



Remove Universal Waste to Mitigate Redevelopment Risk

September 2020

Universal waste is an often-overlooked waste stream needing special handling and disposal when demolishing or renovating buildings. Universal waste often contains hazardous substances such as PCB-containing oils, mercury, refrigerants, and lead. Here's a quick overview about how to approach universal waste from building demolition and renovation.

Perform a hazardous materials survey to identify universal waste

For years, owners and developers have had to address asbestos containing building materials through environmental assessment and abatement, as required by federal NESHAP regulations and state and local asbestos regulations. Asbestos assessment and abatement is just one of the required surveys. To properly manage universal waste, a hazardous materials survey is needed, and can be performed concurrently with the asbestos survey.

Hazardous materials survey informs budget and schedule for demolition

The hazardous materials survey identifies the locations and quantities of universal wastes. The hazardous materials report gives owners, developers, and abatement/remediation contractors the information needed to plan and budget for waste removal and building demolition or future renovation.

Hazardous substances are commonly found in older buildings

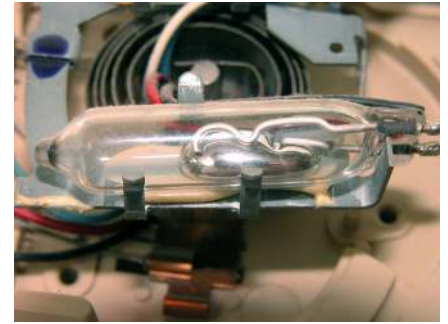
Buildings, particularly older buildings, can contain a variety of building systems with significant amounts of hazardous substances. Some of the more common ones are listed below.

- **PCB-containing oils** are often found in fluorescent light ballasts, electrical transformers, capacitors, heat transfer systems, and hydraulic systems. Identifying and removing these substances before demolition and renovation can eliminate the risk of these oils being released, thereby preventing project delays and additional cleanup costs.





- **Mercury** is also a common hazardous material in building equipment. This silver liquid can be found in thermostats, manometers, vacuum gauges, fluorescent lamps, high intensity discharge (HID) lamps, batteries, and mechanical tilt switches (e.g. silent switches).
- **Refrigerants** are another form of universal waste. Ozone-depleting chemicals in refrigerants can be present in a building's primary HVAC system, and also found in drinking fountains, window air conditioner units, ice-makers, and vending machines.
- **Lead-containing equipment and oil-containing equipment** are commonly found in buildings, particularly those previously used for industrial purposes. Abandoned manufacturing equipment and building mechanical systems are often sources of hazardous lead and oil.



GCI's environmental team can assist clients with environmental due diligence, planning, clean-up, demolition, renovation, and construction. For more info about universal waste surveys, contact Kevin Fulk at kfulk@gci2000.com or 614.839.1264.

BEC Observation Improves Roof and Building Integrity



BEC assessment of this 1.2 million-square-foot TPO roof during construction identified building integrity details that were improved without causing schedule delays.

When a roof covers more than 27 acres, there can be significant risk of water intrusion. That's why it's important to make sure roofing materials and their assembly function as intended. Building owners, contractors, and architects can use GCI's Building Envelope Consulting (BEC) services to assess roofing during construction and identify issues when they can be corrected more economically.

Recently, GCI's BEC services on a thermoplastic polyolefin (TPO) roof installation in Northeast Ohio identified that normal building movement had deteriorated the transitions between the

TPO roof and adjacent materials. This information allowed the architect, construction manager, and roofing contractor to improve the roof detail and repair flashings with minimal impact on project cost or schedule. GCI's BEC services thereby reduced future building maintenance and increased the life and protection of the building envelope, interior finishes, and contents.



GCI Adds BEC Adhesion Testing Services

GCI's Building Envelope Consulting (BEC) services now include adhesion testing services for new construction projects and existing buildings. Adhesion testing is used to determine the strength of the bond between the substrate and a coating, or between different coating layers.

For the building envelope, adhesion testing is used to assess whether air and water resistive barrier coatings on substrates such as exterior sheathing, concrete masonry units (CMU), wood, and steel have sufficient strength to maintain integrity of the building envelope. If additional actions or repairs are needed, they can be made immediately following the BEC evaluation.

For more details and to discuss testing options for your project, contact Jack Chapin, Jr. AIA, NCARB, BEC2 at jchapin@gci2000.com or 614.369.0577.



Adhesion testing assesses whether air and water resistive barrier coatings on substrates have sufficient strength to maintain integrity of the building envelope.



Adhesion testing determines the strength of the bond between substrate and coating or between different coating layers.



Dan Hamilton Promoted to Drilling Department Manager

GCI is proud to announce that Dan Hamilton was recently promoted to GCI's Drilling Department Manager. Dan oversees drilling department personnel, assigns daily drilling projects, maintains the drill fleet, and coordinates drilling safety training. He assesses sites for drill rig access, confirms utility locations, and coordinates site access with clients and owners.

Colleagues and clients appreciate Dan's high level of enthusiasm, positive attitude, and commitment to providing information that helps clients manage risk and make timely informed decisions. Dan joined GCI in 2017 as a Driller and large vehicle transporter. He replaces longtime manager Bill Stewart, who retired from GCI after 35 years of service.