



# Appraising Environmentally Contaminated Properties

## Appraisal Institute

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## **KEY DEFINITIONS:**

- **Environmental Contamination:**
  - **Adverse environmental conditions resulting from the release of hazardous substances into the air, surface water, groundwater, or soil.**
  - ❖ **Generally, the concentrations of these substances would exceed regulatory limits established by the appropriate federal, state and/or local agencies.**



# Appraising Environmentally Contaminated Properties

- **Environmental Risk:**
  - **The additional or incremental risk of investing in, financing, buying and/or owning property attributable to its environmental condition.**
  - ❖ **This risk is derived from perceived uncertainties concerning:**
    1. The nature and extent of the contamination;
    2. Estimates of future remediation costs and their timing;
    3. Potential for changes in regulatory requirements;
    4. Liabilities for cleanup (buyer, seller, third party);
    5. Potential for off-site impacts;
    6. Other environmental risk factors, as may be relevant.



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- **Environmental Stigma:**
  - **An adverse effect on property value produced by the market's perception of increased environmental risk due to contamination (see Environmental Risk).**



## Appraising Environmentally Contaminated Properties

- **Unimpaired Value:**
  - The market value of a contaminated property developed under the *hypothetical condition* that the property is not contaminated.
  - ❖ Be sure to comply with *USPAP requirements* when employing a Hypothetical Condition!



## Appraising Environmentally Contaminated Properties

- **Impaired Value:**
  - The market value of the property being appraised with *full consideration* of the *effects* of its environmental condition and the presence of environmental contamination on, adjacent to, or proximate to the property.
  - ❖ Conceptually, this could be considered the “as is” value of a contaminated property.



- **Diminution in Value (Property Value Diminution):**
  - **The difference between the unimpaired (“as if clean”) and impaired (as contaminated) values of the property being appraised.**
  - ❖ **This difference can be due to the increased risk and/or costs attributable to the property’s environmental condition.**



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- **Remediation Cost:**
  - **The cost to cleanup (or remediate) a contaminated property to the appropriate regulatory (or market) standards.**
  - ❖ **These costs can be for the cleanup of on-site contamination as well as mitigation of off-site impacts due to migrating contamination.**



- **Remediation Lifecycle:**
  - **A cycle consisting of three stages of cleanup of a contaminated site:**
    - 1) **Before remediation or cleanup**
    - 2) **During remediation**
    - 3) **After remediation**

- **Remediation Lifecycle (cont.):**
  - **A contaminated property's remediation lifecycle stage is an important determinant of the risk associated with environmental contamination.**
  - **Environmental risk can be expected to vary with the remediation lifecycle stage of the property.**

- **Use Effects:**
  - **Limitations on the utility of a site due to contamination and its remediation.**
  - ❖ **These effects may result in a limitation on the Highest and Best Use of a property.**
    - For example, subsurface contamination may remain in place after the conclusion of a remedial action as long as certain conditions are met (a site cap, perhaps)
    - Deed restrictions – limitations on use
      - May or may not have an effect on market value – it is the market and the market's reaction, borne out in actual market data



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- **SITE TYPES:**

- Source Sites** – sites on which contamination is, or has been, generated.
- Non-Source Sites** – sites onto which contamination, generated from a source site, has migrated.
- Adjacent Sites** – a site that is not contaminated, but shares a common property line with a source site.
- Proximate Sites** – a site that is not contaminated and not adjacent to a source site, but is in close proximity to a source site.



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## Environmental Contamination Has:

Social and

Economic

Impacts

## Key Appraisal (Valuation) Principles/Concepts:

- **Market Value (consider as usually defined)**
- **Highest and Best Use (consider all four elements)**
- **Economic Factors of Value (4)**



## **Four Interdependent Economic Factors Create Value:**

- 1. Utility (satisfy a human want, need, desire)**
- 2. Scarcity (supply relative to demand)**
- 3. Desire (wish for an item to satisfy human needs/wants beyond essentials)**
- 4. Effective Purchasing Power (ability to acquire goods/services with cash or its equivalent)**

Interaction of these four factors that create value is reflected in the basic economic principle of **Supply and Demand**.

