

Trade-Related Vocabulary

Student Study Guide

ENVIRONMENTAL & CONSTRUCTION
PRE-APPRENTICESHIP PROGRAM
NEW ORLEANS

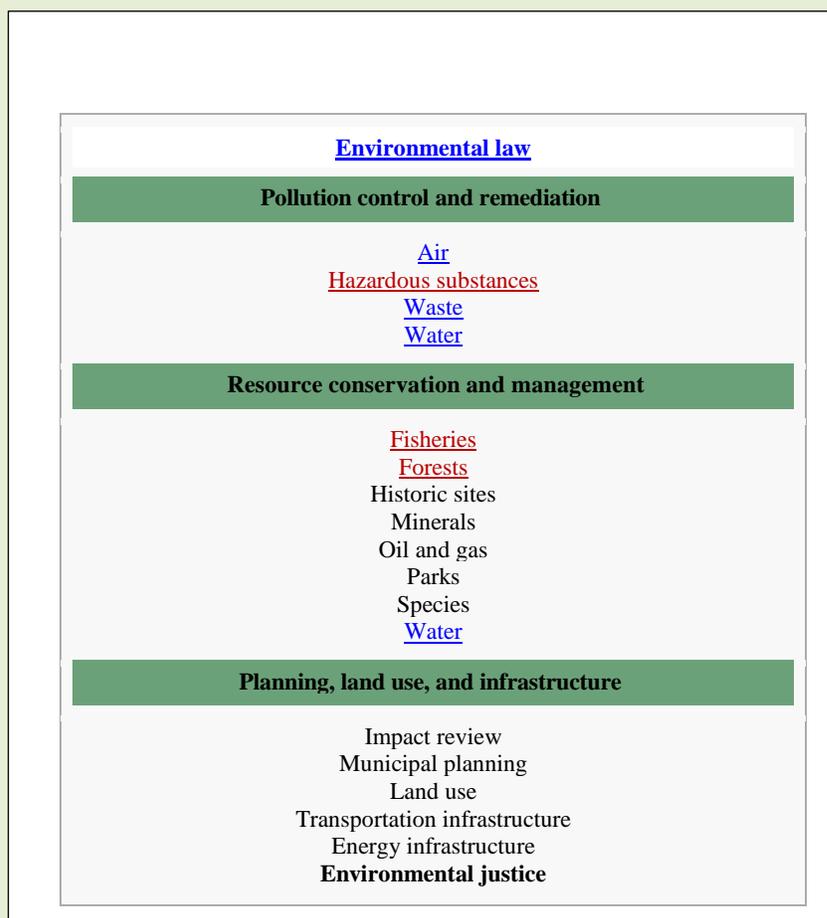


VOCABULARY TERMS AND DESCRIPTIONS

TERM	DESCRIPTION
Environmental Justice	<p>EJ is "the fair treatment and meaningful involvement of all people regardless of <u>race</u>, color, sex, national origin, or <u>income</u> with respect to the development, implementation and enforcement of environmental laws, regulations, and policies.</p> <p>In the early 1980s, environmental justice emerged as a concept in the <u>United States</u>, fueled by a mounting disdain within <u>African-American</u>, <u>Hispanic</u> and <u>indigenous communities</u> that were subject to hazardous and polluting industries located predominantly in their neighborhoods. This prompted the launch of the environmental justice movement, which adopted a civil rights and social justice approach to environmental justice and grew organically from dozens, even hundreds, of local struggles, events and a variety of other social movements.</p> <p>By many accounts, the environmental justice movement began in 1982 in Warren County, <u>North Carolina</u>. The state selected the Shocco Township to host a hazardous waste landfill containing 30,000 cubic yards of <u>polychlorinated biphenyl</u> (PCB)-contaminated soil. 69 percent of the Shocco Township’s population is nonwhite and 20 percent of the residents have incomes below the poverty level. The Shocco Township has the third lowest per capita income in the state. The publication of two studies, one by the government and the other by the <u>United Church of Christ’s Commission for Racial Justice</u> (1987), provided empirical support for the claims of environmental racism. Bullard’s <u>Dumping in Dixie</u> (1990) added further support for the disproportionate burden of toxic waste on minority communities.</p> <p>In January 1990, the <u>University of Michigan’s</u> School of Natural Resources sponsored a conference on race and the incidence of environmental hazards. Later the same year, the <u>USEPA</u> established its Workgroup on Environmental Equity. By October 1991, the First National People of Color Environmental Leadership Summit took place, organized and attended by more than 650 grassroots and national leaders representing more than 300 environmental groups. The Second National People of Color Environmental Leadership Summit (also called Summit II) was also held in Washington DC, from October 23–26, 2002. Materials produced at the summit included a timeline for Environmental Justice milestones.</p> <p>By 1992, the EPA established its Office of Environmental Equity and the Workgroup on Environmental Equity had finished its report. Critics of the report contend that EPA did not go far enough in examining its current activities, including its own role in reinforcing environmental inequalities. Legislatively, a number of bills were introduced into Congress, including the Environmental Justice Act 1992. <u>President Clinton</u> signed Executive Order 12898 (federal</p>

actions to address environmental justice in minority populations and low-income populations) into law on February 11, 1994.

