

# New Vapour Intrusion Assessment Guidance

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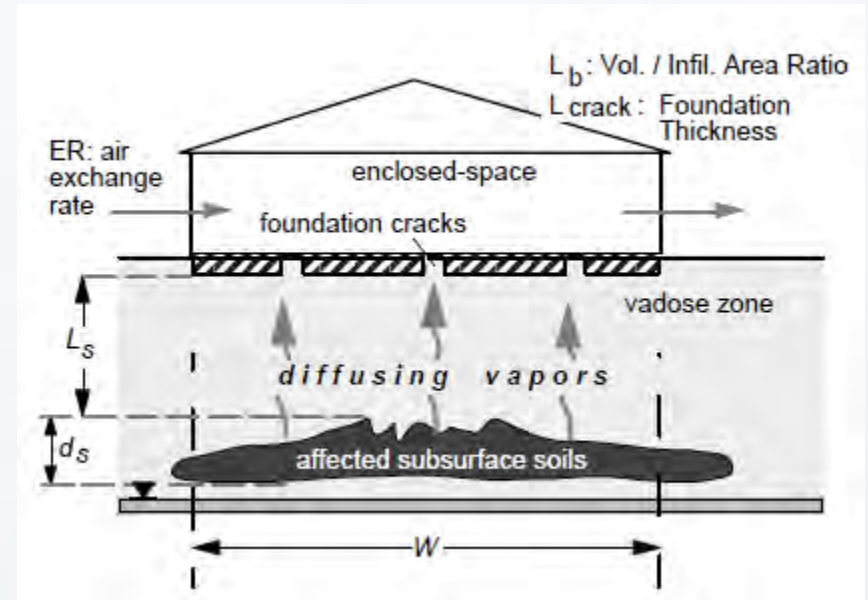
# Atlantic RBCA Toolkit

## Advantages

- Risk-based guidelines
- Can adjust for site-specific

## Challenges

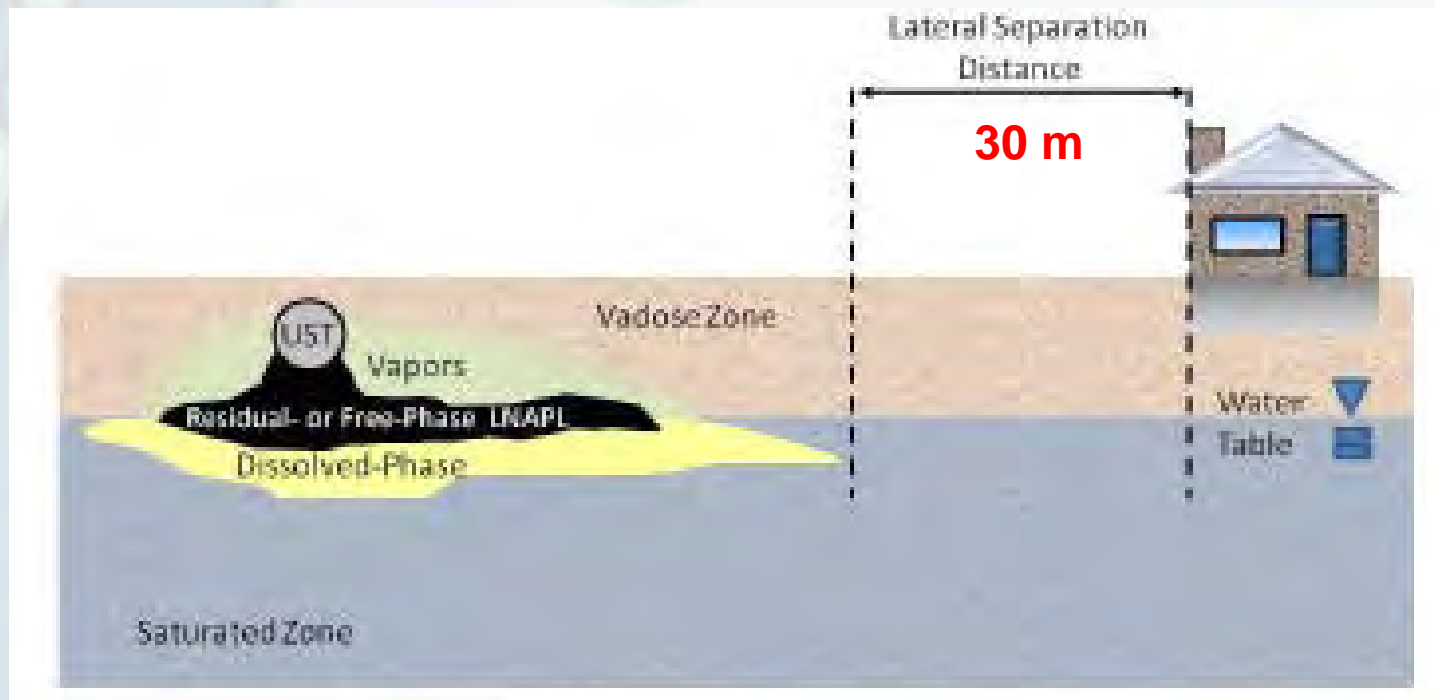
- Sites that don't meet conditions for model
- Screening levels are low, especially for residential



