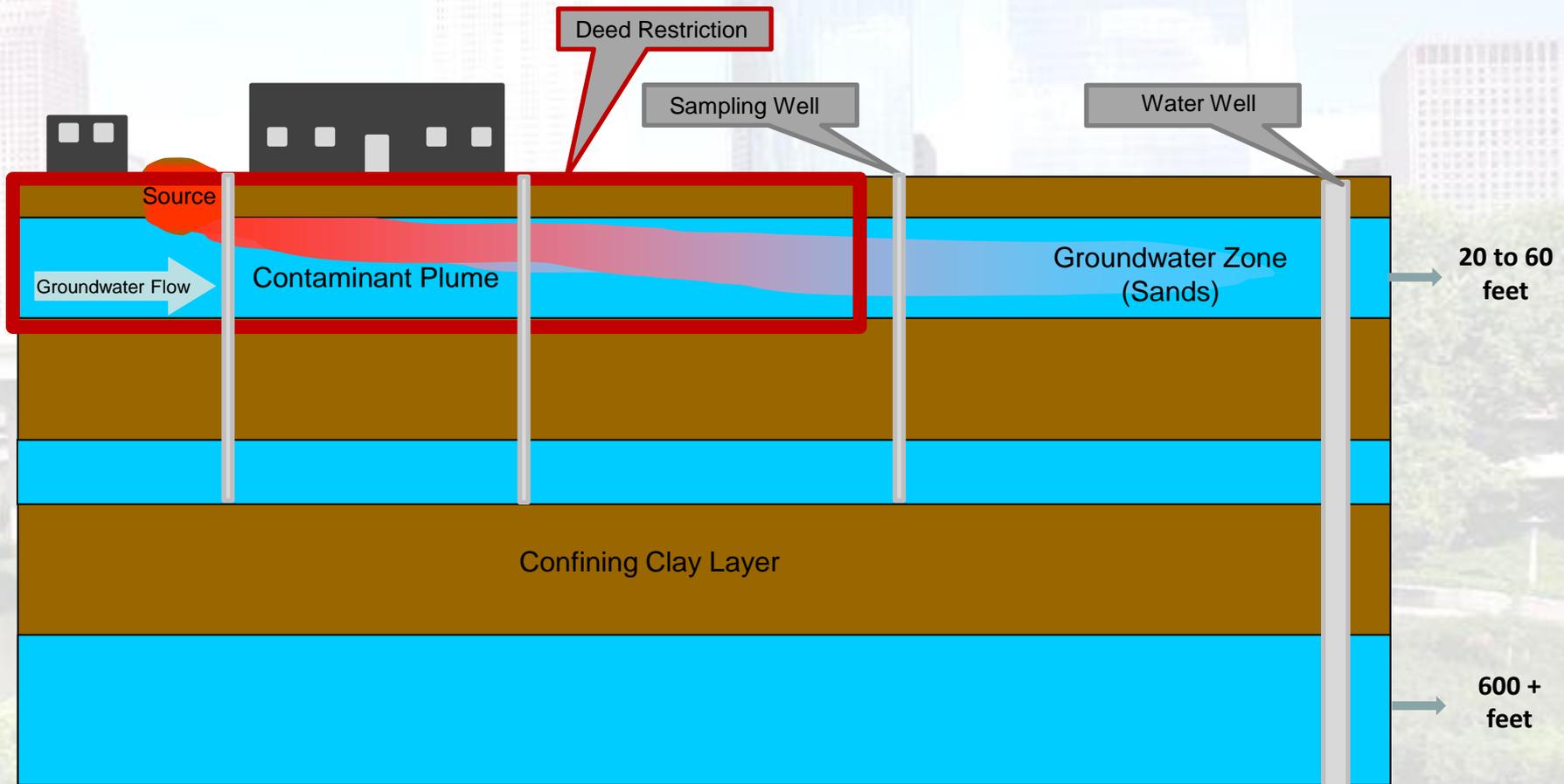


What an MSD is

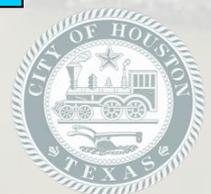
- **Voluntary** deed restriction to prevent the use of contaminated groundwater
 - No water wells on the subject property for drinking water purposes
 - A legally binding way to ensure the public is not exposed to contaminants



