Chapter 13

ENVIRONMENTAL LIABILITIES IN THE CONSTRUCTION INDUSTRY

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Our modern, technology-based society is friendly to contemporary lifestyles but threatening to our health and the natural world. Stereotypical large smokestack factories and supertanker oil spills are not our only pollution problems. In our everyday lives more mundane incidents, like domestic pesticides sprayed indiscriminately or paints and solvents flushed down drains or casually tossed into the trash, cause landfill and water pollution. These large and small environmental problems are a sustained focus of attention for lawmakers and citizens alike.

Unsurprisingly, the construction industry is an active target of environmental liability and regulation. During the last 30 years, federal and state legislatures have enacted complex, far-reaching environmental laws that touch the construction industry in significant ways. Indeed, asbestos, PCBs, and underground storage tanks are now common terms in the construction business.

Contractors, owners, and design professionals are increasingly at risk of liability to government agencies and private parties for the investigation and cleanup of hazardous materials discovered at or brought to the construction site. Even ordinary activities like routine equipment maintenance can lead to substantial liability if mismanaged. Penalties and damages can easily run to hundreds of thousands or millions of dollars in substantial incidents.

It is for these reasons that the construction industry must understand the nature of environmental risks. Proper management of environmental legal obligations must be a high business priority. Attending to environmental hazards is important not only because it is the “right thing to do.” Compliance is good business. It saves both money and time, two of the most important aspects of any construction project.

The problems briefly described below are common regulatory difficulties faced by the construction industry. Each is discussed in more detail in the remaining sections of this Chapter.

- **Maintenance.** Tool and equipment maintenance activities can cause environmental liability for a contractor if proper practices are not followed. For example, fuel storage tanks of sufficient size require a spill prevention control and countermeasure plan
(SPCC plan) and secondary containment provisions to meet water pollution regulations. Waste motor oil and antifreeze must be stored and disposed of in acceptable ways. Used oil filters and lead-acid batteries must be properly collected and treated.

**Hazardous materials.** Many ordinary materials at the construction site are hazardous materials specifically regulated under a variety of environmental laws and regulations. They must be handled, stored, and disposed of correctly. Also, construction sites often contain hidden problems. For example, old agricultural and industrial sites, long abandoned, can hold significant quantities of landfilled chemicals such as solvents and pesticides. If a contractor disturbs, removes, or transports these materials, it can incur serious consequences, including civil liability, penalties, and even criminal sanctions.

**Polychlorinated biphenyls.** In the past, transformers and other electrical devices contained an exceptionally efficient cooling and dielectric oil, known as polychlorinated biphenyls or PCBs. Now recognized as both carcinogenic and exceedingly long lived, PCBs show up not just in used electrical equipment and lighting fixtures, but also in unlicensed landfills, on unpaved roads (where oils were used for dust suppression in the past), and even on exposed lumber (where oils substituted for creosote).

**Asbestos.** Until recently, asbestos was widely used as a construction material in ceilings, floors, walls, and heating systems. It has remarkable fire-resistant qualities. Unfortunately, asbestos fibers from crumbling materials are now known to cause serious lung ailments. The disturbance and disposal of this material is heavily regulated.

**Underground storage tanks.** The construction industry often encounters underground storage tanks (USTs) when excavating. Until the last few years, USTs were a primary storage method for large volumes of petroleum and other liquid chemicals. The sad environmental fact is that all USTs eventually leak, unless monitored and maintained.

Many tanks have been abandoned and forgotten over the years. Discovery of a tank or its residues in the construction process is invariably an expensive and time-consuming surprise. Even when a UST has been removed, the surrounding soils may still retain significant amounts of petroleum or hazardous chemicals, and the construction manager may be left to cope with the problem.

**Dredging and filling of wetlands.** Another important area of environmental regulation of construction is water pollution. Few construction sites are very far from water. If a stream is not nearby, then groundwater is likely very close to the surface. Stormwater runoff from certain construction sites, filling a wetland that can be simply a low, swampy area of cattails, dewatering a construction area, or diverting a stream, usually requires a permit. The failure of a construction project to obtain a proper permit and follow prescribed procedures invites a governmental enforcement action.
§ 13.2.1—Hazardous Materials: CERCLA and RCRA

In the context of environmental regulation, hazardous materials encompass a wide variety of chemical products encountered at construction sites. “Hazardous substances” generally are governed by one federal statute, while “hazardous wastes” are regulated by another. In addition, hundreds of specific substances are regulated for exposure in the workplace.

The Comprehensive Environmental Response, Compensation and Liability Act and the Regulation of Hazardous Substances

The most important federal law that creates environmental liability for construction sites is the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).1 CERCLA imposes liability on specific persons for costs incurred to respond to an actual or threatened “release” of a “hazardous substance” from a facility, whether active or inactive. This liability is formidable for the construction company: it is strict, joint and several, and retroactive, and defenses are very limited.

Definitions

A “release” is broadly defined under CERCLA to include any “...spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment. . . .”2 “Hazardous substances” are defined by reference to other federal environmental laws that identify hundreds of substances as dangerous to health and the environment.3 United States Environmental Protection Agency (EPA) regulations further identify as hazardous substances “...elements, compounds, mixtures, solutions, and substances which, when released into the environment may present substantial danger to the public health or welfare or the environment . . . .”4 Many ordinary substances used for cleaning, painting, and similar activities are hazardous substances.