## Effects of Environmental Contamination on the Value of Real Property:

- **Cost Effects – costs to remediate to appropriate regulatory standards**
- **Use Effects – limitations on the Highest and Best Use of properties**
- **Risk Effects - effects on value due to increased perceptions of environmental risk by market participants**

## **Why Contamination Matters for an Appraisal**

Market resistance caused by concerns over:

- Costs of cleaning up the property
- Liability to third parties
- Restrictions on the use of the property (Highest and Best Use)
- Impacts to marketability
- Long-term monitoring costs, legal fees, and other expenses
- Stigma

- **Types of Contamination:**
  - **Soil Contamination**
  - **Groundwater Contamination**
  - **Other – Asbestos, meth labs, foul odors, for example**

## Learning About Contamination

Prospective purchasers, lenders & current owners learn about contamination in many ways:

- Knowledge of operations, spills, leaks
- Physical facilities, including USTs
- Soil disposal during excavation for construction
- Environmental questionnaire
- Phase I & Phase II Site investigations

- **Extent of Contamination:**
  - **Defined / Readily Quantifiable**
  - **Difficult to Readily Quantify**
  - **"Suspect" - Unknown/Undefined**



## Cleanup

After contamination is discovered, the process of investigation and remediation begins:

- Owner notifies Department of Ecology
- Owner prepares an application to implement a voluntary cleanup plan (VCP)
- Once approved, the VCP is implemented
- Cleanup is complete when Ecology issues a No Further Action (NFA) letter
- NFAs typically require ongoing monitoring, institutional controls, and frequently require restrictive covenants

## Liability

For current owners and operators, and owners/operators at the time contaminants were released, liability for investigating and remediating environmental contamination is:

- Strict
- Joint and Several

## Defenses to Liability

State law (and to some extent federal law) recognizes limited defenses to liability:

- Those who have indicia of ownership solely to protect a security interest
- Owners of property onto which contaminated groundwater has migrated
- Innocent purchaser (who has made “all appropriate inquiry”)
- Owner of property on which contamination resulted from lawful, non-negligent use of hazardous substances for (a) a domestic purpose or (b) growing food crops

## Tools Used to Shift Liability

- Indemnification and “as-is / where-is” clauses
- Representations and warranties
- Environmental liability insurance
- Prospective purchaser agreements
- Escrow funds for cleanup
- Carve out contaminated portion of site

## Liability Assessment & Risk – Appraisal Issues

- Remediation Type
- Ease of Remediation
- Costs of Remediation
- Time
- Remaining Impacts (Stigma, Ongoing Maintenance, Monitoring Costs, Other?)

## COST OF CLEANUP?

- **Confidence level in estimates?**
- **Allowance for risk (uncertainty)**
  - Stigma
  - Liability



## CLEAN UP TIMING?

- How long will it take to effect cleanup?
- Will ongoing monitoring be required over an extended period?
- If there is too lengthy a period required before the property can be developed, then considered SPECULATIVE

## Generally:

- **Well-defined type and extent, along with well-defined costs to remediate**
  - Lower risk – Lower potential liability and impacts on market values
- **Ill-defined, suspect, difficulty in remediating, unknown total costs and lengthy time**
  - Greater risk – Higher potential liability and impacts on market values



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## RISK ALLOWANCE – EXAMPLES

### Where the...

- **Type and Extent of Contamination Known, & Relatively Well—Defined (for example, soils)**
  - Risk allowance can often be up to 50% +/- of the Estimated Clean-Up Costs
- **Type and Extent of Contamination Uncertain &/or Less Well-Defined (for example, groundwater)**
  - Risk allowance can often be 100% or more of the Estimated Clean-Up Costs
  - Often, however, this property type is unmarketable/unsalable

## Some Factors to Consider:

- **Indemnifications -**

- "Deep pocket" corporations

- ❖ E.g., Shell Corporation – Gas station sites

- ❖ "Ma and Pa" sellers with limited financial depth

- **"NFA" – No Further Action Letter**

- **Intrusive to use -**

- Site Caps

- Groundwater monitoring equipment left on site

- Restrictive Covenants on Use

- **Despite some "defenses" to liability –**
  - Potential impacts to H&BU
  - Impacts on Property Market Valuation

**WHAT IS THE RESPONSE FROM  
MARKET PARTICIPANTS  
(i.e., BUYERS)?**

## **Appraisal – Valuation Issues and Concepts**

### **Methodology in Appraising Contaminated Properties**



## Highest and Best Use

- **Fundamental Concept in Valuing Any Property**
- **Legally Allowed Uses:**  
**Development and clean up standards?**
  - Industrial
  - Commercial
  - Residential
- **Physically Possible Uses:**  
**Site Constraints?**
  - Surface cap?
  - Groundwater pump/monitoring station on site?