Historically, minorities have been absent from the rank and file membership of mainstream environmental associations. At the same time, these organizations have not taken on environmental justice issues. In the 1990s, mainstream environmental organizations such as the Sierra Club, the Audubon Society, Friends of the Earth, and Greenpeace all began to recruit minorities both among their rank and file membership and to serve in staff and decision making positions. A few, including the Sierra Club and Greenpeace have participated in the environmental justice struggle by filing briefs or providing informational and organizational resources. Others assert that since the 1990s, "an international Environmental Justice Movement is flourishing, having emerged out of various struggles, events and social movements worldwide.



Scaffolds

Scaffolding is a temporary structure used to support people and material in the construction or repair of buildings and other large structures. It is usually a modular system of metal pipes or tubes, although it can be from other materials.



Extension Ladder

A fixed ladder divided into two or more lengths for working at various heights and for more convenient storage; the lengths can be slid together for storage or slid apart to maximize the length of the ladder; a pulley system may be fitted so that the ladder can be easily extended by an operator on the ground then locked in place using the dogs and pawls.



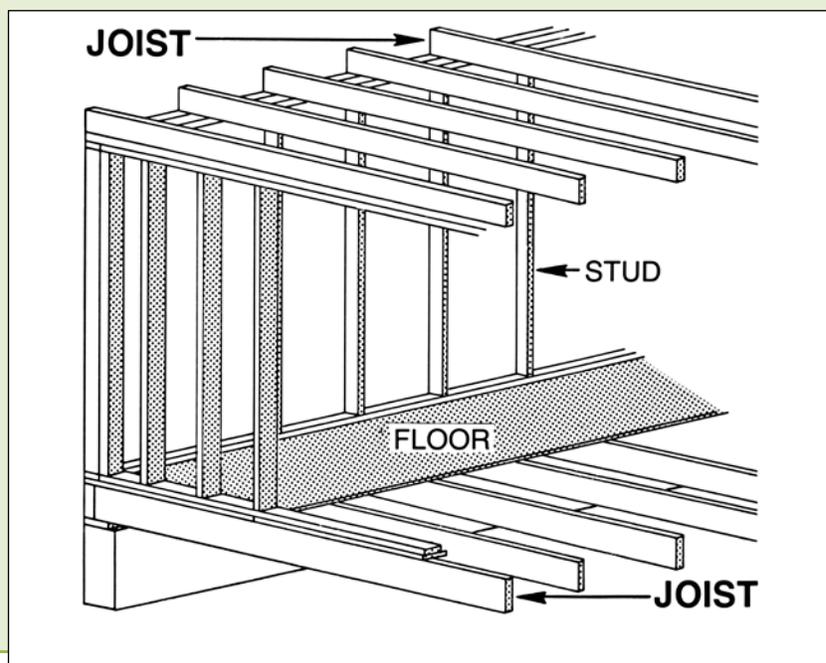
Drywall

Also known as **plasterboard**, **sheetrock**, **wallboard**, or **gypsum board** is a panel made of gypsum plaster pressed between two thick sheets of paper. It is used to make interior walls and ceilings. Drywall construction became prevalent as a speedier alternative to traditional lath and plaster.



Joists

One of the horizontal supporting members that run from wall to wall, wall to beam, or beam to beam to support a ceiling, roof, or floor. It may be made of oriented strand board, plywood, wood, steel, or concrete. Typically, a beam is bigger than, and is thus distinguished from, a joist. Joists are often supported by beams and are usually repetitive.



