

Environmental Risk Overview



Landfills - Construction & Demolition (C&D)

Construction and Demolition (C&D) landfills receive debris which typically consists of excavated material and wastes from demolition and construction activities. Materials that are collected in such wastes and brought to the landfill could expose the owner to environmental liability, including hazardous wastes not separated from C&D waste, excess toxic materials in disposed of containers and equipment and wastes that contain inseparable hazardous constituents. Leaks, spills or hazardous emissions from disposed materials can result in contamination in soil, water and air and lead to environmental cleanup and tort liability. Improper storm water management and insufficient liners or leachate collection systems can also lead to environmental liability.

Environmental Exposures May Include

- C&D landfill waste streams are large and varied and can include roadwork material, excavated material and waste from demolition, construction, renovation and site clearance. Collected waste and debris may contain material that is hazardous waste as regulated under the Resource Conservation and Recovery Act (RCRA), or items containing hazardous components that may be regulated in some states. Hazardous or toxic wastes can pose serious risks to humans and the environment if they are not properly managed.
- Excess material waste may contain chemicals and solvents that can leak out of containers and contaminate soil and groundwater. This can include paints, adhesives, roofing cement, caulk, sealants, epoxy, lacquer thinners and pesticides. Oil filters, petroleum distillates, waste oils, greases, machinery lubricants and brake fluid from vehicles and equipment may also be discarded from construction sites and wind up in C&D landfills.
- Items that can contain hazardous chemicals such as batteries, fluorescent bulbs, appliances, air conditioning units, smoke-detectors and exit signs can be disposed of or mixed with C&D waste. Broken devices or leaching of chemicals can contaminate soil and groundwater. This can include mercury (electrical switches, fluorescent light bulbs, batteries and thermometers) and polychlorinated biphenyl's (PCBs) which can be found in lighting ballasts and the dielectric fluid in transformers. Mercury is often a constituent in gases that are emitted from landfills. Mercury contained in buried landfill waste is known to migrate vertically and be released via upward emission to the atmosphere or downward, leaching to groundwater. PCBs can accumulate with ease in the soil and penetrate a variety of barriers. Exposure through inhalation, ingestion and dermal contact is associated with a number of health hazards.
- Many C&D wastes contain inseparable hazardous constituents from bulk items. Some examples include formaldehyde present in carpets, chemically treated or coated wood and insulation, and fire retardants, preservatives and insecticides that are surface coated on plywood and treated woods. These hazardous constituents can leach into ground water and discharge into surface water, possibly harming drinking water or aquatic life. They can also release into the air during landfill fires.
- Discarded debris from demolition of older structures may have asbestos-containing materials (ACM) such as ceiling and floor tile, roofing shingles and insulation. ACM must be disposed of at a licensed facility permitted to accept it, but can end up in C&D landfills. Debris may also contain lead, which can be found on paint from walls, woodwork, siding and doors, or found in pipes and solder. Lead-contaminated debris or dust can make its way into soil and groundwater and potentially reach surface waters.
- Hydrogen sulfide gas emissions at landfills have often been attributed to the disposal of gypsum drywall and its anaerobic breakdown. Inhalation of hydrogen sulfide in the air affects the eyes, lungs, and nervous system. Methane gas is also produced under the same anaerobic conditions by bacteria as they degrade organic material in the landfill. All of these processes are exothermic (heat-generating). Hydrogen sulfide, other sulfur compounds, and methane are all flammable gasses that can result in both surface and underground fires at high enough concentrations.
- Insufficient or no landfill liner or leachate collection and treatment system can allow contaminated leachate to enter soil and groundwater, which could migrate to drinking water. Historically, C&D landfills have not been perceived to be as hazardous as other landfills and required to adhere to their strict liner and leachate collection system requirements. However, groundwater monitoring and other studies indicate that leachate from C&D landfills may contain hazardous components. Contaminants typically found in surrounding groundwater include cadmium, lead, iron, manganese, chlorinated VOCs, sulfate, chromium and arsenic.
- Exposure of landfills to weather elements creates a significant risk for storm water runoff to collect excess and leached solvents, chemicals, oils, pesticides and heavy metals. Outdoor stockpiles of appliances and equipment can also undergo weathering and release hazardous compounds with storm water. If storm water runoff is not properly controlled, contained and pre-treated prior to discharge into sanitary or storm drainage systems, it can pollute soil and groundwater or discharge directly into surface waters, which can impact human health and aquatic systems. Storm water runoff may fall under state or federal regulations.

