



*Science and Strategy  
Sells Brownfields*

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# Common Brownfield Issues

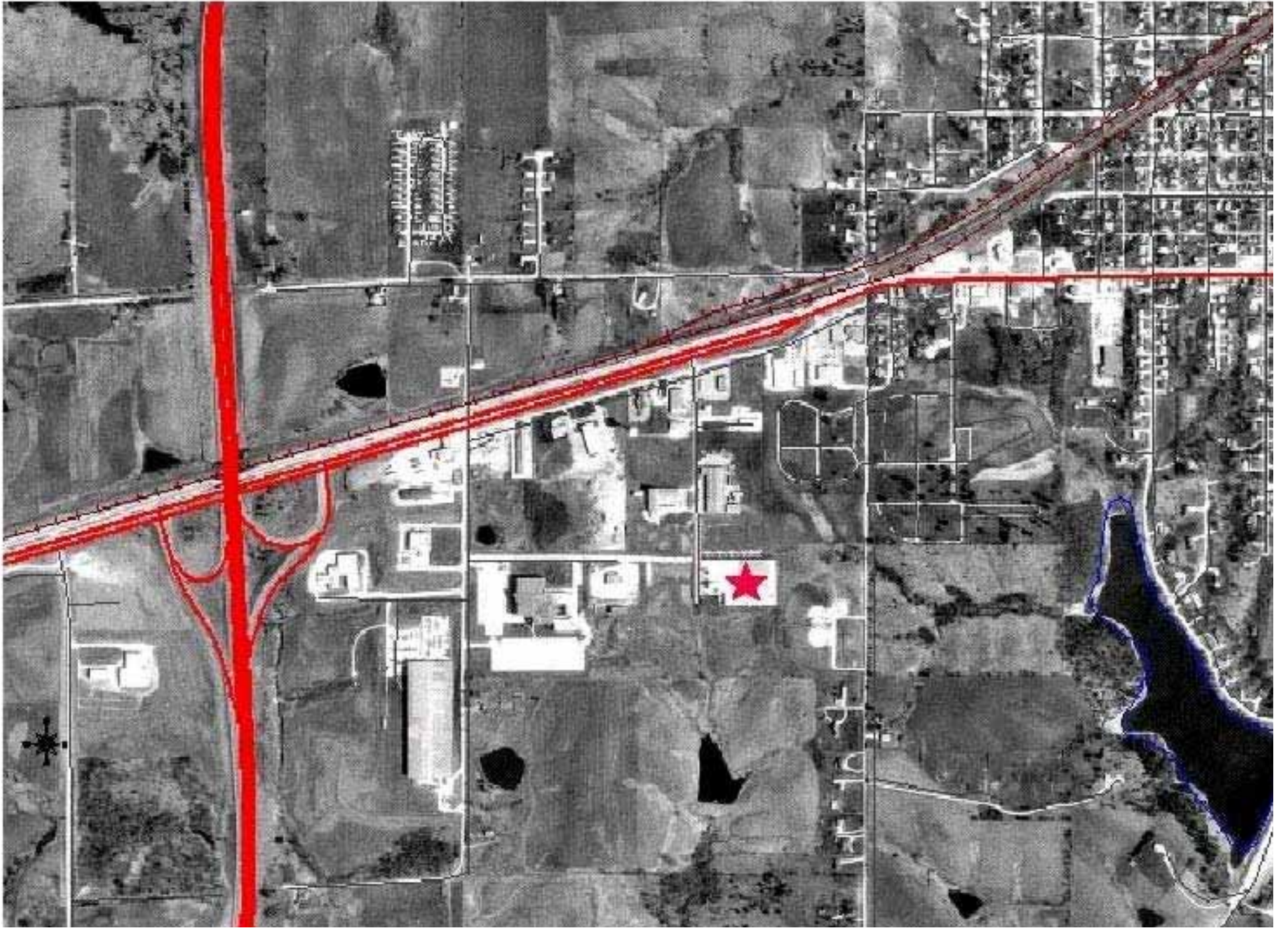


- Developer's Fear of the Unknown
- Time to Implement Remediation
- Potential For Remediation Activities to Impede Use
- Stigma May Prevent Buyers from Finding Tenants
- Costs

# Property Value Factors



- Location
- Facility & Property Conditions
- Environmental Conditions & Risks
- Regional Market Conditions
- Time on the Market



# Threshold Environmental/Risk Issues



- Has impacted groundwater migrated off-site?
- Is the groundwater a “protected” resource?