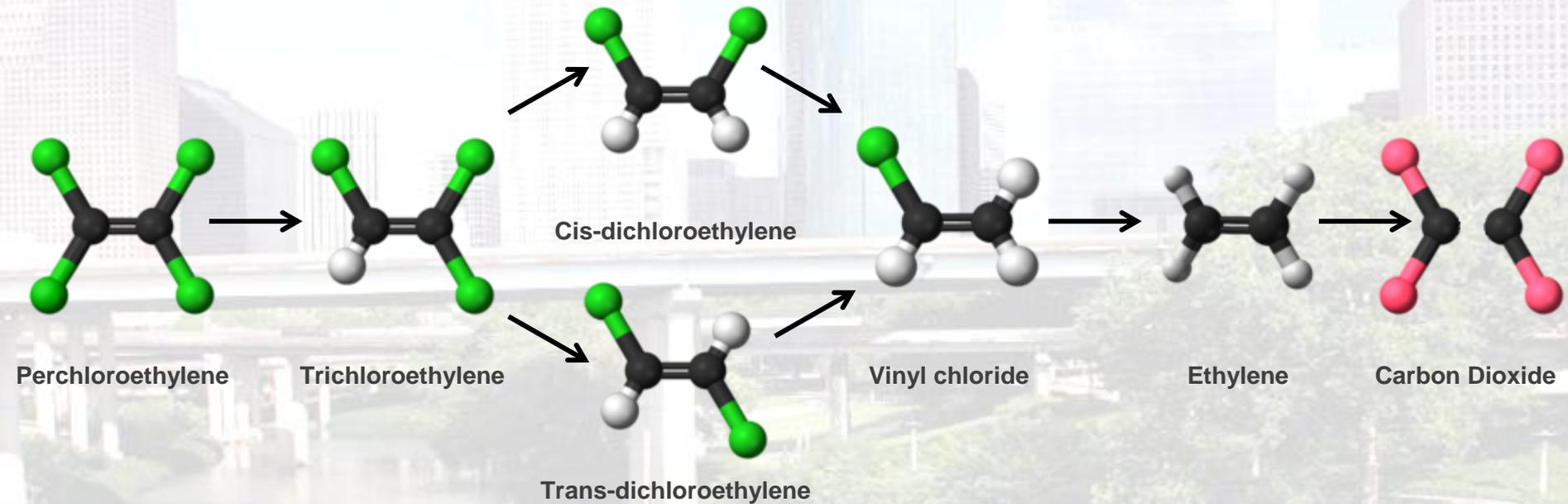
Groundwater Contamination



Please Note: Houston has shallow contaminated groundwater scattered across the City



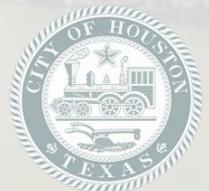
Chemical Degradation



This process takes decades, but is found to be the most efficient strategy.

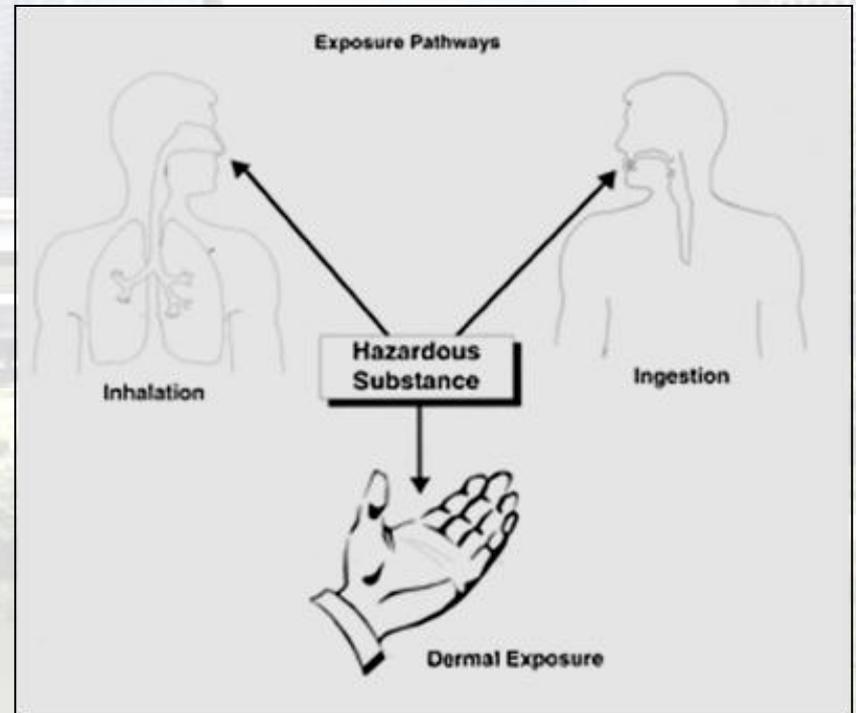


Municipal Setting Designations (MSDs)



