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# Environmental Liabilities & Regulations Associated with Real Estate Transactions

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Presented by

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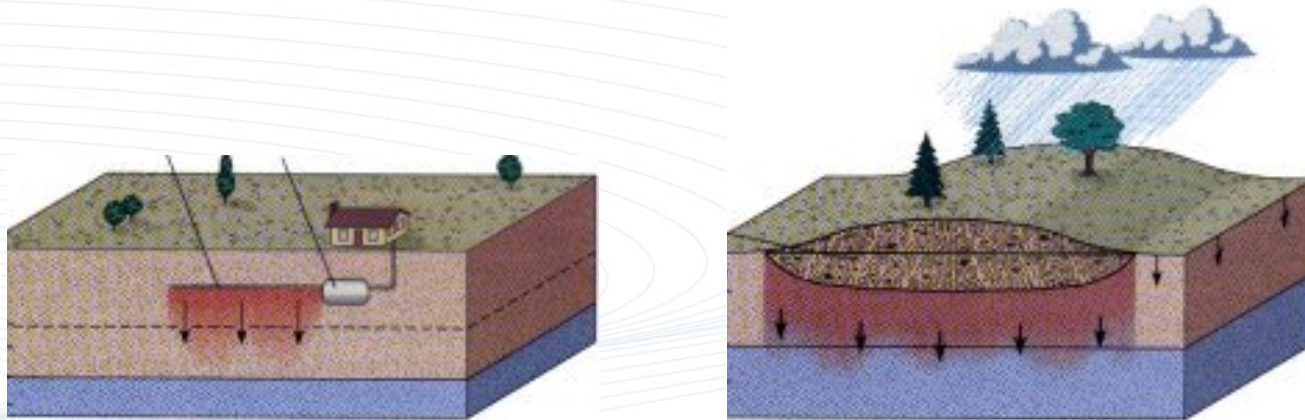


solutions for today's environment

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# What is a Contaminated Site?

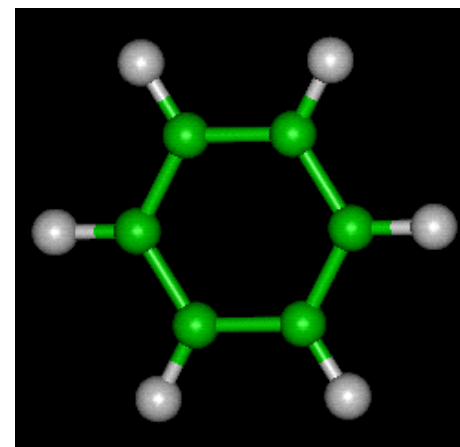
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- A site which may have Polluted Soil
- A site which may have Polluted Groundwater
- A site which may have Polluted Soil and Groundwater

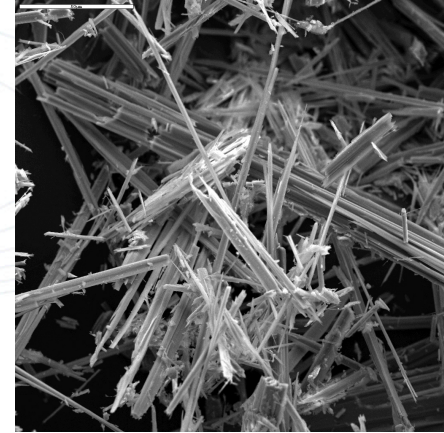
# What are the Potential Contaminants?

- **Petroleum Products or bi-products**  
(Benzene, Ethyl-Benzene)
- **Chlorinated Products & Solvents**  
(PCB, TCE, Chlorophenols)
- **Metals, Soluble & Non-Soluble**  
(Lead, Chromium, Mercury, Zinc, Copper)



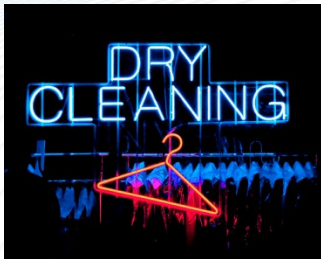
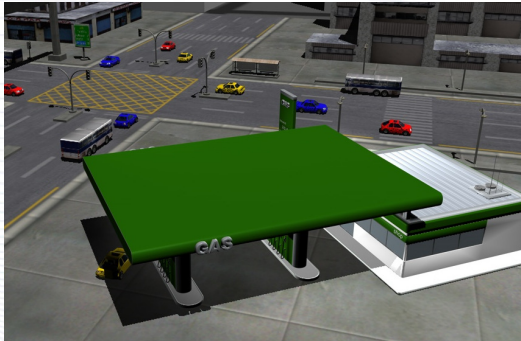
# What are the Potential Contaminants?