# State Regulatory Program Comparison



## Chapter 133

- Only source property entered into program regardless of off-site extent
- Does not recognize quality of groundwater

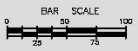
## Chapter 137

- Off-site impacted properties must be enrolled into program with source property
- Does recognize quality of groundwater

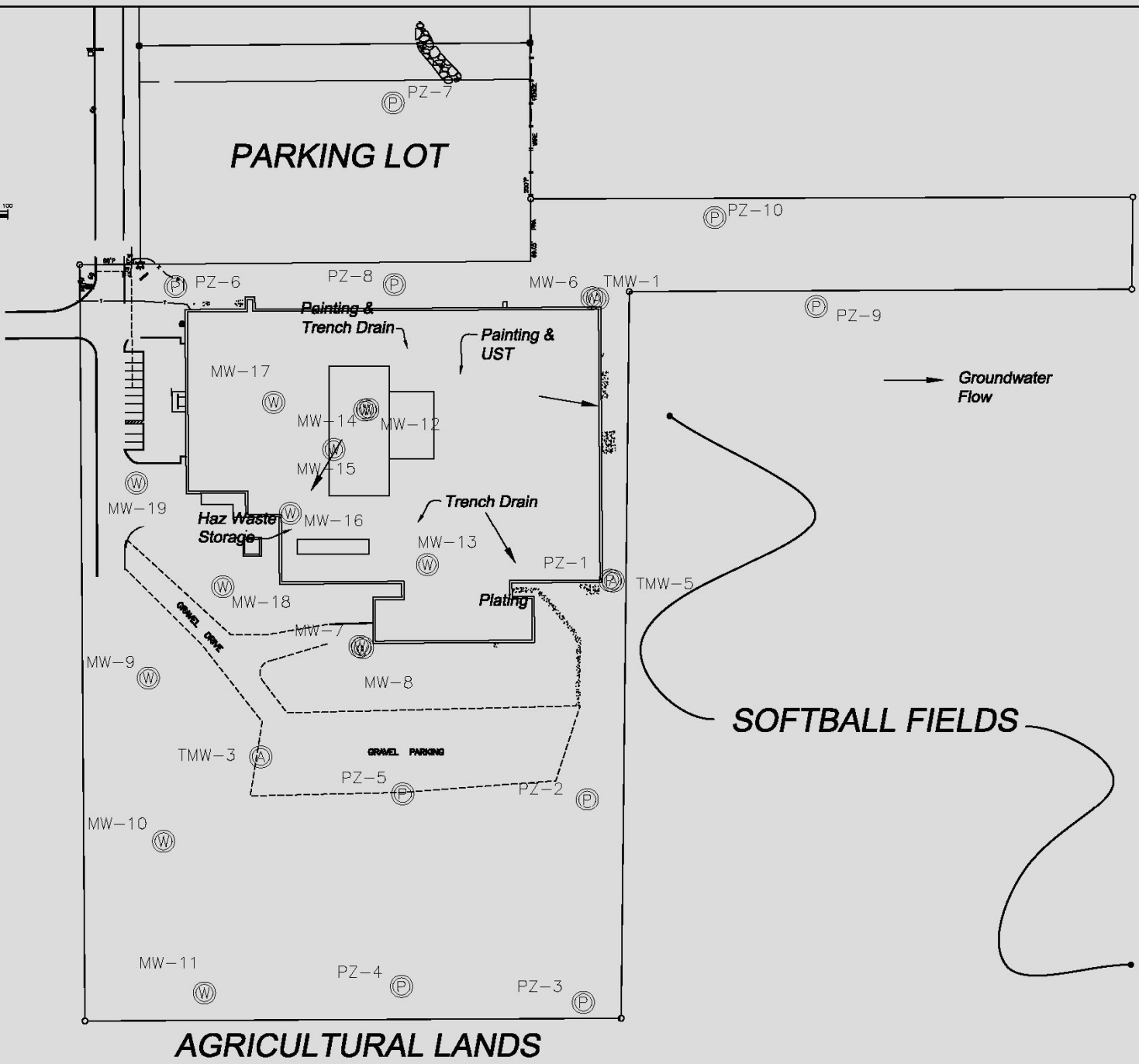
# Outside/In Strategy



- Step 1 – Determine groundwater flow direction
- Step 2 – Assess Off-Site Migration Potential
- Step 3 – Groundwater Resource Characterization