Exposure Pathways

- Cleanup Programs are based on public exposure to contaminants and reducing public health risks
- Exposure Pathways
 - ~~Ingestion~~
 - Inhalation
 - Contact (dermal)
 - Soil
 - Groundwater to surface water
 - Ecological



Environmental Cleanup

- The MSD is only **one step** in the cleanup process
- An MSD does **NOT** excuse the applicant from reducing risks to the public
- Responsible Parties are always responsible



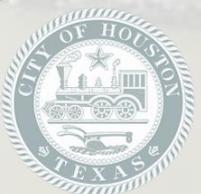
Who the MSD Impacts

- An MSD does not affect you!
 - An MSD **DOES NOT AFFECT** your property
 - An MSD **DOES NOT AFFECT** your water well
 - There are **NO REQUIREMENTS** on you
- Drinking water supplied by the City is not affected

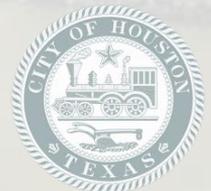
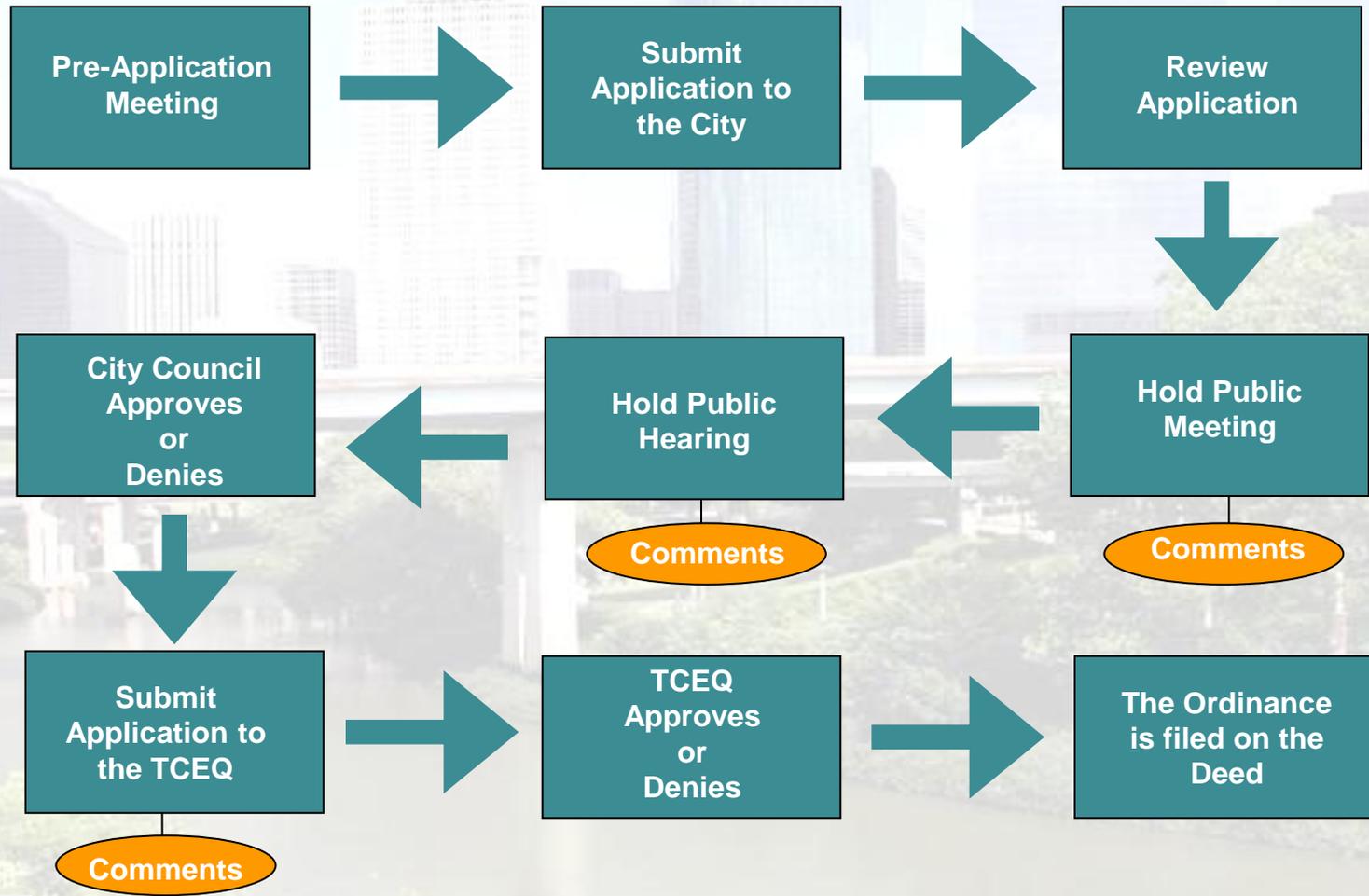