Environmental Pollution Liability Can Provide Coverage For

- On-site cleanup of new and preexisting pollution conditions
- Off-site cleanup of new and preexisting pollution conditions
- Third-party claims for bodily injury and property damage
- Third-party claims for cleanup
- Both sudden and gradual pollution conditions
- Aboveground and underground storage tanks
- Non-owned disposal sites
- Business interruption resulting from pollution conditions
- First and third-party transportation pollution liability
- Mold, bacteria, viruses, legionella and more
- Loading and unloading
- Defense of third-party claims
- Illicit abandonment
- Natural resource damage

Claims Scenarios & Examples

- Operators of a construction and demolition waste landfill were sued by an adjacent property owner who alleged that contamination had migrated from the landfill onto their property. The complaint alleged that the landfill operators accepted asbestos and various liquid wastes which subsequently contaminated the groundwater. The complaint also alleged that residents of the adjacent property had developed unspecified health problems as a result of the contamination.
- Lawsuits were filed related to Construction and Demolition Debris fill operations at two locations that alleged both locations accepted truckloads of debris that contained waste not allowed at the sites. The lawsuits were based on a referral from the state Environmental Protection Agency (EPA). Inspectors with the EPA conducted compliance evaluations at both fill operations and found that they had received truckloads of debris containing wood, metal, dry cell batteries, plastic and glass mixed with soil and brick fragments, and the company failed to certify the truckloads as being uncontaminated, which is required by law. Inspectors also observed the facilities did not have any barriers in place to confine storm water and water runoff to the site, and water was emptying freely into a nearby creek. The lawsuit sought to require the company to take action to evaluate and remediate any contamination, to cease and desist from accepting and disposing of any waste at the two facilities and to impose civil penalties.
- A state filed a lawsuit against the owners/operators of a construction and demolition debris landfill for violations of the state's environmental laws and regulations. The lawsuit claimed the company never had enough "pickers" to sort through the disposed waste to separate out impermissible solid waste that was commingled with construction debris, and that the landfill operated without an approved leachate management system which relied on manual pumps when automatic pumps were called for. As a result, leachate overwhelmed the system when the pumps were not running and entered into a nearby creek. In addition, the landfill operated with improper storm water management, failed to stabilize undisturbed areas of the facility and have a properly sized sediment pond which resulted in the discharge of sediment and waste materials to waters of the state. Through improper loading and transporting of construction and demolition debris waste from the rail area to the C&D disposal landfill, the Defendants also illegally disposed of waste and solid waste onto haul roads, in the C&D Disposal rail area and in a local creek. The defendants were found liable on all counts and had to pay \$4.75 million in addition to cleanup costs.
- A construction and demolition landfill was sued by city residents over the dump's noxious fumes. There were approximately 350 plaintiffs who reported illnesses that included nausea, vomiting and respiratory ailments. The suit alleged the dump's odor had damaged residents' health and property values. The lawsuit claimed the landfill was negligent because it accepted construction and demolition debris that caused the release of hydrogen sulfide gases. The lawsuit was settled for \$3.5 million and an additional \$4 million was spent to seal the top of the 47-acre dump with a synthetic liner and install a gas recovery system.
- A state's Environmental Protection Agency issued an order of violation and shut down a construction and demolition debris facility for storing waste in an open dump rather than recycling it. The EPA ordered the company to immediately remove all material from the site. An environmental engineer conducted air quality tests at the site, which is located in a residential area, and found hydrogen sulfide in concentrations two to three times higher than federal standards. The cause was believed to be rainwater mixing with gypsum drywall. Prolonged exposure to high concentrations of hydrogen sulfide can have serious health consequences. A local activist who brought in the engineer pushed for a criminal investigation and further testing to see if area residents had been exposed to airborne toxins. The state EPA said it would consider further action based on the engineer's test results.
- A fine of over \$31,000 was issued to a construction and demolition landfill for a leachate leak. The Solid Waste Department had water sample tests for a sediment pond by the construction and demolition landfill that showed Vinyl Chloride. A division inspector observed the site for several days and found leachate running off from the working area of the landfill, entering into the storm water management system then commingling with storm water, which then flowed to a retention pond and discharged into the river.
- Owners of a construction and demolition landfill and recycling center were sued by the state Department of Environmental Protection and assessed civil penalties. Neighbors had filed complaints due to dust and odor coming from the landfill. Air monitors at the landfill showed elevated levels of hydrogen sulfide. The owners were ordered to perform remediation of the groundwater contamination at the landfill, complete full and proper construction of the remedial action system in accordance with the department's approved plan and remediate all surface water quality exceedances to regain compliance with state administrative code.

Final Consideration

Your facility can be faced with the cost to defend itself against allegations or legal action from pollution related events, regardless if you are at fault or not. Having the proper insurance coverage in place will help fund the expenses incurred to investigate or defend against a claim or suit and provide you with environmental claims handling expertise.

This environmental risk overview has been developed by Environmental Risk Professionals on behalf of J. Loos & Associates. It is intended to provide the reader with a broad range of potential risks they may encounter and may not reflect all risks associated with their business. To verify available insurance coverage, please consult your insurance representative.

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J. LOOS & ASSOCIATES
Daniel Loos
919-256-6860
daniel.loos@jloosins.com
www.jloosins.com