Note: Contamination beneath building

# Atlantic RBCA Soil Vapour Sampling Guidance (2006)

- Guidance for soil vapour assessment
- Conceptual change: lateral separation

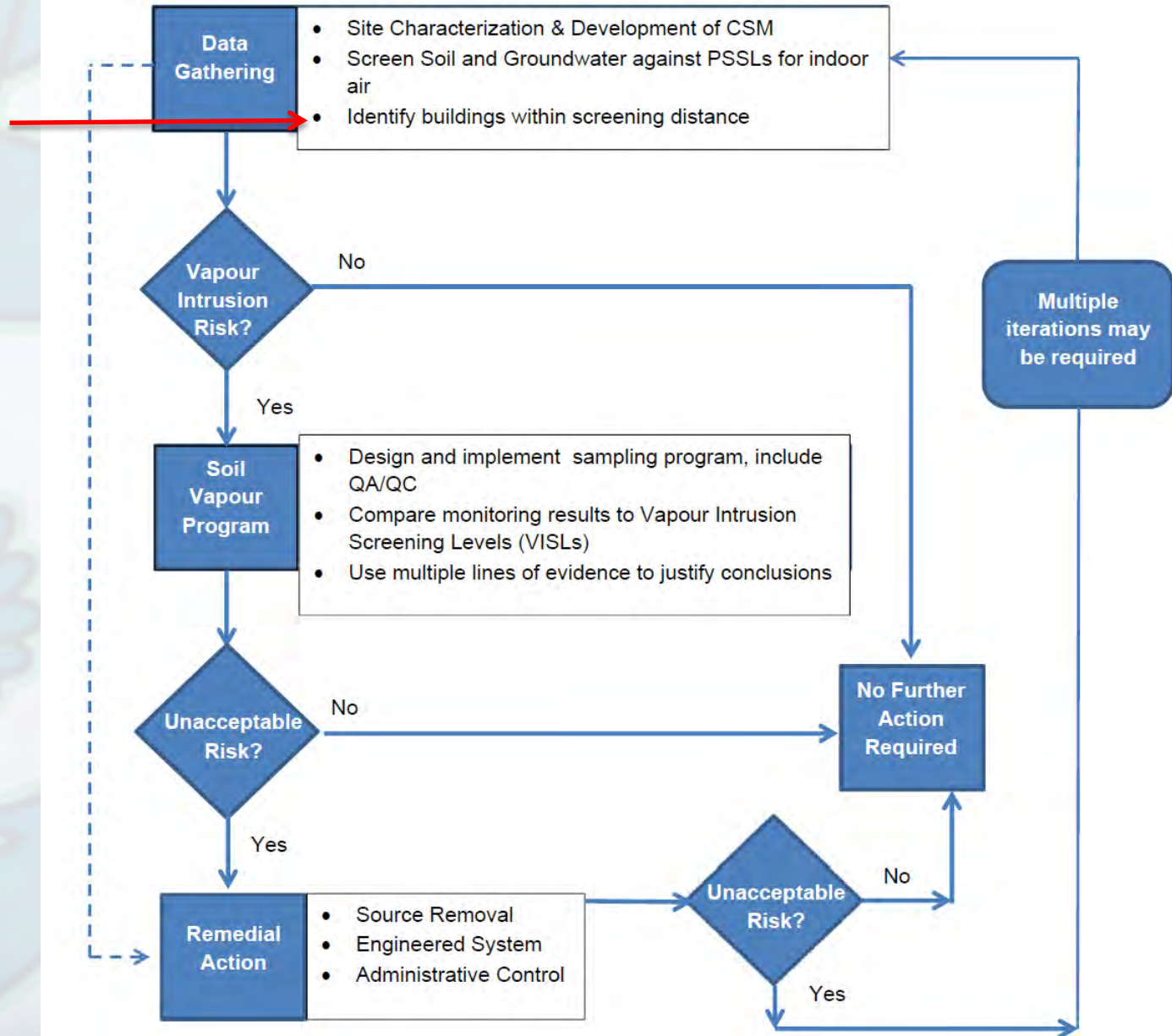


# So why new guidance...

- New information on PHCs
  - Davis 2009
  - Lahvis et al. 2013
  - US EPA 2013
  - ITRC 2014
- Feedback from Site Professionals
  - Screening levels
  - Keep it simple

# General Approach Outlined in New Guidance

Emergency Response Completed (if needed)