City's Requirements of the Applicant

- Enrollment in a State or Federal cleanup program
- Thorough investigation
 - Data must show that the groundwater plume is stable or decreasing, and delineated.
- A **third party** Engineer (P.E.) or Geologist (P.G.) must certify application

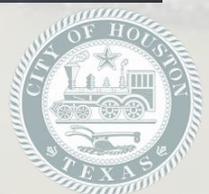


Steps in the Process

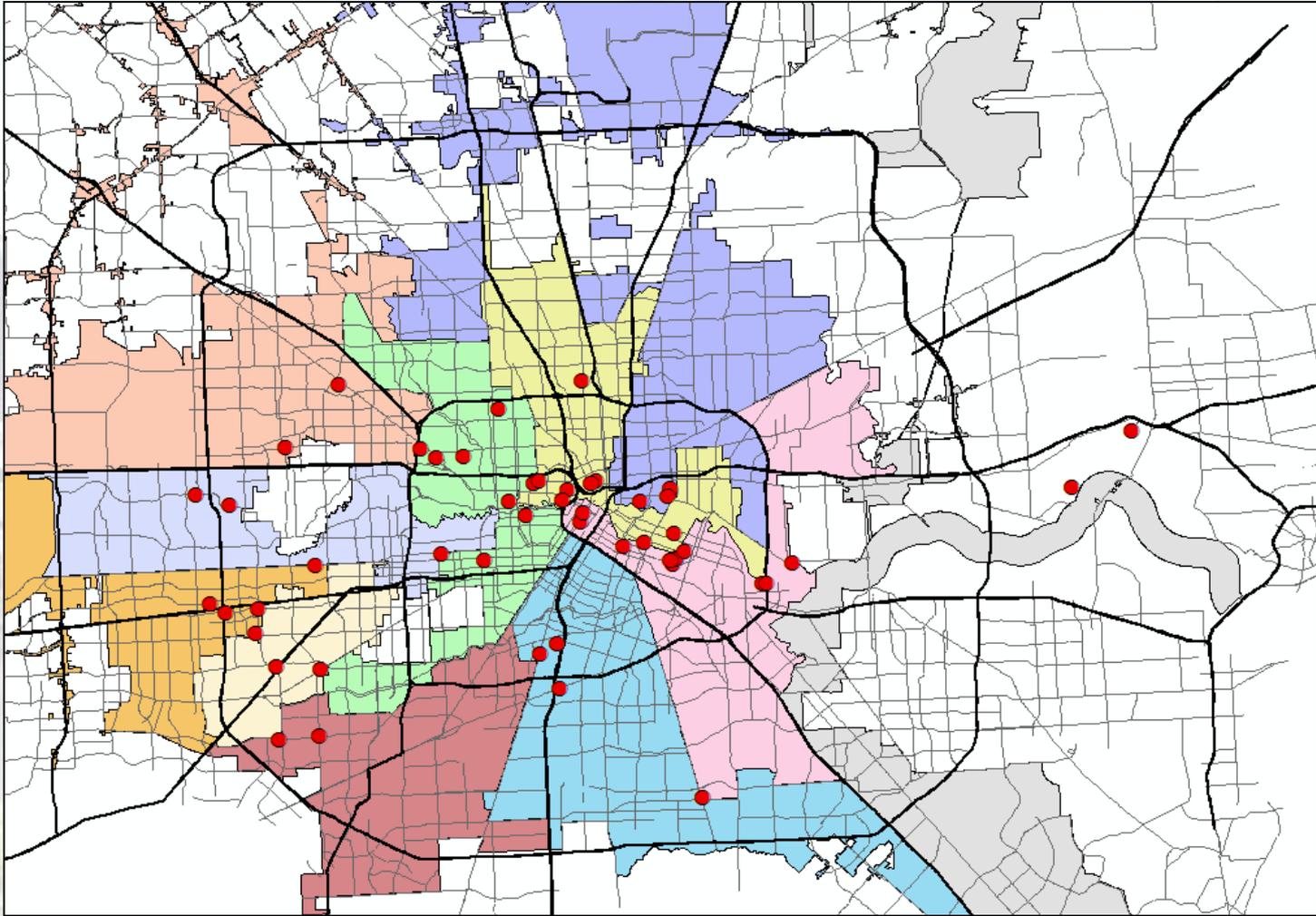


Why Support An MSD?

- Protects the public from consumption of contaminated groundwater
- Encourages clean-up of contaminated sites
- Promotes redevelopment of under-utilized properties



MSD Sites in Houston

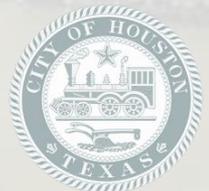


Municipal Setting Designations (MSDs)



MSD Application Availability

- Central Library
 - 500 McKinney
 - Reference Desk
