TP9 – Centre, east of site, in roadway

















Trail Pit 9 – centre east of site	
0.00-0.20m	Asphalt, wood, gravel, strong odour
0.20-0.60m	sand and gravel, some
0.6-0.90m	clay towards the bottom.

TP10 – Southern boundary west of access road, in roadway, edge of house
















E10







Trail Pit 10 – southern boundary, west of access road	
0.00-0.20m	Concrete
0.20-0.60m	sand, grit, stone brick
0.60-1.0m	clay at 600mm, some stone initially then solid clay.
,	

TP11 – Centre west of site access road, in roadway, edge of house



















Trail Pit 11 – middle centre west of site

0.00-0.20m	Stone
0.20-0.50m	sand and gravel & stone
0.5-0.80m.	stiff clay

TP12 – northern boundary west of access road, in roadway, edge of house












113
E10





Trail Pit 12 – northern boundary centre west of access road

0.00-0.20m	Made ground, demolition waste, brick, stone sand gravel
0.20-0.70m	Sand gravel
0.70-1.00m	Clay, with gravel.

TP13 – Northern boundary 1/3 in from west, under proposed house

























Trail Pit 13 – northern boundary 1/3 across from west

0.00-0.15m	Brick, stone, sand and gravel
0.150-0.25m	concrete
0.25-0.70m	loamy clay and gravel,
0.70-0.80m	clay

TP14 – Centre, 1/3 in from western boundary, under proposed house





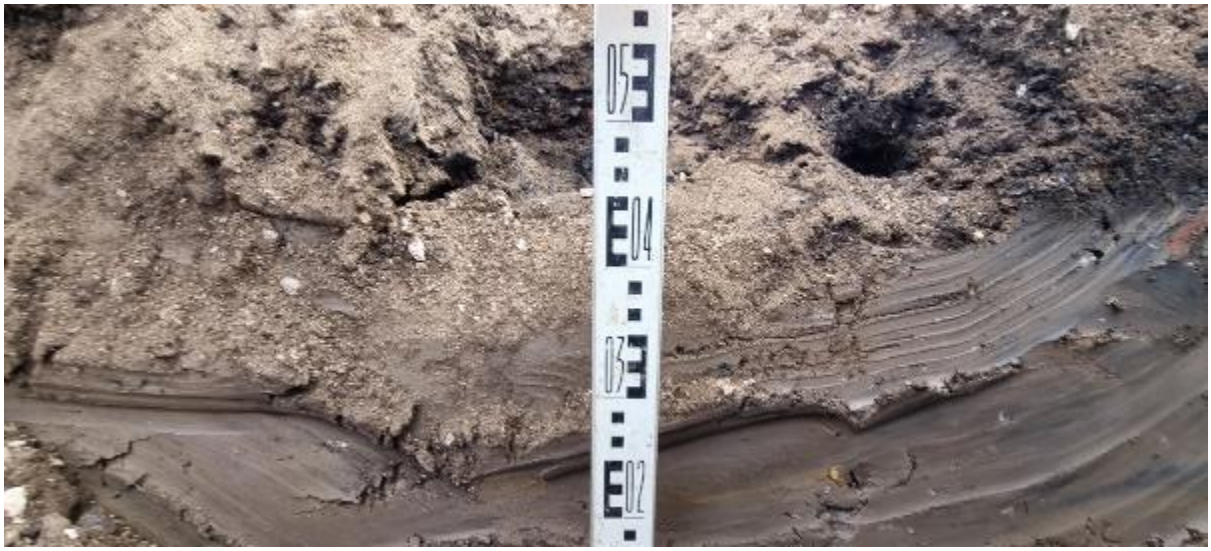









093
E08


053
E04
053
E02





Trail Pit 14 – centre 1/3 in from west

0.00-0.40m	Made ground, brick, gravel, sand,
0.30-0.50m	loamy clay gravel
0.50-0.90m	Clay,