Many of the materials used or encountered at a construction site, ranging from solvents and glues to insulating materials, fall within these definitions. When these materials find their way into the environment, they are “released” under this statute.

The web of environmental laws facing the construction manager is daunting and complex. These laws are found in the ordinances of local municipalities, state statutes, and in the acts of the United States Congress. They often overlap. They are full of ambiguities and counterintuitive details. They are backed up by enforcement mechanisms that are among the most onerous in the regulatory world.

This section of this Chapter discusses the basic features of the federal environmental statutes most often encountered in the construction industry. Please use it with caution. Laws change, often dramatically, and sometimes local and state rules prove more important for a particular problem than the federal statutes described here. You must attack each problem on its merits, of course, and careful research at all levels of regulation is needed in every instance.
A CERCLA “facility” is also very broadly defined. It includes: “(A) any building, structure, installation, equipment, pipe or pipeline, . . . well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.” Construction sites (and everywhere else) easily fall within this definition.

Persons Liable
The classes of “persons” liable under CERCLA are as comprehensive as the definitions just described. Liable parties include: the current owner and operator of a vessel or a facility; all past owners or operators of a facility who owned the facility at the time of disposal of any hazardous substance; anyone who arranged for disposal or treatment of a hazardous substance at such a facility, commonly called a “generator”; and any person who accepts hazardous substances for transport to disposal sites or treatment facilities from which there is a release or a threatened release. Liable parties under CERCLA are often called “PRPs” or “potentially responsible parties,” a regulatory shorthand for their status early in the CERCLA process.

It is easy to fit many of the players in a construction project within these groups of liable parties. For example, in *Kaiser Aluminum & Chemical Corp. v. Catellus Development Corp.*, an excavation contractor removed soil that had been contaminated by prior use by someone else. The contractor placed the excavated soil on-site, commingled it with uncontaminated soil. Because of its own activities, the contractor was held to be an operator and transporter with regard to a release of hazardous substances.

Relief
A liable party under the statute may be responsible for: all response costs incurred by the federal or state governments that are not inconsistent with the National Contingency Plan (NCP), as well as any other necessary response costs incurred by any other person consistent with the NCP; damages for injury to or loss of natural resource damage and damage assessment; and costs of any health assessment or health effects study by the Agency for Toxic Substances and Disease Registry. These costs can be staggering, running easily into the millions of dollars.

Aspects of Liability
Liability under CERCLA is usually a foregone conclusion once one falls within one of the classes of liable parties. First, it is *strict*, because no showing of fault or negligence by the responsible party is necessary. Congress incorporated a policy decision in this statute that almost anyone who in some way was connected with the release or disposal of hazardous substances must pay for cleanup costs — as compared to the taxpayers in general, who are not required to pay. Even more alarming to small business is the fact that the liability is *joint and several*. Each PRP is held individually responsible for all cleanup costs and damages, unless it can be demonstrated that the harm is divisible or capable of apportionment among the PRPs. Finally, CERCLA imposes *retroactive* liability for disposal of hazardous substances. This means that parties may be liable for non-negligent and lawful acts that occurred prior to the enactment of CERCLA. Thus, for example, if a contractor disturbs a site at which solvents were released decades before by
someone else, any one of the parties involved in that construction project — owner, architect, contractor, subcontractor — under some circumstances will be held individually responsible for all cleanup costs.

Defenses

Defenses are limited in a CERCLA action. They provide little comfort to contractors and others in the construction industry.

CERCLA contains three affirmative defenses, which must be established by a preponderance of the evidence. They include: an act of God; an act of war; or an act or omission of a third party, other than an employee or agent of the defendant PRP, whose act or omission does not occur in connection with the contractual relationship with the defendant. Also, the third-party defense only applies if (1) the defendant exercises due care with respect to the hazardous substance, in light of all relevant circumstances, and (2) takes precautions against foreseeable acts or omissions of any third party and the foreseeable consequences that could result from such acts or omissions.15

The proof for these defenses is rarely established. For that reason, defenses rarely succeed. As an example, suppose that many years ago, the owner or operator contaminated the soil at a site. An unrelated contractor, perhaps years later, moves this soil around the site during current site-clearing activities. When the contractor is sued under CERCLA, it tries to assert the third-party defense, pointing to the previous owner or operator as the cause of the problem. Unfortunately, the prior owner or operator is not the “sole” cause of commingled releases at the site. The contractor, by virtue of its site cleaning, is independently an “operator” or “arranger for disposal” at the site, and therefore the “contractual relationship” defense is of no use.