- Also available online at:
www.houstonmsd.org
 - MSD in Review Page



Public Hearing

- **Date:** July 11, 2013
- **Time:** 10:00 AM
- **Place:** City Council Chamber (Committee Meeting)
Transportation, Technology, & Infrastructure
- **Address:** 901 Bagby, Second Floor
Houston, Texas 77002

Any person wishing to speak on this issue must arrive at least 15 min early and sign the speakers list located on the front desk.



Municipal Setting Designations (MSDs)



Contact Information

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Municipal Setting Designations (MSDs)



Municipal Setting Designation Application #2013-057-DYN

City of Houston – General Services Department

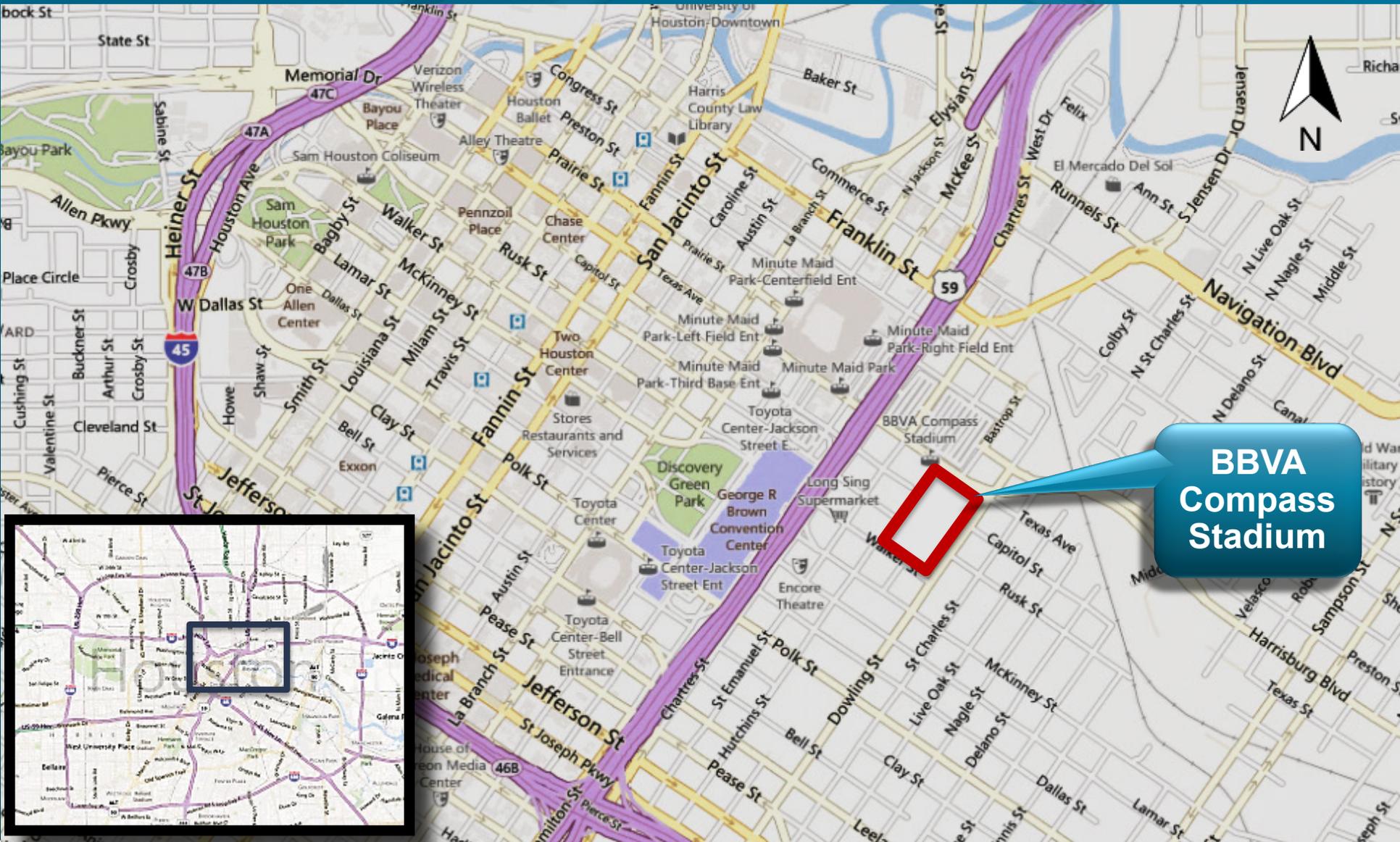
BBVA Compass Stadium
2200 Texas Avenue
Houston, Texas 77003