- **Asbestos**
- **Biological Pathogens**  
(i.e. fecal coliforms and other pathogenic bacteria)
- **Various other chemicals**





# What are the Potential Sources of Contaminants?



- Gas Station
- Dry Cleaners
- Manufacturing Facilities
- Machine & Fabrication Shops
- Government & Private Facilities
- Private Homes

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# Why Do You Need an Environmental Assessment?

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- To identify any current or past environmental impact to the property;
- To identify the extent of contamination & associated liabilities;
- To identify costs of clean-up as part of the sales & purchase agreement;
- May be required as part of your financing, mortgage, etc.

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# Why Do You Need an Environmental Assessment?

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- To identify any potential third party liabilities you may inherit in the future;
- To identify any ecological or human risks associated with the assets; and
- To identify any potential regulatory / government orders against the property.

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## What to Look for When Selecting an Environmental Consultant

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- Technical capability
- Regulatory awareness. In BC, does the firm have an “Expert Roster Member”?
- Adequate Errors & Omissions and Pollution Insurance
- Does the consultant’s proposal provide adequate steps toward cleaning your property and obtaining Certificates of Compliance
- Detailed and accurate estimates on remediation costs



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# What are the Steps Toward Obtaining a Certificate of Compliance?

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- Conducting a Phase I / Stage I Site Assessment
- Conducting a Phase II Site Assessment
- Conducting a Phase III Site Assessment / Delineation
- Remedial Option Investigation
- Remedial Application & Site Clean Up
- Dealing with on-site & off-site issues
- Finalizing the environmental reports
- Applying for the Certificate of Compliance
- Site Closure

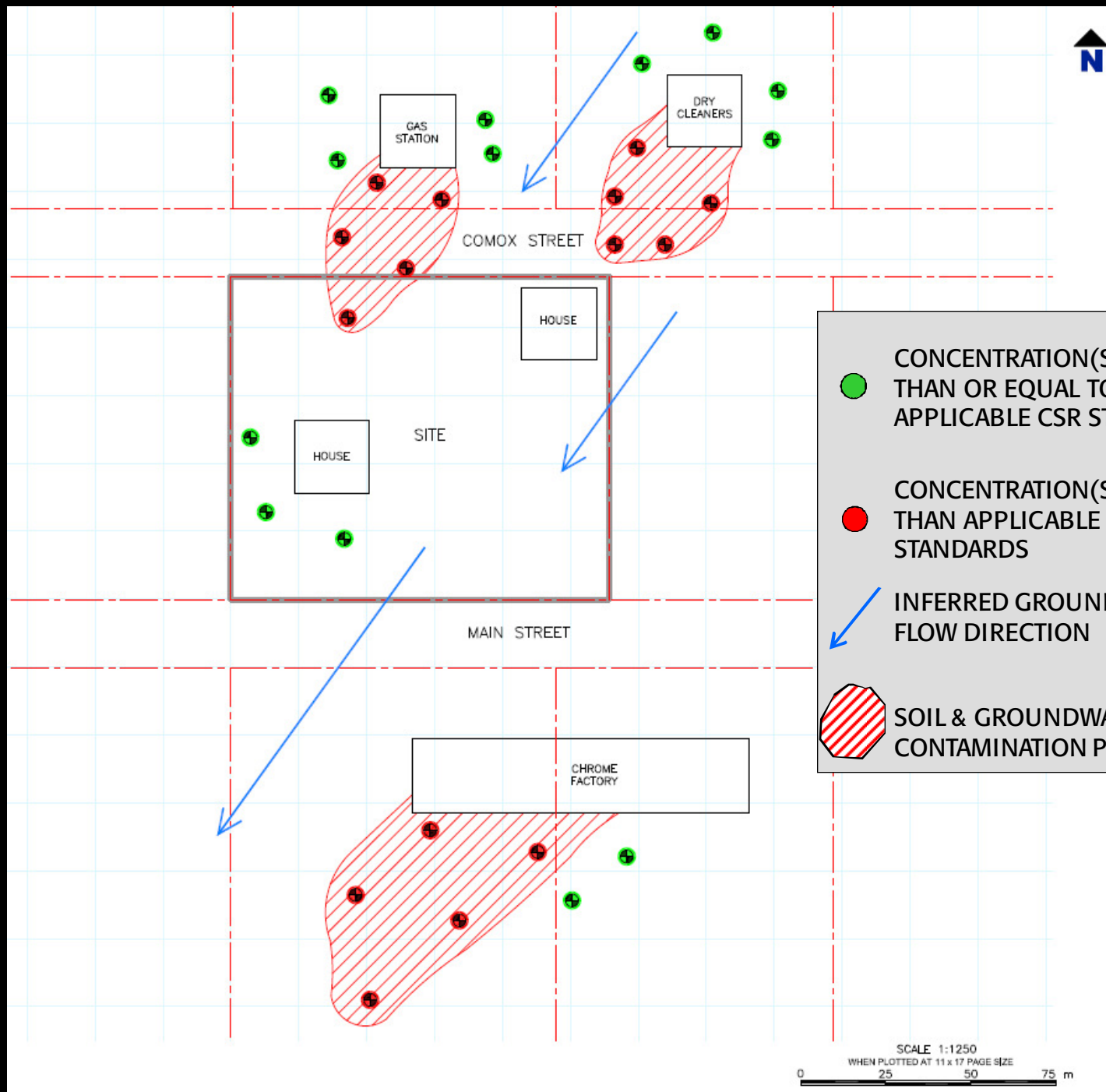
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# Phase I / Stage I Site Assessment

