



## Glossary

### Vapor Intrusion Mitigation Team | December 2020

## Glossary

### A

#### **Advection/Advective flow**

Bulk motion of fluid in the environment defined by direction and velocity

#### **Aerobic**

Pertaining to or characterized by the presence of oxygen

#### **Aquifer**

A body of permeable rock that can contain or transmit groundwater

#### **Air dispersion modeling**

The use of mathematical formulations to characterize pollutant dispersion processes

#### **Anaerobic**

Pertaining to or characterized by the absence of oxygen

#### **ANSI/AARST standards**

National consensus practices utilized by federal and state agencies

#### **Attenuation factor**

A ratio of the indoor air concentration to soil gas or groundwater concentration; sometimes used to estimate the indoor air concentration from soil gas or groundwater concentration

### B

#### **Back drafting**

The reverse flow of gas in the flues of fuel-fired appliances that results in the intrusion of combustion byproducts into the living space

#### **Biodegradation**

The breakdown of chemicals by microorganisms

#### **Building envelope**

The physical boundary between the conditioned and unconditioned environment of a building, including the resistance to air and water transmission

#### **Building pressurization**

The air pressure within a building relative to the air pressure outside

### C

#### **Capillary fringe/Capillary zone**

The pore spaces in soil just above the water table that may contain water above the static level from interactive forces between the water and soil

#### **Chemicals of concern**

Compounds derived from hazardous substances that are subject to evaluation for purposes of applying risk-based corrective action decision making

#### **Community engagement**

The process of communicating with local residents and other stakeholders to provide information throughout the investigation and clean-up of a contaminated site; provide opportunities for offering input about site investigation/cleanup plans; and to facilitate the resolution of community issues related to a contaminated site

#### **Concentration gradient**

The change of concentration over a certain distance

#### **Conceptual site model**

A three-dimensional visualization of site conditions that allows for evaluation of contaminant sources and affected media, migration pathways, and potential receptors

#### **Confining unit**

A layer of rock or soil of very low hydraulic conductivity that hampers the movement of groundwater in and out of an aquifer

**Coupon testing**

A specimen of an installed material collected for testing or verification

**D****Dense nonaqueous phase liquid (DNAPL)**

A liquid that is not soluble in and has a higher density than water

**Depressurization**

To remove the air pressure from

**Diffusion**

Movement of vapors away from areas of higher concentration

**Discharge criteria**

Generic term used to describe emission regulatory limits

**E****Emission controls**

Means employed to limit the discharge of gases

**Expansion joints**

An assembly designed to hold parts together while safely absorbing expansion and contraction

**F****Floor drain**

A plumbing fixture that is installed in the floor of a structure, mainly designed to remove any standing water near it

**Flow velocity**

Vector field that is used to describe fluid motion in a mathematical manner

**French drain**

A trench filled with gravel or rock or containing a perforated pipe that redirects surface water

**Flux**

Flow per unit area

**H****Heating, ventilation, and air conditioning (HVAC)**

The technology of indoor and vehicular environmental comfort, including heating, cooling, and air movement

**Human exposure pathway**

Refers to the way a person can come into contact with a hazardous substance

**I****Inorganic compounds**

Substance in which two or more chemical elements (usually other than carbon) are combined

**L****Laser screed**

A self-leveling head that is mounted on a telescopic boom used to smooth and level concrete

**Light nonaqueous phase liquid (LNAPL)**

A liquid that is not soluble in and has a lower density than water

**Long-term stewardship**

Activities implemented for the management of contaminated environmental media that are necessary to protect human health and the environment over time

**M****Mitigation strategy**

An approach used to reduce the severity of something, such as vapor intrusion

**N****Natural draft**

The use of natural atmospheric pressure to force gases of combustion out through a ventilation system

**O****Operation, maintenance, and monitoring (OM&M) plan**

Refers to the routine inspection, servicing, and repairing or replacing of necessary equipment of an operating system

## **P**

### **Perched aquifer**

A water-saturated zone that is above or not directly connected to the regional aquifer; may develop when saturated conditions are present above a low-permeability layer

### **Phreatic (saturated) zone**

The part of an aquifer, below the water table, in which all pores and fractures are essentially saturated with water

### **Plenum**

Continuous void space under the slab that can facilitate air circulation

### **Petroleum vapor intrusion**

The process by which volatile hydrocarbons partition from petroleum-contaminated soils and/or groundwater and migrate through the vadose zone in gaseous form to receptors

### **Phase partitioning**

Separation of fuel into solid, liquid, and gas phases

### **Post-installation verification**

A testing procedure used to show that something is functioning properly after an initial installation or an upgrade

### **Preferential pathway**

A high-permeability conduit for vapor migration, such as a utility penetration, line, or drain; building sump or drainage pit; elevator shaft; fracture in bedrock; or gravel

### **Pressure field extension**

An area beneath a concrete slab or foundation where a sufficient amount of negative pressure (vacuum) has been obtained

## **R**

### **Redox potential**

Chemical reduction-oxidation processes and conditions that can result in the alteration of a chemical compound

### **Risk communication**

Actions, words, and other messages, responsive to the concerns and values of the information recipients, intended to help people make more informed decisions about threats to their health and safety

## **S**

### **Smoke pen**

A hand-held device that creates a puff or a trail of white smoke used to identify leaks or air flow direction

### **Smoke and tracer gas testing**

A nondestructive testing method that detects leaks

### **Surrogates**

Variables with a quantitative relationship to the target compound for a study sufficient to be useful as a substitute for directly measuring the target compounds

## **T**

### **Telemetry**

Process of recording and transmitting the readings of an instrument

### **Tracer**

Substances that migrate similarly to the volatile organic compounds (VOCs) of interest for VI

## **U**

### **Utilidor/Utility tunnel/Utility corridor**

A passage used for routing utility lines, such as electric lines, water supply pipes, sewer pipes, and communications lines

## **V**

### **Vadose zone**

The unsaturated zone of soil in which the pore space is filled with both air and water

### **Vapor control technologies**

Technologies employed to mitigate real or potential impacts from vapor intrusion

### **Vapor intrusion**

The process by which volatile vapors partition from contaminated groundwater or other subsurface sources and migrate upward through vadose zone soils and into overlying buildings

### **Vent stack**

A pipe placed vertically or nearly vertical for ventilation

**Volatile organic compounds**

A variety of chemicals, some of which may have short- and long-term adverse health effects, that are prone to evaporation at ambient temperatures