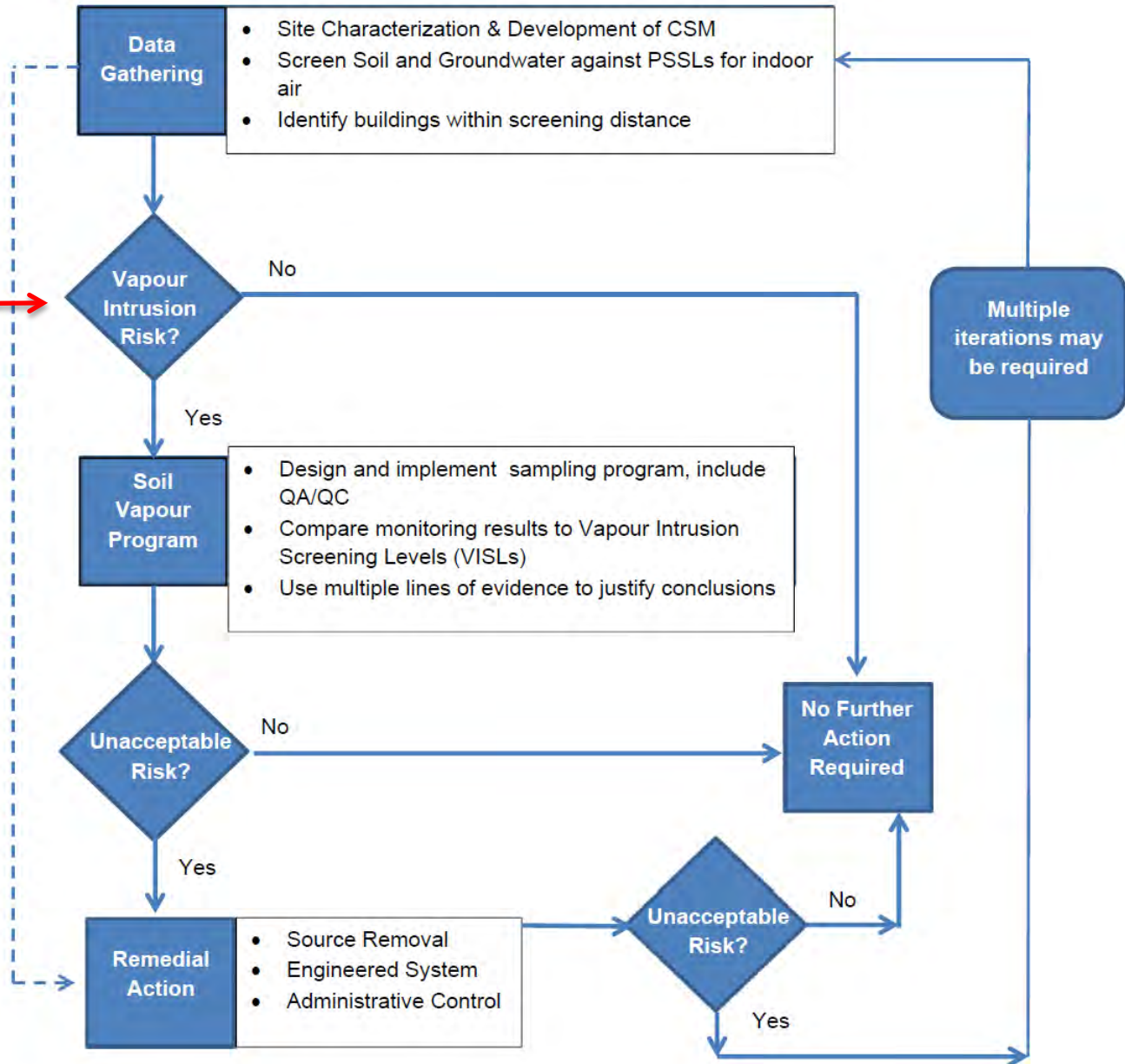
# Screening Distances

Contaminant type	Vapour Intrusion Screening Distance *
PHCs (BTEX, mTPH) (all cases except as noted below)	5 m
PHCs (BTEX, mTPH) with $f_{oc} > 0.04$	30 m
PHCs (BTEX, mTPH) from ethanol based fuel	30 m
Chlorinated Solvents (PCE and daughter products)	30 m
Other volatile compounds	30 m

\* For vapour intrusion of PHCs, relatively clean soil is defined by mTPH concentrations of 100 mg/kg or less for the purposes of vapour intrusion assessment