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- First order look at the state of environmental impact
- Historical site activities review
- Identification of potential sources which may have impacted the site





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## Phase I / Stage I Site Assessment

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- Interviews with the site owners & operators
- Identifying previous occupants of the site
- Review of any available environmental reports previously prepared for the site
- Based on the reviews, recommend:
  - No further actions required; or
  - Additional environmental assessment may be required  
(a Phase II environmental assessment)



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## Phase II Site Assessment

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- Intrusive Investigation
- Prepare a sampling program for soil & groundwater
- Drilling or test pitting for a number of sampling points to identify potential impact in soil and/or groundwater



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## Phase II Site Assessment

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- Development of monitoring wells for later investigations
- Examination of the samples for potential contaminants at the site based on the outcome of the Phase I Site Assessment & knowledge of investigating team
- Identification of any on-site or off-site issues
- May require additional sampling or drilling to identify the extent of contamination (delineation) leading to Phase III Site Assessment
- Generating a report outlining the next steps (remedial options, risk assessment etc.)

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## Phase III Site Assessment

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- This phase of investigation may be linked to the activities undertaken and recommendation driven from the Phase II site investigation
- Delineation of the site to assess the extent of contamination on-site & off-site

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# Remediation Option Investigation

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- Assess all applicable technologies or remedial options for the site
- Provide accurate cost estimates to clean the site



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# Application of the Selected Remedial Option

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- Tender the work to remedial contractors
- Review remedial cost estimates & refine the overall costs of remedial options
- Select a remedial contractor
- Finalize contractual agreement between the owner and the contractor
- Supervise the remediation activities
- Obtain confirmatory sampling
- Submit the final site remediation reports to the authorities
- Obtain Certificate of Compliance

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# BC Environmental Management Act and Contaminated Sites Regulation (CSR) Provisions

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## Liability & Triggers For Investigation

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# Liability

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- Joint, Several and Retroactive
  - Current and past owners
  - Operators, leasor (30 years), transporter
  - Secured creditors if exercised control
- Innocent purchaser provisions (if have completed appropriate due diligence)
- Minor contributor provisions also available (if there are other responsible persons)

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## Triggers for Investigation