TP15 – Front, 1/3 in from western boundary, under proposed house

















Trail Pit 15 – front 1/3 in from west

0.00-0.10m	Made ground, brick, gravel, sand,
0.10-0.50m	sandy clay gravel
0.50-0.80m	Clay,

TP16 – Rear northwest corner proposed rear garden








E04
03
03
E02
03









Trail Pit 16 – rear northwest corner

0.00-0.20m	Made ground, brick, gravel, sand, concrete slab to base
0.10-060m	sand with gravel, brick and stone
0.60-0.70m	sandy clat and gravel
0.70-0.90m	clay,

TP17 – Centre western boundary proposed rear garden








E04


E02























Trail Pit 17 – centre west

0.00-0.40m	brick, gravel, sand,
0.40-0.60m	clay on top of concrete slab
0.60-0.90m	Clay,

TP18 – Southwest corner proposed rear garden

























Trail Pit 18 – southwest corner

0.00-0.35m brick, stone, concrete, gravel, sand,

0.35-0.90m loamy clay gravel

Appendix 3 – Conceptual Model Risk Assessment

A Preliminary Risk Assessment is usually undertaken as part of a desk study, outlines potential risks posed by potential contamination to all receptors by defining plausible "pollution linkages" and developing a preliminary conceptual model (PCM).

The purpose of this model is to define all possible complete pollution linkages, where the requisite source – pathway – target elements are present, and these elements being defined as:

- a contaminant (source) is a hazardous substance or agent, present at levels that have the potential to cause harm or damage a receptor
- a pathway is the means by or through which a contaminant comes into contact with, or otherwise affects, the receptor
- a receptor (target) is an entity (human being, aquatic environment, flora and fauna etc) that is vulnerable to the adverse effects of the contaminant

This relationship is termed a "pollution linkage". It should be recognised that for a health or environmental risk to exist, all three elements of the relationship or linkage must be present, i.e.

- if there is no contaminant, or contaminant present at levels below those considered to be harmful or damaging to a receptor, then there can be no adverse effect on a receptor
- if there is no receptor present that can be adversely affected by a contaminant, no harm or damage can arise
- even where both a contaminant and a receptor are present, no harm or damage will occur if there is no pathway by or through which a linkage between the two can be established

The absence of one or more of each component (source, pathway, receptor) would prevent a pollutant linkage being established and there would be no significant environmental risk.

Consequence of Risk

CLASSIFICATION	DEFINITION	EXAMPLES
Severe	Highly elevated concentrations likely to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Short term risk of pollution of sensitive (H1/H2) water resource. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem. Catastrophic damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Major fish kill in surface water from large spillage of contaminants from site. Highly elevated concentrations of List I and II substances present in groundwater close to small potable abstraction (high sensitivity). Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).
Medium	Elevated concentrations which could result in "significant harm" or "significant possibility of significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Pollution of a highly sensitive (H1/H2) water resource. Significant damage/change to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes.
Mild	Exposure to human health unlikely to lead to "significant harm". Equivalent to EA Category 3 pollution incident including minimal or short-lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Pollution of moderately sensitive (M1/M2) water resources. Minor or short-lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population.	Exposure could lead to slight short-term effects (e.g. mild skin rash). Surface spalling of concrete.

	Significant damage to crops, buildings, structures and services ("significant harm" as defined in Circular 1/2006).	
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services. Pollution of low sensitive (L1/L2) water resource. Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.	The loss of plants in a landscaping scheme. Discoloration of concrete.

Probability of Risk Occurring

CLASSIFICATION	DEFINITION	EXAMPLES
High Likelihood	There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.	a) Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden. b) Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50 years.
Likely	There is pollutant 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.	a) Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space. b) Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.
Low Likelihood	There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.	a) Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space. b) Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.
Unlikely	There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.	a) Elevated concentrations of toxic contaminants are present below hardstanding. b) Light industrial unit <10 yrs old containing a double skinned UST with annual integrity testing results available.

Calculation of Risk

		CONSEQUENCE			
		Severe	Medium	Mild	Minor
PROBABILITY	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very low Risk	Very low Risk