<p>Hazardous Waste</p>	<p>A hazardous waste is waste that poses substantial or potential threats to public health or the environment. In the United States, the treatment, storage and disposal of hazardous waste is regulated under the <u>Resource Conservation and Recovery Act (RCRA)</u>. Hazardous wastes are defined under RCRA in 40 CFR 261 where they are divided into two major categories: characteristic wastes and listed wastes.</p> <ul style="list-style-type: none"> • Characteristic hazardous wastes are materials that are known or tested to exhibit one or more of the following four hazardous traits: <ul style="list-style-type: none"> ○ <u>ignitability</u> (i.e., <u>flammable</u>) ○ <u>reactivity</u> ○ <u>corrosivity</u> ○ <u>toxicity</u> • Listed hazardous wastes are materials specifically listed by regulatory authorities as a hazardous waste which are from non-specific sources, specific sources, or discarded chemical products. <p>The requirements of RCRA apply to companies that generate hazardous waste as well as those companies that store or dispose of hazardous waste in the United States. Many types of businesses generate hazardous waste. For example, <u>dry cleaners</u>, <u>automobile</u> repair shops, hospitals, <u>exterminators</u>, and <u>photo processing</u> centers may all generate hazardous waste. Some hazardous waste generators are larger companies such as chemical <u>manufacturers</u>, <u>electroplating</u> companies, and <u>oil refineries</u>.</p> <p>These wastes may be found in different physical states such as gaseous, liquids, or solids. A hazardous waste is a special type of waste because it cannot be disposed of by common means like other by-products of our everyday lives. Depending on the physical state of the waste, treatment and solidification processes might be required.</p> <p>Some of the most common "universal wastes" are: <u>fluorescent light</u> bulbs, some specialty <u>batteries</u> (e.g. lithium or lead containing batteries), <u>cathode ray tubes</u>, and mercury-containing devices.</p> <p>Household Hazardous Waste (HHW) (also referred to as domestic hazardous waste) is waste that is generated from residential households. HHW only applies to wastes that are the result of the use of materials that are labeled for and sold for "home use". Wastes generated by a company or at an industrial setting are not HHW.</p>

The following list includes categories often applied to HHW. It is important to note that many of these categories overlap and that many household wastes can fall into multiple categories:

- Paints and solvents
- Automotive wastes (used motor oil, antifreeze, etc.)
- Pesticides (insecticides, herbicides, fungicides, etc.)
- Mercury-containing wastes (thermometers, switches, fluorescent lighting, etc.)
- Electronics (computers, televisions, cell phones)
- Aerosols / Propane cylinders
- Caustics / Cleaning agents
- Refrigerant-containing appliances
- Some specialty Batteries (e.g. lithium, nickel cadmium, or button cell batteries)
- Ammunition

Abatement

Abatement means any measure or set of measures designed to permanently and safely eliminate hazardous waste. For example, LEAD ABATEMENT includes:

- (1) The removal of lead-based paint and lead-contaminated dust, the permanent enclosure or encapsulation of lead-based paint, the replacement of lead-painted surfaces or fixtures and the removal or covering of lead-contaminated soil; and
- (2) All preparation, cleanup and post-abatement clearance testing activities associated with such measures.



Carcinogen	<p>A carcinogen is any substance that is an agent directly involved in causing <u>cancer</u>. Common examples of carcinogens are inhaled <u>asbestos</u>, certain <u>dioxins</u>, and <u>tobacco</u> smoke. <u>Cancer</u> is a disease in which damaged cells do not undergo <u>programmed cell death</u>. Carcinogens may increase the risk of cancer by altering cellular metabolism or damaging <u>DNA</u> directly in <u>cells</u>, which interferes with <u>biological</u> processes, ultimately leading to the formation of tumors.</p> <p>There are many natural carcinogens. <u>Aflatoxin B₁</u>, which is produced by the fungus <u>Aspergillus flavus</u> growing on stored <u>grains</u>, <u>nuts</u> and <u>peanut butter</u>, is an example of a potent, naturally-occurring <u>microbial</u> carcinogen. Certain viruses such as <u>Hepatitis B</u> and <u>human papilloma viruses</u> have been found to cause cancer in humans.</p> <p>Cooking food at high temperatures, for example <u>grilling</u> or <u>barbecuing</u> meats, can lead to the formation of minute quantities of many potent carcinogens that are comparable to those found in cigarette smoke.</p> <p><u>Tobacco smoke</u> contains over 4000 chemical compounds, many of which are carcinogenic or otherwise toxic. One of these is a compound marketed as a rat poison.</p> <p>Occupational carcinogens</p> <p>Occupational carcinogens are agents that pose a risk of cancer in several specific work-locations:</p>