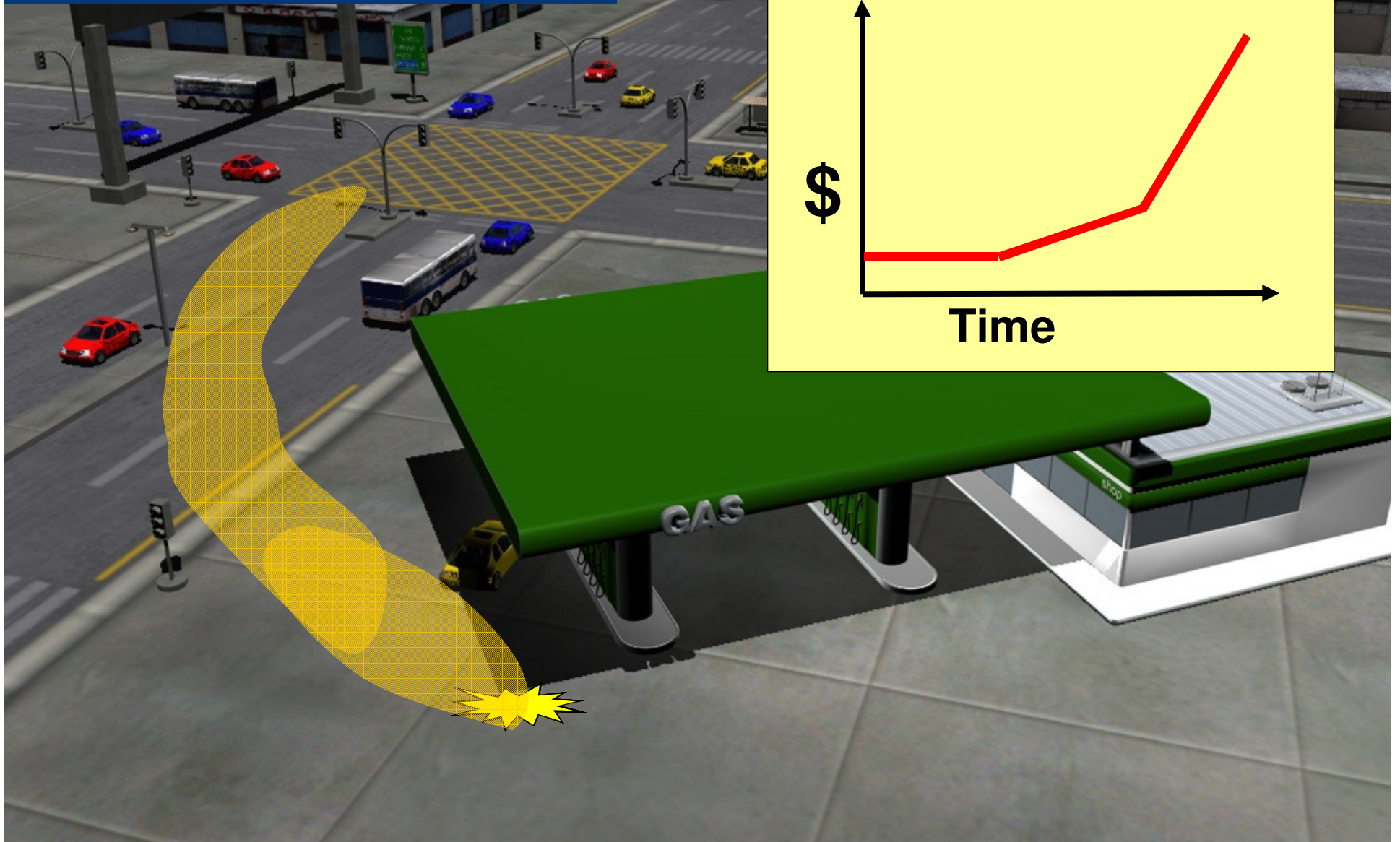
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- Requirement to submit a Site Profile for property having a CSR schedule 2 use:
  - Zoning
  - Subdivision
  - Development permit
  - Demolition permit (except where soil disturbance incidental)
  - Excavation permit
  - Decommissioning (for certain sites submitted directly to MOE)
- Ordered by Province