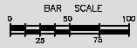
**PARKING LOT**



Groundwater Flow

**SOFTBALL FIELDS**

**AGRICULTURAL LANDS**

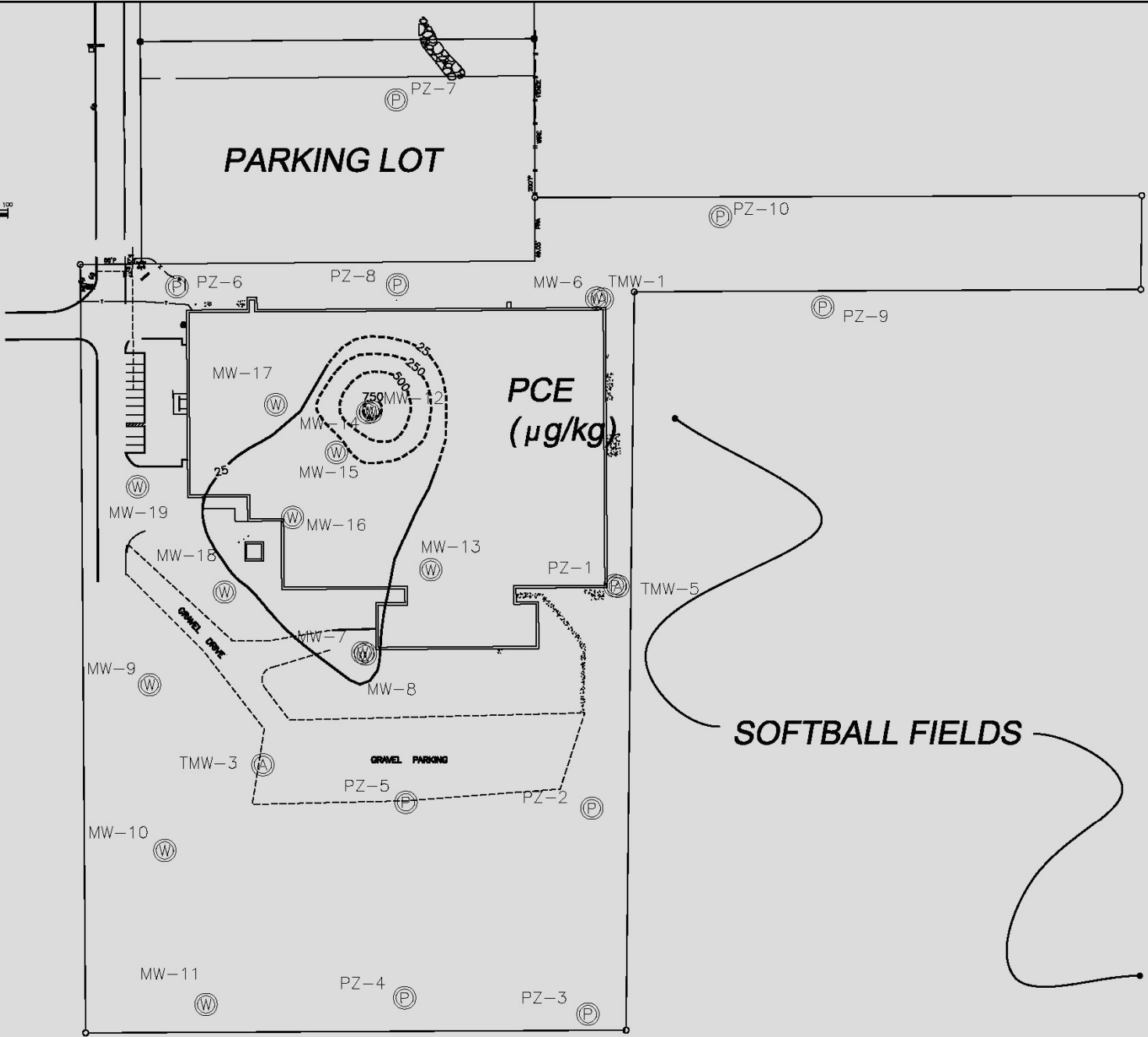


**PARKING LOT**

**PCE  
( $\mu\text{g}/\text{kg}$ )**

**SOFTBALL FIELDS**

**AGRICULTURAL LANDS**



# Hydraulic Conductivity (m/day)

"Protected" Groundwater Source Criteria =

0.44 m/day



MW-6	0.006	.009	NA
MW-10	0.005	0.006	0.005
MW-11	0.006	0.009	0.0008

# Results



- Step 1 – Flow was to south-southwest towards undeveloped off-site areas
- Step 2 – Groundwater met state drinking water standards at property boundary
- Step 3 – Aquifer characteristics met “Non-Protected” groundwater resource criteria

# Conclusions

- The Site was entered into the Chapter 137 Program, thus maintaining a low profile
- A no action groundwater remedy was demonstrated based on acceptable risk exposures
- Client was able to significantly reduce environmental reserves



# Conclusions (continued)



- Institutional controls used for residual soil and groundwater
- Local re-development commission was able to put together an aggressive incentive package once risk issues had been addressed
- Property was sold within 2 years of project initiation for original asking price
- Site closure was achieved within 3.5 years