Carcinogen	Associated cancer sites or types	Occupational uses or sources
<u>Arsenic and its compounds</u>	<ul style="list-style-type: none"> • Lung • Skin • <u>Hemangiosarcoma</u> 	<ul style="list-style-type: none"> • <u>Smelting</u> byproduct • Component of: <ul style="list-style-type: none"> • Alloys • Electrical and <u>semiconductor</u> devices • Medications (e.g. <u>melarsopro</u>) • Herbicides • Fungicides • Animal dips • Drinking water from contaminated aquifers.
<u>Asbestos</u>	<ul style="list-style-type: none"> • <u>Lungs</u> • <u>Asbestosis</u> • <u>Gastrointestinal tract</u> • <u>Pleural Mesothelioma</u> • <u>Peritoneal Mesothelioma</u> 	<p>Not in widespread use, but found in:</p> <ul style="list-style-type: none"> • Constructions <ul style="list-style-type: none"> • Roofing papers • Floor tiles • Fire-resistant textiles • Friction linings (only outside Europe) • Replacement friction linings for automobiles still may contain asbestos
<u>Benzene</u>	<ul style="list-style-type: none"> • <u>Leukemia</u> • <u>Hodgkin lymphoma</u> 	<ul style="list-style-type: none"> • <u>Light fuel oil</u> • Former use as <u>solvent</u> and <u>fumigant</u> • Printing • Lithography • Paint

Safety Plan	<p>A construction safety plan can assist principal contractors to manage their workplace health and safety obligations.</p> <p>A principal contractor must prepare a construction safety plan before construction work starts.</p> <p>The plan must state:</p> <ul style="list-style-type: none">• workplace address• name and address of the principal contractor• whether there is a <u>Safety committee</u>• whether there is a <u>Safety Officer</u> appointed• expected start date• estimated duration of the work• type of construction• <u>plant provided for common use</u>• site rules• the risks the principal contractor is obliged to manage• proposed control measures for the risks• how the controls will be implemented• arrangements for monitoring and reviewing controls• <u>emergency procedures</u>• <u>public safety strategies</u>. <p>The plan must be written so it is easy to understand, signed and dated by the principal contractor. It must be available for the length of the project.</p> <p>The principal contractor must sign and date <u>work method statements</u> that have been received and keep them with the plan, as well as monitor their implementation.</p> <p>The principal contractor cannot allow work to start unless:</p> <ul style="list-style-type: none">• the plan has been discussed with or a copy given to all relevant people• the plan is available or readily available for inspection.

The plan must be amended if there are changes in how risks will be managed. The principal contractor must inform any affected person of the change.

Job Safety and Health
It's the law!

OSHA
Occupational Safety and Health Administration
U.S. Department of Labor

EMPLOYEES:

- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the *OSH Act*.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violations.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the *OSH Act* that apply to your own actions and conduct on the job.

EMPLOYERS:

- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the *OSH Act*.

This free poster available from OSHA –
The Best Resource for Safety and Health

Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

1-800-321-OSHA
www.osha.gov
OSHA 3166-12-08

Asbestos

Asbestos is a set of six naturally occurring silicate minerals used commercially for their desirable physical properties. They all have in common their long, thin fibrous crystals. The inhalation of asbestos fibers can cause serious illnesses, including malignant lung cancer, mesothelioma (a formerly rare cancer strongly associated with exposure to asbestos). Long exposure to high concentrations of

asbestos fibers is more likely to cause health problems. This is most common among the miners of asbestos, since they have the longest exposure to it.

Asbestos became increasingly popular among manufacturers and builders in the late 19th century because of its sound absorption, average tensile strength, its resistance to fire, heat, electrical and chemical damage, and affordability. It was used in such applications as electrical insulation for hotplate wiring and in building insulation. When asbestos is used for its resistance to fire or heat, the fibers are often mixed with cement (resulting in fiber cement) or woven into fabric or mats.



Mitigation

Mitigation is a term used to describe projects or programs intended to offset known negative impacts to communities and historic or natural resource such as a streams, wetlands, endangered species, archeological sites or historic structures. To "mitigate" means to make the environmental impact of projects less harsh or hostile. Environmental mitigation is typically a part of an environmental crediting system established by governing bodies which involves allocating debits and credits. Debits occur in situations where a natural