Innocent Purchaser and Security Interest Rules

The Superfund Amendments and Reauthorization Act of 1986,16 an amendment to CERCLA, defined the “contractual relationship” necessary for the third-party CERCLA defense to succeed for an “innocent purchaser” of land. A purchaser of contaminated land can avoid CERCLA liability by proving (1) that a contaminated site was acquired after disposal or placement of the hazardous substance, and (2) at the time of acquisition, the purchaser “did not know and had no reason to know that any hazardous substance which is the subject of the release or threatened release was disposed of on, in, or at the [site].”17

Liability of Bona Fide Prospective Purchaser (“BFPP”)

Under the Small Business Liability Relief and Brownfields Revitalization Act of 2001,18 Congress modified CERCLA in an effort to promote the redevelopment of Brownfields. Under this Act, a party who qualifies as a BFPP receives federal liability relief if the party purchased contaminated property on or after January 1, 2002.19 To qualify as a BFPP, the person must establish the following by a preponderance of the evidence:
1) The contamination occurred prior to the person’s acquisition of the property;
2) The person made “all appropriate inquiries into the previous ownership and uses of the
   [property] in accordance with generally accepted good commercial and customary
   standards . . . ”;20
3) The person provided “all legally required notices with respect to the discovery or
   release of any hazardous substances . . . ”;
4) The person takes reasonable steps to stop a release and prevent a possible future release;
5) The person gives full cooperation and access to parties that conduct response actions;
6) The person complies with any established land use restrictions;
7) The person complies with all requests for information or administrative subpoena
   issued by the EPA; and
8) The person is not potentially liable or in any way affiliated with a PRP.21

CERCLA excludes from the definition of “owner or operator,” and thus exempts from lia-
ability, any person or entity who, without participating in the management of a contaminated site,
holds “indicia of ownership” to protect a security interest in the property.22 Thus, a lending insti-
tution ordinarily would not be liable for site contamination merely by reason of holding a mort-
gage or deed of trust on the property, or foreclosure and prompt resale. However, if the institution
acts significantly with regard to hazardous substances at a site (by moving them around during
construction, as an example), it could be held liable as an owner or operator.23

Changes to CERCLA in 1990 granted significant additional relief to lenders and fiduciar-
ies.24 These rules are complex, and require specific attention by those who might be affected.

EPA’s Role
EPA and state environmental agencies are charged under CERCLA to oversee removal
(short-term) and remediation (long-term) cleanup of a contaminated site. PRPs, if so ordered by
EPA, must conduct the cleanup; otherwise, EPA may choose to conduct the response.25 In either
case, the responding PRP or EPA may seek reimbursement from other PRPs for the cleanup
costs.26

Under § 106 of CERCLA,27 EPA has broad discretion to unilaterally demand prompt
action in a formal order. It need only determine that the order may be necessary to protect public
health or welfare, or the environment, and that there may be an imminent and substantial endan-
germent to the public health or welfare, or to the environment because of an actual or threatened
release.28 Proof of an actual release of hazardous substances is not required before a PRP may be
forced to take action or to pay for a cleanup.

To recover its cleanup and associated costs, EPA needs to prove the following: (1) there
was a release or a threat of a release of hazardous substances from a facility to the environment;
(2) the person from whom cost recovery is sought is within the statutory group of liable parties;
and (3) response costs were incurred. Indemnification or hold harmless agreements do not transfer
liability from an owner or operator to another.29 Relief available to the government includes all
costs incurred that are, in the words of the statute, “not inconsistent with the National
Contingency Plan,” the EPA regulation that requires a plaintiff to follow specific protocols in the
cleanup. Private parties can recover costs from other PRPs “consistent with the National Contingency Plan” in certain circumstances. The government can also recover natural resource damages.

**The Resource Conservation and Recovery Act and the Regulation of Hazardous Wastes**

The Resource Conservation and Recovery Act (RCRA) is a federal statute that regulates active generation, treatment, storage, and disposal of hazardous waste.

RCRA regulates hazardous waste from cradle (generation of waste) to grave (ultimate disposal). RCRA requires permitting of hazardous waste treatment, storage and disposal facilities; standards for owners, operators, generators and transporters for treatment, storage and disposal of hazardous wastes through identification, labeling, and tracking wastes; and reporting of the location and nature of activities involving hazardous wastes. The statute also mandates (1) monitoring, testing, and analysis of health hazards at hazardous waste sites; (2) controls upon disposal of hazardous wastes through public sewer systems and treatment plants; (3) a prohibition on disposal of hazardous wastes through underground mine workings; and (4) performance standards for treatment and disposal of hazardous wastes. It contains both private and public enforcement procedures.

A “solid waste” includes “garbage, refuse . . . and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations . . .” A person who generates a solid waste must determine if that waste is a hazardous waste. A “hazardous waste” is a solid waste that may cause or significantly contribute to increases in mortality or serious irreversible illness, or may pose a substantial present or future hazard to human health or the environment due to improper treatment, storage, transportation, or disposal.

RCRA regulates the hazardous waste activities of generators and transporters of hazardous waste and the owners and operators of treatment, storage, or disposal facilities. A generator is any person “whose act or process produces hazardous waste” or “whose act first causes a hazardous waste to become subject to regulation.” A transporter is a person engaged in off-site transportation of hazardous waste by air, rail, highway, or water. Waste tracking and monitoring regulations govern the activities of generators and transporters of hazardous wastes.

RCRA establishes many standards for facilities that treat, store, and dispose of hazardous wastes. The owner and operator of such a facility are required to obtain a permit that incorporates these myriad standards.

Construction facilities often must store and dispose of hazardous wastes, and therefore must understand and follow at least the RCRA rules for generators of wastes. Under some circumstances, particularly when hazardous waste is left onsite, a construction site can become a hazardous waste disposal site. At that point, the site becomes subject to full RCRA permitting requirements.
State and Local Hazardous Materials Laws

State laws offer a complex overlay of environmental requirements that often supplement and sometimes replace federal requirements. This dual state/federal system of regulation has historical roots in environmental regulation and in federalism principles.