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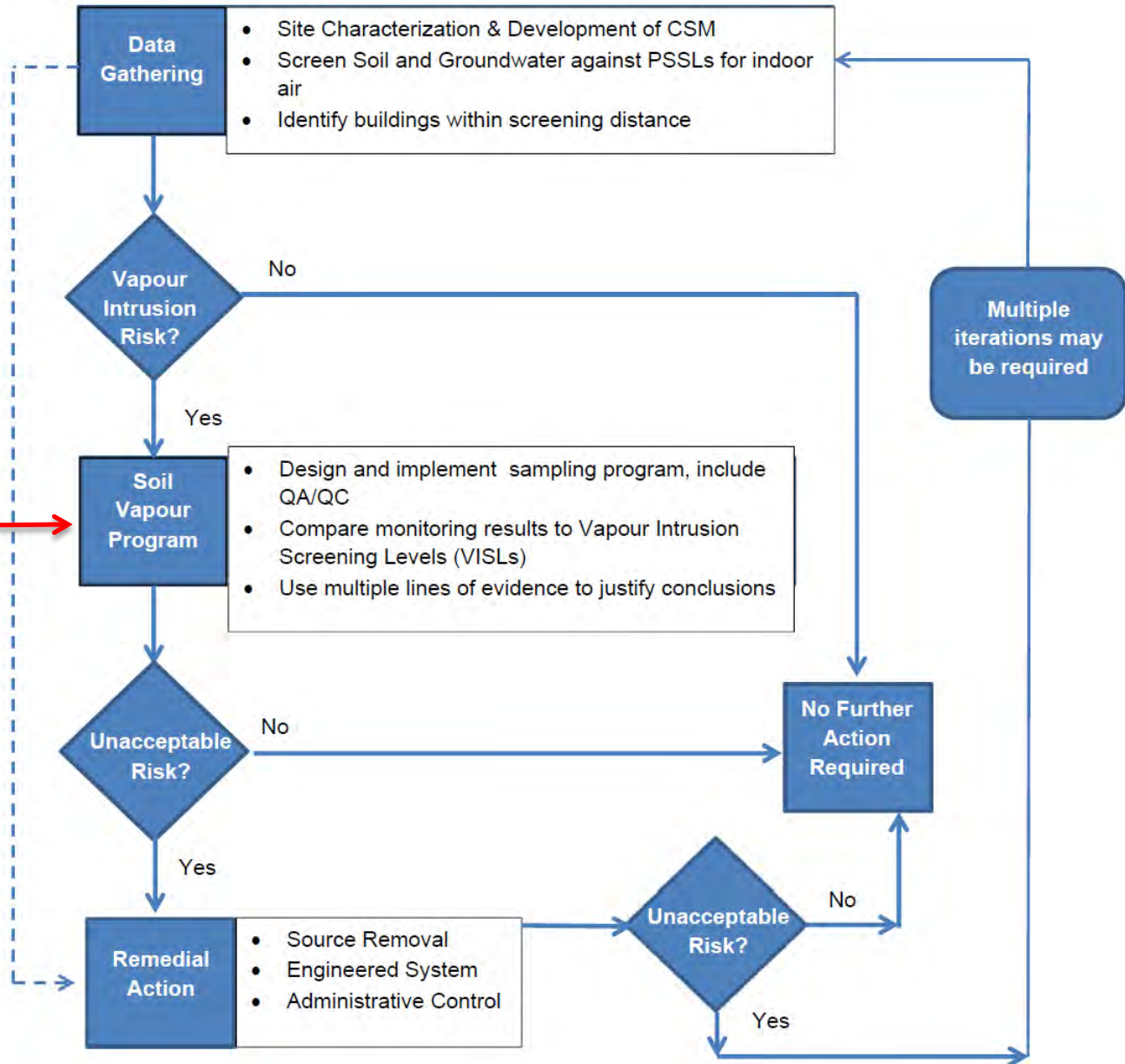
# Vapour Intrusion Risk?

		Buildings Present or Reasonably Foreseen Within Screening Distance?	
		No	Yes
Concentrations in Soil and Groundwater	Meet Indoor Air PSSLs	Vapour intrusion pathway screened out	Vapour intrusion pathway screened out
	Exceed Indoor Air PSSLs	Vapour intrusion pathway screened out	<b>Vapour intrusion pathway risk – further investigation or remediation required</b>