## INITIAL VALUATION PREMISE:

### VALUE “AS IF CLEAN” (UNCONTAMINATED, or UNIMPAIRED, VALUE)

Based on the Highest and Best Use of the property  
as if not impacted by any hazardous waste contamination

- Extraordinary Assumption, if uncertain, but suspected
  - Hypothetical Condition, if known/identified

- **DEDUCT ESTIMATED  
COSTS OF CLEAN UP**
  
- **DEDUCT AN ALLOWANCE  
FOR STIGMA/RISK**

## SUMMARY:

**Value As If “Clean” (Hypothetical Condition)**  
**Less Estimated Costs of Clean-up**  
**Less Allowance for Stigma/Risk**  
**= Value “As Contaminated” (“As Is” Market Value)**

- **Impaired Value = Unimpaired Value – Cost Effects (Remediation and Related Costs) – Use Effects (Effects on Site Utility) – Risk Effects (Environmental Risk/Stigma)**
  - **Property Value Diminution = Cost Effects (Remediation and Related Costs) + Use Effects (Effects on Site Utility) + Risk Effects (Environmental Risk/Stigma)**
- **Impaired Value = Unimpaired Value – Property Value Diminution**

## Summary:

### Cost, Use, and Risk Effects on Valuation

- **Impaired Value =**
- **Unimpaired Value less:**
  - Cost Effects (remediation and related costs)
  - Use Effects (effects on site usability)
  - Risk Effects (environmental risk/stigma)



# Appraising Environmentally Contaminated Properties

## Merrifield Example:

- Residual contaminants in the subsurface likely to negatively impact marketability and value (stigma – fear of potential future liability, cleanup costs)
- Capping site may have negative impacts on HBU and value – future use of capped portions of site, maintenance costs of cap, and restrictive covenant on uses
- Long-term monitoring may impact uses, and value – costs of oversight and reporting vs. property where not required
- Seller indemnification unlikely to carry much weight or impact value positively in this case ("Ma and Pa")
- NFA – one positive





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## OTHER EXAMPLES



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## Example 1: Industrial Site w/On-Site Soil Contamination

- Well-Defined Extent and Scope
- Lead and Other Metals in Top 2-Ft of Site Soil
- Costs to Remove/Remediate Well-Defined
- Buyer Considered Low-Risk of Added Liability
- Good Corporate Indemnification

Site Value As If "Clean"	\$1,000,000
Less Contracted Removal Costs	400,000
Risk Allowance/Profit (10% of Costs)	<u>40,000</u>
Price Paid For Site As Contaminated	\$560,000



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## Example 2: Former Site of Dry Cleaners

- Groundwater infiltration (TCE, etc.)
- Migration Off-Site – Impacts to Other, Nearby Properties
- Ill-Defined Extent and Scope/Uncertainty
- Significant Exposure/Liability
- "Ma and Pa" Owners – No Ability to Indemnify
- Clean-Up Costs and Monitoring Expenses Far In Excess of Value As If Clean

Site Value As If "Clean"	\$400,000
Estimated Clean Up Costs (minimum)	<u>(\$2,000,000)</u>
Market Value	No market value with <u>at least</u> a \$1,600,000 liability

- Site Sat Vacant, Undeveloped, & Unsalable for YEARS

## Example 3: Capped Industrial Site

- **Prior Soil Contamination That Extended Well Below-Surface**
  - Removal Costs Estimated Above Underlying Land Value
- **Some Minor Groundwater Infiltration – No Apparent Off-Site Migration**
- **Most of Site Capped**
- **Groundwater Monitoring Well Placed On Corner of Site**
- **Light Industrial Metal Skin and Frame Warehouse Built on Floating Concrete Pad Foundation on Portion of Site**
  - Limited Subsoil Intrusion
- **Remainder of Site Allowed to Support On-Site Truck Parking Only Over Site Cap**
  - Restrictive Covenant on Future Use/Development
- **Income-Producing Rental**
- **Slight Increase in Capitalization Rate Used in Property Sale**
  - +0.25%



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## Example 4: Former Gas Station Site

- **UST Leak**
- **Soil Impacts**
- **Some Offsite Migration**
  - Identified Limited Extent/Scope
- **Contaminated Soil Removed, Former Tanks Removed**
- **Groundwater Monitoring Well Placed On Corner of Site**
- **"Key" (Deep Pocket) Corporate Indemnification Provided**
  - Little To No Difference in Underlying Land Value Based On Market Sales