For example, various state laws empower the Hazardous Materials and Waste Management Division of the Colorado Department of Public Health and Environment (CDPHE) to regulate hazardous wastes and other materials. The Division issues permits for the treatment, storage, and disposal of hazardous wastes at facilities, and it monitors and enforces applicable standards that apply to such facilities.

CDPHE and the EPA sometimes exercise concurrent jurisdiction over hazardous material incidents at a construction site, under RCRA and CERCLA, respectively. The specific circumstances of an incident determines which agency becomes involved.

Under the Colorado Hazardous Materials Transportation Act, the Colorado State Patrol and the Colorado Public Utilities Commission are charged to set standards and adopt rules regulating packaging, handling, marking, and labeling hazardous materials and vehicles carrying hazardous materials, and to establish financial responsibility requirements for transporters thereof. Also, local governments may promulgate regulations or ordinances that regulate the disposal of hazardous materials within their boundaries. These rules can be difficult to locate, and the construction contractor often must rely upon discussions with local authorities to understand the local environmental requirements to be met.

§ 13.2.2—The Control Of Water Pollution

Construction projects can affect surface and ground waters in adverse ways. Land clearing activities can alter the flow of surface water. Releases of regulated substances can contaminate both surface and ground water. An innocuous area of cattails may well be a regulated wetland, or an intermittent stream coursing through a site may be “navigable waters of the U.S.” To disturb either usually requires a permit under water quality protection laws.

The Federal Clean Water Act

The federal Clean Water Act (CWA) and its implementing regulations govern many activities that may adversely affect waters of the United States. These activities include the discharge of pollutants to surface waters and the dredging or filling of wetlands. Depending upon the state involved, these requirements are administered by EPA or a state agency, and sometimes by both. In Colorado, the CDPHE administers water pollution programs, but both the CDPHE and EPA have enforcement authority.

The CWA regulates “navigable waters.” That term means “waters of the United States, including the territorial seas.” “Waters of the United States” is further defined by federal regulations as:
(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

* * * *

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce. . .

* * * *

(5) Tributaries of [these] waters. . .
(6) The territorial seas;
(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified [above].

Waters of the United States have been construed to include many surface waters and include those not necessarily limited by actual navigability.

**Stormwater and Construction Dewatering Permits**

The 1987 amendments to the CWA establish phased National Pollution Discharge Elimination System (NPDES) requirements for “stormwater discharge permits” for certain categories of construction sites, beginning with construction sites larger than five acres. In Colorado, CDPHE issues Colorado Discharge Permit System (CDPS) (water quality) permits, including stormwater runoff permits and construction dewatering permits, and has promulgated regulations similar to the federal rules. As of July 1, 2002, all small construction sites, defined as at least one acre and less than five acres of disturbance of land, are covered by Colorado’s stormwater regulations. To comply with these regulations, a permittee must either (1) pursue coverage under Colorado’s Stormwater General Permit for Construction Activities; (2) pursue coverage under a State-designated Qualifying Local Program; (3) apply for coverage under a waiver based upon erosion potential; or (4) apply for exemption if the small construction site is owned or operated by a municipality. To obtain a construction stormwater permit, the owner or the contractor must submit an application including, among other information, the location and nature of the project; the size of the acres disturbed; location of the site; and the anticipated construction schedule. The permit applicant must certify at the time of application that it has prepared a Stormwater Management Plan for the construction activity. Such a plan must include a description of the site and the nature and schedule of construction; erosion and sediment controls to minimize pollution; post-construction controls; measures to reduce off-site impact; state and local requirements; and inspection and maintenance procedures.

The CWA allows regulating agencies to issue general permits for construction stormwater runoff, rather than individual permits. These are sometimes issued in the form of a regulation that authorizes particular activities. Many of the states, including Colorado, have issued general permits, and in other states general permits have been issued by the EPA. To obtain general permit
coverage, prior to construction a contractor or owner must submit a “notice of intent” that contains the specific information required by each state.

Colorado requires a permit for certain construction dewatering activities as well. The permit authorizes discharges of uncontaminated groundwater from a construction site, regardless of the size of the construction project. Applications for the permit must be made at least 30 days prior to the anticipated discharge.

Activites in Streams and Wetlands

If a construction site is near surface water and construction activities may disturb or disrupt the regulated waterways, another permit will be required. Dredging or filling of regulated waters of the United States requires a “dredged and fill material permit” from the U.S. Army Corps of Engineers (COE) under § 404 of the Clean Water Act. The primary authority to authorize dredge and fill activities affecting waters of the U.S., including wetlands, has been delegated to the COE under the Clean Water Act § 404 permit program.

Many other federal and state laws and regulations may also come into play for such activities, particularly for wetlands. For example, EPA has guideline responsibility and veto power for certain dredge and fill activities that may affect the integrity of the nation’s waters. The U.S. Fish and Wildlife Services of the U.S. Department of the Interior must be consulted on the impacts on fish and wildlife prior to federal agency action that will modify waters of the United States and must assist in state § 404 programs. The Water Quality Control Division of CDPHE is charged to review and certify permits in Colorado.

Identifying Wetlands

Wetlands present a particular difficulty to the contractor, in part because identification of a wetland requires particular technical and legal expertise. The following is the current regulatory definition of a wetland:

The term “wetlands” means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

Wetlands may include any area that is saturated only at some time of the year and has indigenous biota such as cattails, willows, or sedges.