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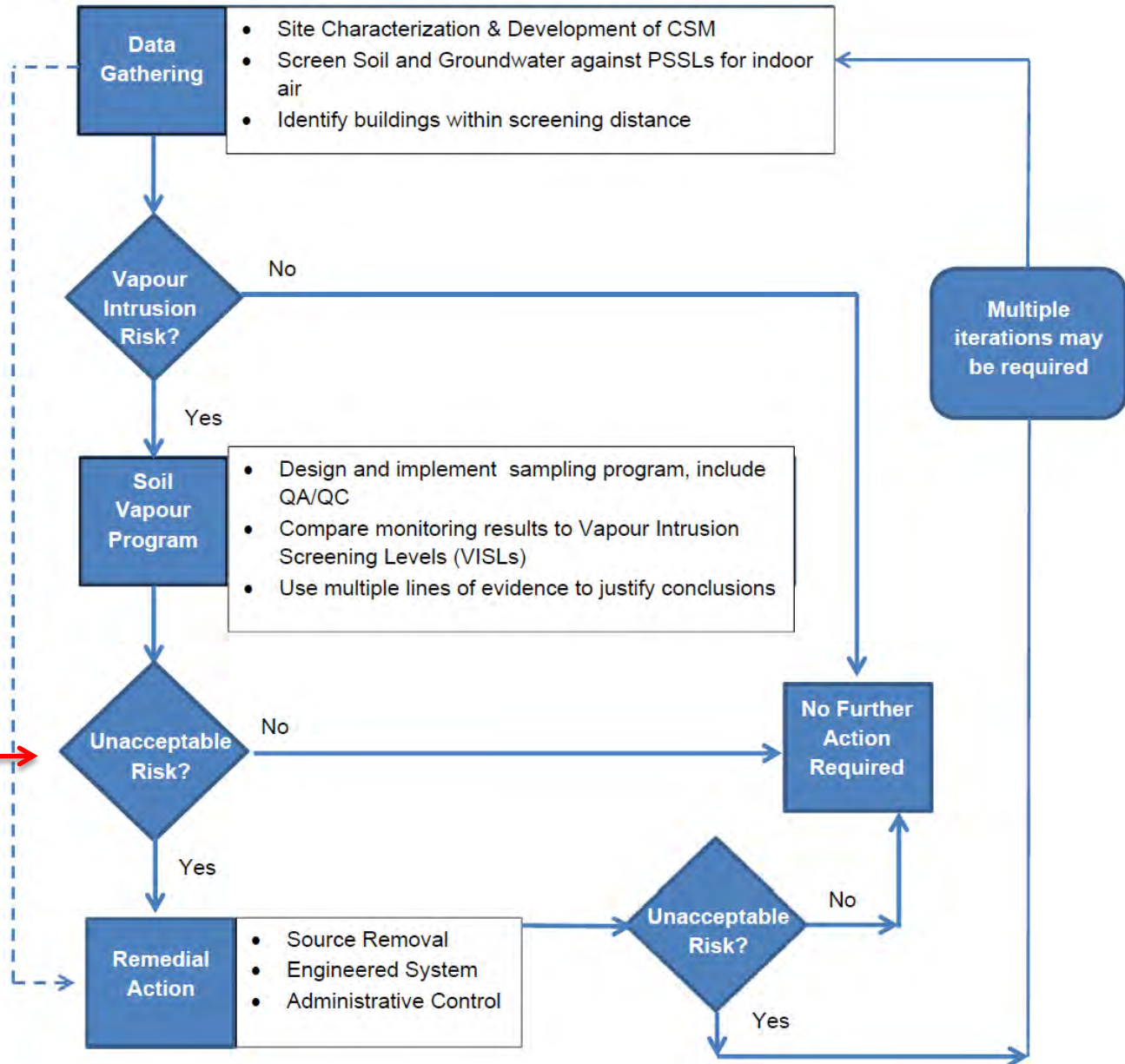
# Index of Additive Risk (mTPH)

COC	Residential/Agricultural Indoor Air VISLs (mg/m <sup>3</sup> )	Site Concentration (mg/m <sup>3</sup> )	Site Conc/VISL
Aromatic >C <sub>8</sub> -C <sub>10</sub>	0.20	0.130	0.65
Aromatic >C <sub>10</sub> -C <sub>12</sub>	0.20	<0.041	0.10*
Aromatic >C <sub>12</sub> -C <sub>16</sub>	0.20	0.150	0.75
Aliphatic >C <sub>6</sub> -C <sub>8</sub>	18.4	0.610	0.03
Aliphatic >C <sub>8</sub> -C <sub>10</sub>	1.0	0.310	0.31
Aliphatic >C <sub>10</sub> -C <sub>12</sub>	1.0	0.100	0.10
Aliphatic >C <sub>12</sub> -C <sub>16</sub>	1.0	0.200	0.20
<b>Sum (IAR)</b>			<b>2.14</b>

\*Where results are less than the detection limit, conduct calculations on ½ the detection limit.

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# Status

- Internal review of document by Atlantic PIRI and its Corresponding Members
  - October 2015
- Release for Public Review
  - Early 2016
- Check for updates
  - Atlantic RBCA website [www.atlanticrbca.com](http://www.atlanticrbca.com)