

## **Appendix D – Ground Conditions Impact Assessment Methodology**

### **Classification of probability**

<b>Classification</b>	<b>Definition</b>
High likelihood	There is a pollution linkage and an event either appears very likely in the short-term and almost inevitable over the long-term, or there is already evidence at the receptor of harm / pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter-term.
Unlikely	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the very long-term.

### **Classification of consequence**

<b>Classification</b>	<b>Examples</b>
Severe	<p>Human health effect - exposure likely to result in "significant harm". Significant harm to humans is defined in circular 01/2006 as death, disease, serious injury, genetic mutation, birth defects or impairment of reproductive function.</p> <p>Controlled water effect - short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Equivalent to EA Category 1 incident (persistent and/or extensive effects on water quality leading to closure of potable abstraction point or loss of amenity, agriculture or commercial value. Major fish kill.</p> <p>Ecological effect - short-term exposure likely to result in a substantial adverse effect. Catastrophic damage to crops, buildings or property</p>
Medium	<p>Human health effect - exposure could result in "significant harm". Significant harm to humans is defined in circular 01/2006 as death, disease, serious injury, genetic mutation, birth defects or impairment of reproductive function.</p> <p>Controlled water effect - equivalent to EA Category 2 incident requiring notification of abstractor Ecological effect - short-term exposure may result in a substantial adverse effect.</p> <p>Damage to crops, buildings or property</p>
Mild	<p>Human health effect - exposure may result in "significant harm". Significant harm to humans is defined in circular 01/2006 as death,</p>

	<p>disease, serious injury, genetic mutation, birth defects or impairment of reproductive function.</p> <p>Controlled water effect - equivalent to EA Category 3 incident (short lived and/or minimal effects on water quality).</p> <p>Ecological effect - unlikely to result in a substantial adverse effect.</p> <p>Minor damage to crops, buildings or property. Damage to building rendering it unsafe to occupy (for example foundation damage resulting in instability).</p>
Minor	<p>No measurable effect on humans. Protective equipment is not required during site works. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems.</p> <p>Repairable effects to crops, buildings or property. The loss of plants in a landscaping Proposed Development. Discolouration of concrete.</p>

### Criteria to determine Significance of Effect

Significance Criteria	Definition
Major adverse effect	<p>An increase in contamination risk from the existing baseline conditions of 4 or 5 risk levels in the risk matrix, e.g. land that has a very low contamination risk in the baseline becomes a high or very high risk.</p> <p>Land that does not meet the statutory definition of Contaminated Land in the existing baseline becomes capable of being determined under Part 2A of the Environmental Protection Act 1990.</p>
Moderate adverse effect	<p>An increase in contamination risk from the existing baseline conditions of 2 or 3 risk levels in the risk matrix, e.g. land that has a low contamination risk in the baseline becomes a moderate or high risk.</p> <p>Land that does not meet the statutory definition of Contaminated Land in the existing baseline becomes capable of being determined under Part 2A of the Environmental Protection Act 1990.</p>
Minor adverse effect	<p>An increase in contamination risk from the existing baseline conditions of 1 risk level in the risk matrix, e.g. land that has a low contamination risk in the baseline becomes a moderate / low risk.</p>
Neutral effect	No change in contaminated land risks.
Minor beneficial effect	<p>A reduction in contamination risk from the existing baseline conditions of 1 risk level in the risk matrix, e.g. land that has a moderate / low contamination risk in the baseline becomes a low risk.</p>
Moderate beneficial effect	<p>A reduction in contamination risk from the existing baseline conditions of 2 or 3 risk levels in the risk matrix, e.g. land that has a high contamination risk in the baseline becomes a moderate / low or low risk.</p>

---

	Land that meets the statutory definition of Contaminated Land in the existing baseline is no longer capable of being determined under Part 2A of the Environmental Protection Act 1990.
Major beneficial effect	<p>A reduction in contamination risk from the existing baseline conditions of 4 or 5 risk levels in the risk matrix, e.g. land that has a very high contamination risk in the baseline becomes a low or very low risk.</p> <p>Land that meets the statutory definition of Contaminated Land in the existing baseline is no longer capable of being determined under Part 2A of the Environmental Protection Act 1990.</p>