The Supreme Court recently addressed the COE’s jurisdiction over waters of the United States under the CWA in the consolidated cases *Rapanos v. United States* and *Carabell v. United States (Rapanos)*. Specifically, the Court addressed when a wetland or a tributary would constitute “waters of the United States.” The Court issued five separate opinions (one plurality, two concurrences, and two dissents). The *Rapanos* decision did not provide a clear standard and has led to confusion and disparity in how the decision is applied. The COE and EPA issued a joint guidance memorandum on implementing the *Rapanos* decision on June 5, 2007 (*Rapanos Guidance*).
The COE also developed a Jurisdictional Determination Form and associated Instructional Guidebook. A copy of the Approved Jurisdictional Determination Form is included in Exhibit 13A. The Rapanos Guidance Memorandum indicates that the agencies will assume jurisdiction over certain water bodies on a categorical basis, and others on a case-by-case basis.

[T]he agencies will assert CWA jurisdiction over the following waters without the legal obligation to make a significant nexus determination: traditional navigable waters and wetlands adjacent thereto, non-navigable tributaries that are relatively permanent waters, and wetlands with a continuous surface connection with such tributaries. The agencies will also decide CWA jurisdiction over other non-navigable tributaries and over other wetlands adjacent to non-navigable tributaries based on a fact-specific analysis to determine whether they have a significant nexus with traditional navigable waters.

This standard is still unclear and determinations of whether a wetland is covered under CWA jurisdiction should be made by experienced wetlands experts prior to the initiation of construction activities in potentially regulated waters and wetlands.

Dredge and Fill Permits
A § 404 permit is required for the discharge of pollutants, including dredged or fill materials, into regulated waters of the United States.

Construction activities affecting a wetland may require a § 404 permit. Carefully defined regulatory de minimis exceptions to these permit requirements exist, including the discharge of dredged or fill material required to maintain dikes or dams, for maintenance of irrigation ditches, for construction of temporary sedimentation basins on a construction site, and for other similar activities. Many activities that involve depositing, grading, or moving material in or into a stream that may adversely affect the biota (e.g., material causing sediment or containing toxic chemicals), or that impair the flow of the stream, may require a § 404 permit.

Regulatory authorities possess great discretion to tailor construction program requirements under this program. Discharges can be prohibited or restricted if they would result in a sufficiently adverse impact on municipal water supplies, fishery areas, wildlife, or recreational activities.

The § 404 permitting process is administered by the COE. It issues three types of § 404 permits. The first is an individual permit, issued on a case-by-case basis. The second is called a “nationwide permit” and is a permit that authorizes specified activities nationwide. Permits cover specific activities that will have relatively minor impacts on regulated waters, including wetlands. These include activities such as minor road crossings; discharges of small amounts of fill; repair of existing structures; and minor bank stabilization. Upon inquiry, the COE will make a determination as to whether a particular activity falls under one of the nationwide permits. If so, an individual permit generally will not be required. Notice to COE may be required before a nationwide permit is effective for a particular project.
The third type of § 404 permit is a “general/regional permit” that governs specific types of activities within a state or region. Again, notice may be required. A construction entity can determine which permits cover proposed activities in regulated waters, including wetlands, by consulting with the COE.

**Local Control of Wetlands**

Some local governments have adopted their own wetlands ordinances to close perceived “loopholes” in the CWA. For example, the City of Boulder, Colorado, enacted an ordinance that requires a city permit for impacted wetlands with areas greater than 400 square feet. Even then, smaller wetland areas may be subject to regulation if they are habitats for threatened or endangered wildlife or plant species.64

**CWA Enforcement**

Penalties for failure to follow CWA permit requirements or failure to obtain a permit can result in civil penalties not to exceed $32,500 per day for each violation, and criminal penalties of not less than $2,500 nor more than $25,000 per day of violation and/or a prison term of up to one year.65 Violators can also be required to restore the impacted regulated waters, including wetlands.66

**The Federal Safe Drinking Water Act**

Construction activities can pollute groundwater. Examples include inadvertent spills or releases of contaminants that may migrate through the soil to the water table, or disturbance of soils. In appropriate circumstances, these activities can invoke the Safe Drinking Water Act (SDWA),67 at least indirectly. This statute is designed in part to protect underground supplies of drinking water.

The SDWA provides for the establishment of specific contaminant standards that define water quality safe for human ingestion. The SDWA also regulates underground injection well programs and provides for direct protection of designated “sole source aquifers.” Contractors who install stormwater drainage wells such as dry wells, bored wells, and infiltration galleries need to ensure that proper authorization has been received for these Class V injection wells. In addition, SDWA requirements apply to septic systems that are regulated as Class V injection wells.