June 12, 2013

ARCADIS U.S., Inc.
2929 Briarpark Drive, Suite 300
Houston, Texas 77042



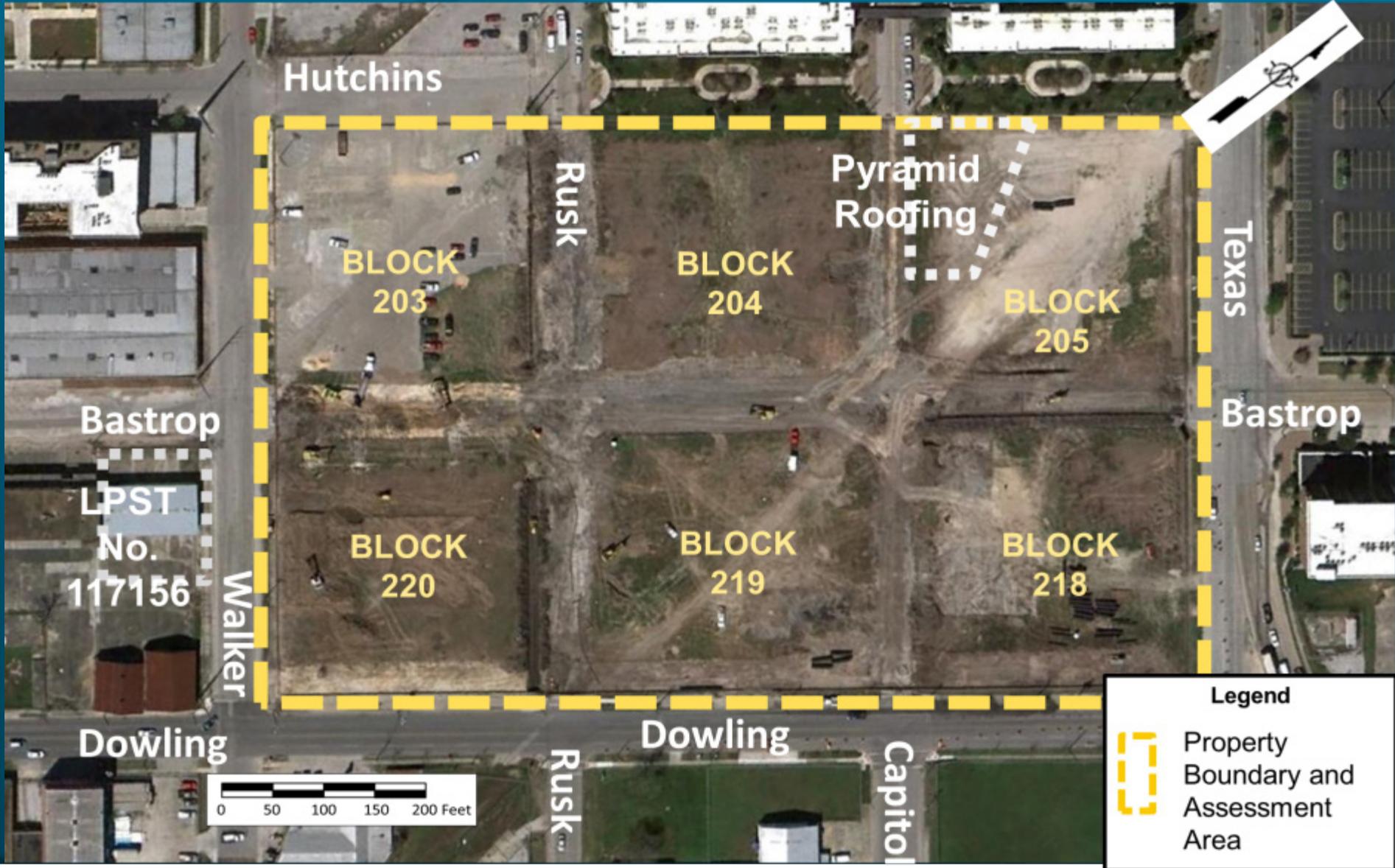
Site Location



Site History

- Six city blocks (12 acres)
- Bounded by Texas, Dowling, Walker, and Hutchins
- First developed for residential use before 1896
- Mixed commercial/industrial and residential use until redeveloped in 2011.
- Earlier commercial uses: residential, railroad, lumber yard, warehouses.
- Land cleared in 2011

Six-Block Property



Current Uses and Future Uses

- Stadium construction: February 2011 - May 2012
- BBVA Compass Stadium with 22,000 seats used primarily by the Houston Dynamo and for various other sporting events and concerts.
- Stadium covers 6-block area with impermeable surfaces.
- Surrounding properties: commercial/industrial and some residential.
- Commercial/industrial uses: warehouses, maintenance shops, shipping and distribution facilities, and light manufacturing.
- Residences: mixture of older one story homes and recently-constructed townhomes and mid-rise buildings.
- Future use: stadium facility for sporting/concert events.

Environmental Assessment and Due Diligence

- **1988:** A release from underground storage tanks (USTs) discovered at the abandoned Pyramid Roofing (Block 205). Agency determines that off-site migration is unlikely. Case closed in 1993.
- **June 2006:** A release from USTs discovered at a vacant lot on the corner of Bastrop and Walker. Affected groundwater is detected (LPST No. 117156). Closed in July 2009.
- **2008:** City initiates plans to acquire property for the construction of a stadium.
- **2008:** Phase I Assessment under the Brownfields Redevelopment Program.
- **January 2009:** Geotechnical investigation: boring and two piezometers.
- **2009:** Archeological Survey: Stained soils are observed in exploratory trenches at three locations.

Environmental Assessment and Due Diligence

- **June 2009:** Limited Phase II Assessment: soil sampling and groundwater sampling. A soil removal action conducted.
- **May 2010:** Additional Limited Phase II Assessment with soil and groundwater sampling.
- **November 2010:** Supplemental Phase II Assessment: soil and groundwater sampling. Soil removal actions on Block 218, 219, and 220. Affected groundwater is detected in a sample from Block 219.
- **February 2011 – May 2012:** Stadium Construction.
- **March 2013:** Application for an MSD to address affected soil and groundwater.
- **May 2013:** Affected Property Assessment Report to the Texas Commission on Environmental Quality.