	<p>resource has been destroyed or severely impaired and credits are given in situations where a natural resource has been deemed to be improved or preserved. For example, in the United States, projects are valued based on what the intentions of the project are which may be to restore, create, enhance, or preserve communities and natural resources.</p>
<p>Personal Protective Equipment</p>	<p>Personal protective equipment (PPE) refers to protective <u>clothing</u>, <u>helmets</u>, <u>goggles</u>, <u>respirators</u> or other garments or equipment designed to protect the wearer's body from <u>injury</u> by blunt impacts, electrical hazards, heat, <u>chemicals</u>, and infection, for job-related <u>occupational safety and health</u> purposes. The use of personal protective equipment is to reduce employee exposure to hazards when engineering and administrative controls are not feasible or effective to reduce these risks to acceptable levels.</p>  <p>The image shows four individuals wearing full-body white protective suits, including hoods and respirators. They are standing on a concrete path outdoors, with a building in the background. The suits appear to be for hazardous material handling or decontamination.</p>
<p>OSHA</p>	<p>The United States Occupational Safety and Health Administration (OSHA) is an agency of the <u>United States Department of Labor</u>. It was created by Congress under the <u>1970 Occupational Safety and Health Act</u>. Its mission is to prevent work-related injuries, illnesses, and occupational fatality by issuing and enforcing standards for workplace <u>safety</u> and health. It was also established to create a better workplace for all workers and to ensure the safety of everyone by making and enforcing certain standards that are needed to protect people. The agency is headed by a Deputy Assistant Secretary of Labor.</p> <p>OSHA federal regulations cover most private sector workplaces. OSHA conducts an inspection of a work site whenever there is a possible danger or a hazard that could lead to an injury or fatality in the future. Also, an inspection may</p>

stem from worker complaints, accidents or fatalities that happen, or to follow up a previous inspection.



EPA

The **U.S. Environmental Protection Agency (EPA)** is an agency of the federal government charged with protecting human health and the environment, by writing and enforcing regulations based on laws passed by Congress. The EPA began operation on December 2, 1970. The agency is led by its Administrator, who is appointed by the President and approved by Congress. The current administrator is Lisa P. Jackson. The EPA is not a Cabinet department, but the administrator is normally given cabinet rank. The agency has approximately 17,000 full-time employees.

The agency conducts environmental assessment, research, and education. It has the responsibility of maintaining and enforcing national standards under a variety of environmental laws, in consultation with state, tribal, and local governments. It delegates some permitting, monitoring, and enforcement responsibility to U.S. states and Native American tribes. EPA enforcement powers include fines, sanctions, and other measures.

The agency also works with industries and all levels of government in a wide variety of voluntary pollution prevention programs and energy conservation efforts.



<p>Environmental Responsibility</p>	<p>Environmental responsibility refers to an individual’s responsibility for environmental stewardship or environmental <u>conservation</u> and improvement of the health of the <u>environment</u>. It includes individual behavior supporting practices such as informed consumption, conservation initiatives, investments in <u>renewable energy</u>, limiting the carbon footprint, and safe handling and disposal of environmental hazards.</p>
<p>Green Building</p>	<p>Green building (also known as green construction or sustainable building) refers to a structure built using a process that is environmentally responsible and resource-efficient throughout a building's life-cycle: from siting to design, construction, operation, maintenance, renovation, and demolition. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort.</p> <p>Although new technologies are constantly being developed to complement current practices in creating greener structures, the common objective is that green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:</p> <ul style="list-style-type: none"> • Efficiently using energy, water, and other resources, • Protecting occupant health and improving employee productivity, and

- Reducing waste, pollution and environmental degradation.

Green building brings together a vast array of practices and techniques to reduce and ultimately eliminate the impacts of buildings on the environment and human health. It often emphasizes taking advantage of renewable resources, e.g., using sunlight through passive solar, active solar, and photovoltaic techniques and using plants and trees through green roofs, rain gardens, and for reduction of rainwater run-off. Many other techniques, such as using packed gravel or permeable concrete instead of conventional concrete or asphalt to enhance replenishment of ground water, are used as well.



VOCABULARY WORKSHEET

INSTRUCTIONS: Using the descriptions provided in the Study Guide, write a 2 to 4 sentence definition for each term.

**Environmental
Justice**

First Draft: _____

Final

Definition: _____

Scaffolds

First Draft: _____

Final

Definition: _____

**Extension
Ladder**

First Draft: _____

Final

Definition: _____

Drywall

First Draft: _____

Final

Definition: _____

Joists

First Draft: _____

Final

Definition: _____

**Hazardous
Waste**

First Draft: _____

Final
Definition: _____

Abatement

First Draft: _____

Final
Definition: _____

Carcinogen

First Draft: _____

Final
Definition: _____

Safety Plan

First Draft: _____

Final
Definition: _____

Asbestos

First Draft: _____

Final

Definition: _____

Mitigation

First Draft: _____

Final

Definition: _____

**Personal
Protective
Equipment**

First Draft: _____

Final
Definition: _____

OSHA

First Draft: _____

Final
Definition: _____

EPA

First Draft: _____

Final

Definition: _____

**Environmental
Responsibility**

First Draft: _____

Final

Definition: _____

Green Building

First Draft: _____

Final

Definition: _____