§ 13.2.3—The Control Of Air Pollution

Construction activities may create impacts on air quality. These impacts often are triggered by the release of particulate matter from cars or trucks moving on a construction site, or from grading, sand blasting, and similar activities. On-site concrete batch plants may also affect air quality. Such emissions are regulated under the federal Clean Air Act, 42 U.S.C. §§ 7401 through 7671q, and the Colorado Air Pollution Prevention and Control Act, C.R.S. §§ 25-7-101 through -1309. In general, an Air Pollutant Emission Notice (APEN) must be filed and a permit obtained from the Colorado Air Quality Control division in order to emit pollutants into the atmosphere, except in de minimis amounts.68
Construction activities are specifically called out in the regulations of the Colorado Air Quality Control Commission. This focus by the regulatory authorities includes *de minimis* exceptions to their regulations and general permitting for some construction activities, including land disturbance of less than 25 acres that lasts for six months or less.69

§ 13.2.4—Occational Safety And Health

The federal Occupational Safety and Health Act (the OSH Act)70 governs many construction activities that create environmental risks, particularly to workers. The construction industry is heavily affected by the entire set of OSH Act regulations dedicated to construction activities.

The purpose of the OSH Act is to “assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources.”71 The statute and its implementing regulations define rights and obligations of both employers and employees, and set standards for conduct in the construction workplace. Those affiliated with the construction industry, especially contractors, must become familiar with these requirements and implement necessary programs to ensure compliance and minimize occupational safety and health risk.

The OSH Act establishes two kinds of duties that contractors must meet. The first is a general duty to provide a workplace “free from recognized hazards that are causing or are likely to cause death or serious physical harm.”72 The general duty clause is a catch-all requirement designed to guard against specific conduct or risks not regulated by specific standards. The second duty requires the contractor to “comply with occupational safety and health standards promulgated under [the OSH Act].”73 These specific standards govern the use of and exposure to specific chemicals and working conditions, and typically state how a contractor can comply with the standards.

The Occupational Safety and Health Administration (OSHA) sets and enforces these standards.74 However, states can enact their own statutes and assume full responsibility for administration and enforcement of the OSH Act.75 Federal OSHA administers and enforces the OSH Act in Colorado. State agencies enforce OSHA regulations in neighboring Wyoming, Utah, and New Mexico.

The OSH Act and its implementing regulations contain provisions specific to demolition76 and construction77 activities, and materials and substances often encountered in the construction industry, such as airborne contaminants,78 poisons, caustics, and other harmful substances;79 hazardous waste;80 and toxic and hazardous substances.81 For example, Table Z in 29 C.F.R. § 1910.1000 identifies employee exposure limits to hundreds of substances potentially encountered during construction activities. In addition, some industry standards, standards of the U.S. government, and standards of organizations that are not agencies of the U.S. government have been incorporated by reference into the regulations of 29 C.F.R. Part 1910 and have the same force and effect as other standards in Part 1910.82 Other environmental statutes and regulations often overlap and compliment the OSH Act’s provisions for these materials. The OSH Act may be applicable before an environmental release, but will certainly be implicated in the event an environmental release results in an exposure to employees or conditions hazardous to employees.
OSHA is authorized to inspect a worksite for conditions hazardous to employees. The EPA and OSHA allow their inspectors to look for both environmental and OSHA violations. Without an employer’s consent, however, a judicial inspection search warrant is required to inspect a worksite on private property. A search warrant usually will be limited in scope to actions identified in a complaint about the working conditions, although OSHA may issue citations concerning any violative condition in plain view.

OSHA provides for civil penalties for a non-serious or a serious violation of up to $7,000 per violation. Repeated or willful violations may result in a civil penalty of up to $70,000 per violation. Criminal sanctions, including imprisonment and high fines, are even possible where the employer acts willfully and causes the death of an employee. Under certain circumstances, such as multiple injuries or fatalities, consulting with counsel about options of consent may be warranted. When consulting with counsel is warranted, it may be warranted immediately.

Employers are required to maintain records relative to occupational illnesses, injuries, and fatalities, and post-citation notices relating to exposure to toxic material. Employees are entitled to see this documentation.

Under OSHA’s “hazard communication” provision, employees are also entitled to information concerning hazards generally associated with specific substances. The purpose of this provision “is to ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. This . . . is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training.” These requirements are very detailed. One of the most common requirements is for a “material safety data sheet,” or MSDS, to be available where particular substances are present.

The OSH Act prohibits any person from discharging or in any manner discriminating against any employee because the employee has exercised rights under the OSH Act, such as complaining to OSHA and seeking an OSHA inspection, participating in an OSHA inspection, and participating or testifying in any proceeding related to an OSHA inspection.

Prohibited retaliatory discrimination can include firing or laying off, blacklisting, demoting, denying overtime or promotion, disciplining, denial of benefits, failure to hire or rehire, intimidation, reassignment affecting prospects for promotion, and reducing pay or hours. OSHA also administers the whistleblowing provisions of some environmental statutes, protecting employees who allege violations of environmental laws. These environmental statutes include the Safe Drinking Water Act of 1974, Federal Water Pollution Control Act of 1972, Toxic Substances Control Act of 1976, Solid Waste Disposal Act of 1976, Clean Air Act of 1977, and Comprehensive Environmental Response, Compensation and Liability Act of 1980.
The construction industry faces recurring environmental problems. This section of this Chapter describes a host of such difficulties and the legal framework that addresses them.

All of the parties in a project — design professionals, owners, contractors and sureties — must become sufficiently familiar with these difficulties to avoid them; if possible, to recognize problems before they arise as controversies; and to handle them quickly and properly with minimal impact to health and safety, the environment, and the job (and minimal exposure to liability).