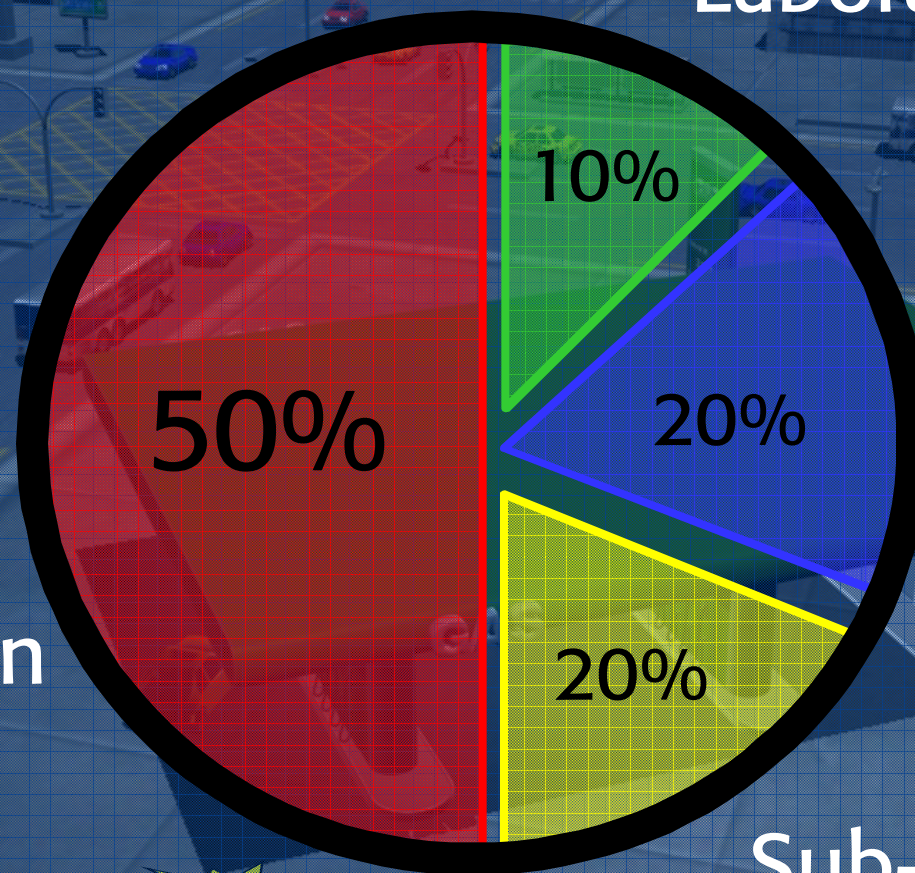
# Contamination

## Effect on Spending





# Environmental Spending



Laboratories

Consultants

Sub-Contractors

Remediation  
Services



# Reactive



# Proactive

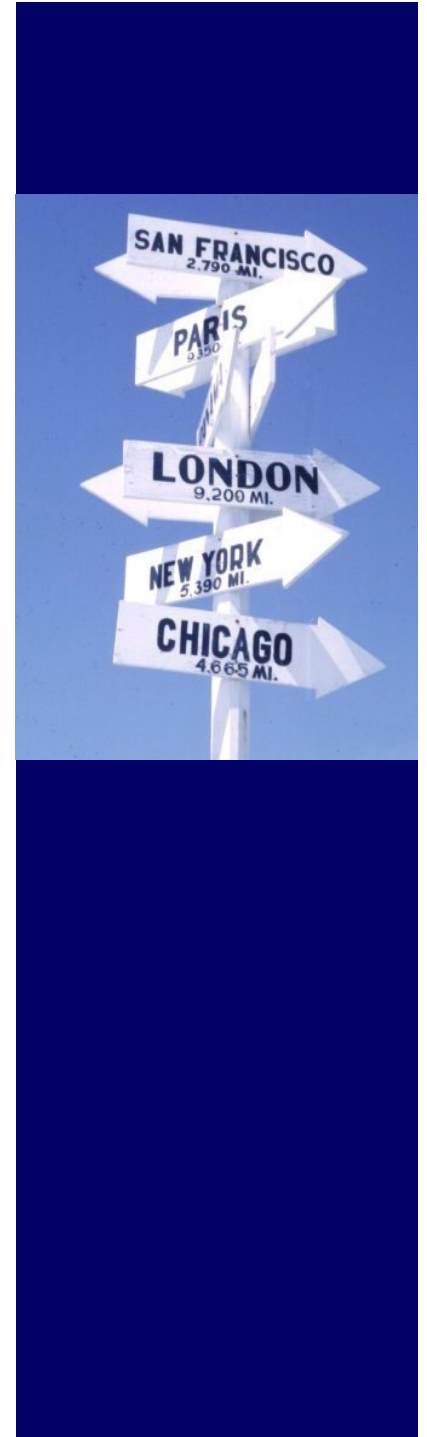
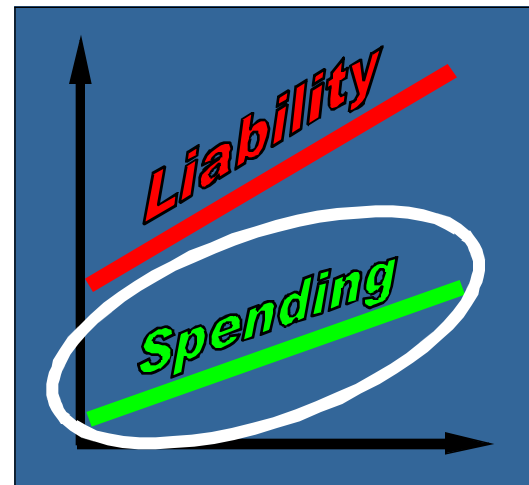


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# Short-Term Strategies

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- Operations Level Decisions
- Targeted Spending
- Site Prioritization



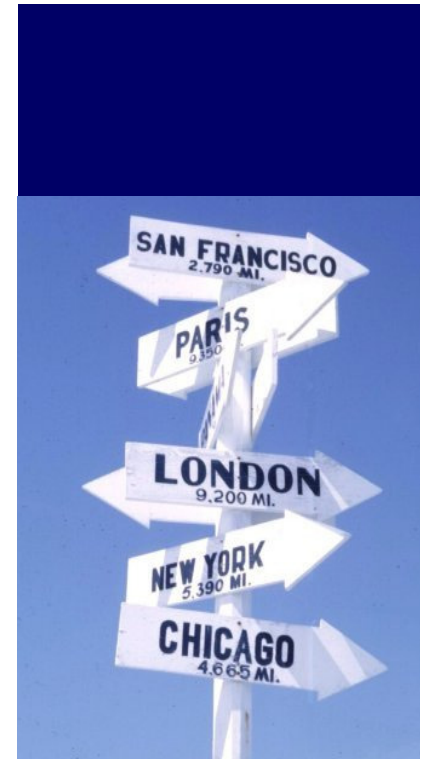
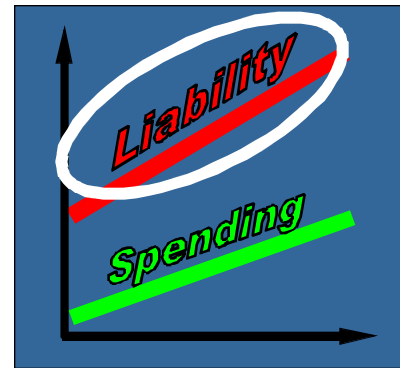
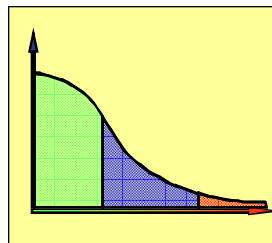
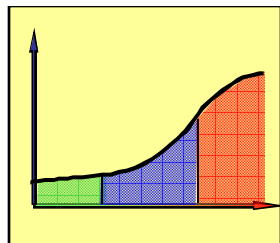


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# Long-Term Strategies

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- 🌐 Corporate Level Decisions
- 🌐 Return on Investment Goals
- 🌐 Root Cause Analysis



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# General Long-Term Strategies

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 Operator / Manager Training

Implementation of Environmental  
Management Systems

Improvements in Storage of  
Potential Contaminants

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