Sampling Locations



Assessment Findings

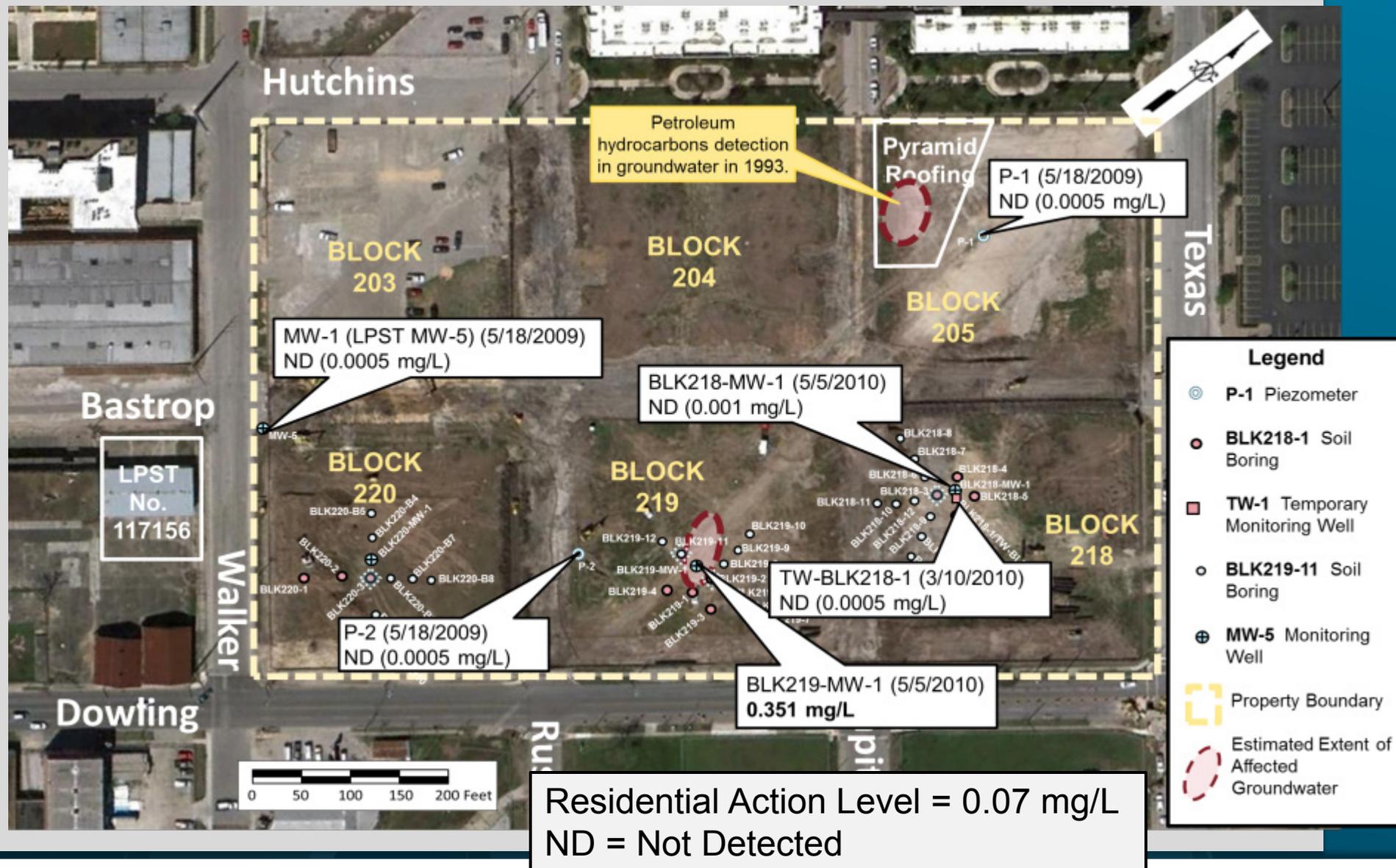
Soil

- Soil detections exceeding the residential assessment levels (RALs) – most areas excavated.
- Three constituents remained exceeding the RALs based on the soil-to-groundwater pathway.
- Benzo-a-pyrene exceeded the residential human exposure protective level in two locations now under the concrete.

Groundwater

- One detection of 1,2,4-trichlorobenzene at a concentration exceeding the RAL of 0.07 milligrams per liter (mg/L).
- The source, likely a historical localized spill or release, has been removed.
- The estimated extent of the area of affected groundwater has been delineated.
- No exceedance of vapor inhalation protective level.
- The only potential for human exposure is the ingestion of affected groundwater (water well).

Groundwater Sampling (1,2,4-Trichlorobenzene)



Groundwater Flow Direction



Stadium Development



Stadium Urban Setting – No Water Wells within 1/4-Mile



Summary

Due Diligence

- Assessment conducted between 2008 and 2011 under the Brownfields Restoration Program.

Soil Assessment Results

- Chemicals detected in soil exceeding the residential assessment levels (RALs) - excavation activities conducted.
- Some affected soils remained. The locations are now under concrete.

Groundwater Assessment Results

- 1,2,4-trichlorobenzene detected exceeding the RAL. The source, likely a historical localized spill or release, has been removed.
- No vapor pathway.
- Only potential pathway is use of shallow groundwater (water well).

Development and Implementation of MSD

- Property has been redeveloped as BBVA Compass Stadium.
- MSD addresses soil exceedances and the single groundwater exceedance by prohibiting use of groundwater (well) to close the potential future pathway.

Contact Information

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