§ 13.3.1—Routine Equipment Maintenance

Routine maintenance at equipment yards and construction sites often involves regulated activity. The wise contractor must be aware of applicable laws in order to ensure compliance.

**Fuel and Lubricant Storage**

The CWA requires above-ground storage of regulated substances, including fuel and lubricants, to comply with specific safety measures if the total storage volume exceeds 1,320 gallons. Secondary containment around storage tanks is required, usually in the form of a berm, with a volume equal to the largest container plus freeboard, and a sealed bottom. A spill prevention control and countermeasure plan (SPCCP) is also required. It provides employees with specific information about what to do and whom to call in the event of a spill. The EPA distributes a booklet outlining SPCCP requirements.

If 10 percent or more of a storage tank volume lies below the ground surface, it is deemed to be a UST under RCRA and Colorado’s underground storage tank (UST) program. At that point, the tank is subject to notification, corrosion protection, spill and overfill control, leak detection, release reporting, corrective action, and closure requirements under the UST program.

**Waste Oil Storage and Disposal**

Waste oil uncontaminated with regulated substances is neither a hazardous substance under CERCLA nor a hazardous waste under RCRA. Nevertheless, disposal of waste oil is regulated under the CWA and RCRA. Collection and disposal of waste oil is licensed by the EPA.

The owner of waste oil, including a contractor, is responsible for its ultimate disposal. If an unscrupulous collector of waste oil improperly disposes of the oil, a contractor or other generator at the construction site can be held liable for the cleanup.

A used-oil problem is much more severe if the waste oil is mixed with regulated substances like heavy metals (e.g., chromium, lead, cadmium, barium) or petroleum-based solvents. When so mixed, it then becomes a “hazardous substance” for which much more stringent treatment and disposal methods are required. For example, if a collector mixes a contractor’s uncontaminated waste oil with other contaminated waste oil and then disposes of the mixture improperly, the contractor will be liable for remediation costs unless it can prove that its oil was not contaminated.
Know your waste oil collector and how and where it disposes of the oil. Also, check to see that the collector has current EPA approval and an EPA identification number. Solvent detection kits are available to test used oil to provide proper records (i.e., of noncontamination) should a problem arise.

The oil spill provisions of the CWA prohibit the discharge of oil (and hazardous substances) “in such quantities as may be harmful.” The regulations state that an oil discharge is harmful if it results in a violation of water quality standards, or if it causes a film or a sheen on, or discolors, the surface of the water of adjoining shorelines, or causes a sludge or emulsion to be deposited beneath the water surface of on the adjoining shoreline.

The CWA requires that the Coast Guard National Response Center be notified of a reportable oil spill. Failure to do so carries severe sanctions, including fines and prison terms up to five years.

Used oil that contains a listed substance, such as certain heavy metals (e.g., chromium, cadmium, lead, barium) or solvents, is a hazardous substance under CERCLA. If discarded, and if it is contaminated enough, it can also be a hazardous waste under RCRA.

**Used Oil Filters**

Used oil filters that are non-terne (not tin and lead coated) are not regulated, and can be disposed of conventionally provided that they are properly drained. The dome end of the filter, or the anti-drain back valve, must be punctured and then hot-drained for 12 hours. Terne filters are considered a hazardous waste, and must be disposed of accordingly.

**Used Lead Acid Batteries**

Unless they are properly recycled, used lead acid batteries are a hazardous waste. Generally, vendors will accept returns. Avoid accumulation of batteries in an equipment yard, because a vendor may refuse to accept a large quantity for recycling. A storage site can easily turn into an unpermitted hazardous waste site.

**Antifreeze**

Antifreeze is highly toxic to animals and children. Although it is not regarded as a “hazardous substance,” care should be taken to ensure that it is properly stored and disposed of. Some sewage treatment districts actually allow disposal into the sewer for quantities of up to 30 gallons. Inquire of the local treatment operator before doing so.

**§ 13.3.2—Asbestos Removal And Disposal**

Asbestos is frequently found in construction projects that require renovation or demolition. The EPA estimates that over one-half million public and commercial buildings contain “friable” (easily crumbled) asbestos. Because asbestos fibers are a severe health threat, parties to a construction project must become educated and vigilant about the substance.
Asbestos is a naturally occurring mineral composed of microscopic fibers. Until the 1970s, asbestos was widely used in building construction because of its durability, strength, and resistance to fire. Uses included insulation for boilers and pipes; acoustical ceiling plaster; spray-on fireproofing; ceiling tile; vinyl asbestos floor coverings; mastics; roofing materials; shingles and siding; drywall plaster; and cements.

Asbestos fibers are very light, and remain suspended in the air if released. When asbestos fibers are then inhaled, they can disrupt the functioning of the lungs. Exposure to airborne asbestos fibers was associated with lung diseases in the 1930s, but it wasn’t until 1955 that the relationship between asbestos exposure and lung cancer was confirmed. Most asbestos-related cancers develop slowly, over a 20- to 40-year period from the first exposure. The greater the exposure, the more quickly disease develops. There is no known safe level of exposure.

As a result, the use of, exposure to, and removal and disposal of asbestos is regulated by a variety of state and federal laws. OSHA has established work practices for occupational exposure to asbestos, and OSHA has a comprehensive set of asbestos regulations specifically for the construction industry. EPA regulates emissions of asbestos in schools under a specific program for identification, management, removal, and disposal. In Colorado, the CDPHE also regulates asbestos removal and disposal under separate statutory authority.

OSHA regulations contain specific standards and procedures that apply to almost all construction work involving asbestos, including demolition, salvage, removal, encapsulation, alteration, repair, installation, spills, transportation, storage, and disposal of asbestos or products containing asbestos. These rules include standards for exposure, sampling, employee monitoring, notice requirements, and compliance procedures.

The federal Clean Air Act (CAA) establishes emissions and management standards for hazardous air pollutants, including asbestos. Under EPA’s regulations, contractors must comply with asbestos emission standards. These regulations also govern releases from the removal of asbestos during renovation or demolition of building. “Owners or operators” of buildings containing asbestos must notify EPA of their intentions to demolish or renovate a building and follow prescribed procedures to prevent releases of asbestos fibers to the air. Disposal of asbestos waste is also closely regulated, including specific requirements for packaging and disposing of the waste at an approved disposal facility.

Construction projects involving the renovation of schools containing asbestos bring into play another federal statute, the Asbestos Hazard Emergency Response Act (AHERA). However, because AHERA requires affirmative inspection for and reporting by school districts of asbestos in buildings, it is likely that the presence of asbestos in a building will be known and a remediation plan in place for any such projects, before renovation is undertaken.

Colorado has also enacted complex statutes and regulations to reduce the risk of asbestos in buildings accessible to the general public. The Colorado Air Quality Control Commission has promulgated standards and procedures for abatement, demolition, and asbestos spill incidents for schools, state owned or leased buildings, and buildings to which the general public has access.
These requirements include, among other requirements: (1) notification to the CDPHE of an intent to conduct an asbestos abatement project at least 10 days prior to commencing work;\(^{119}\) (2) obtaining a permit before an abatement project begins;\(^{120}\) and (3) use of certified personnel.\(^{121}\)

Disposal of asbestos is regulated by the Hazardous Materials and Waste Management Division of the CDPHE. Strict guidelines govern the location of and procedures for disposal.\(^{122}\)

The common law standard for inspection and reporting for the presence of asbestos on a construction project is unclear. In a Colorado case, *Corcoran v. Sanner*,\(^{123}\) the plaintiff owner hired an architect and a contractor to remodel his condominium. During construction, the contractor discovered asbestos in ceiling material being removed. The owner then hired an asbestos removal contractor and another general contractor to complete the work. The owner also sued the architect and the original contractor for additional costs arising from the late discovery and for the loss of the owner’s personal property contaminated with asbestos. At trial, an architect and a contractor testified as expert witnesses that there are no standards or guidelines requiring the defendant architect or contractor to inspect or investigate for asbestos. The trial court held for the defendants.

Although the court of appeals affirmed the lower court in *Corcoran*, only procedural matters were at issue and the appellate court did not adopt the position of defendants’ expert. A future plaintiff can bring the same claims if it can find an expert witness who will testify that there is a duty of design professionals and contractors to inspect for and report the presence of asbestos. Therefore, caution should be exercised when embarking on a renovation or demolition project.

§ 13.3.3—Polychlorinated Biphenyls

Polychlorinated biphenyls, or PCBs, are insulating and cooling liquids used extensively over a 40-year period in electrical transformers, capacitors, electromagnet, heat transfer systems, hydraulic systems, and electrical and lighting equipment. PCBs have superior insulating and fire resistance qualities. Unfortunately, studies have shown that PCBs are also potential carcinogens.

PCBs sometimes appear on samples taken on dirt roads because waste oil containing PCBs have been used for dust suppression in the past. Areas around electric transformers are also suspect due to leaks. Some lighting fixtures also contain the substance, as do particular types of large motors and capacitors. All of these problems can be found at construction sites.

PCBs and other toxic chemicals are regulated under the federal Toxic Substances Control Act (TSCA).\(^{124}\) Under TSCA, EPA has banned the production of PCBs, and has promulgated extensive regulations governing their use, cleanup, and disposal.\(^{125}\)

Contractors must be vigilant at the construction site because of immediate health risks, and also because of the liability associated with releasing, transporting, and disposing of PCBs.
§ 13.3.4—Underground Storage Tanks

Well over one million underground storage tank (UST) systems are installed in the United States, and many of those are decades old and corroding or leaking. Some old tanks are still in active use. Others have been abandoned, and yet still contain products such as gasoline, diesel fuel, or fuel oil. USTs can present a significant hazard for owners and contractors engaged to remove them or surprised by their presence, particularly if a large amount of excavation of contamination is required for a particular project.

USTs are regulated principally under RCRA and associated state programs. EPA has promulgated extensive regulations that govern USTs in states that have no authorized state program. Often, a state program overlaps with federal regulations when a state is not formally authorized under federal rules. The latter situation exists in Colorado.

A UST is defined as a tank whose volume is 10 percent or more beneath the surface of the ground and that is used to store a regulated substance. Not all USTs are regulated. Exceptions include, among others, residential or farm tanks storing 1,100 gallons or less of motor fuel that is not for resale; tanks that store heating oil for use on the premises; septic tanks; and storage tanks in an underground area if the tank sits on or above a surface — for example in a basement.

The UST program requires EPA and the state to develop an inventory of USTs. This is accomplished through a notification program that requires owners of USTs to provide notice to designated agencies of the existence of USTs.

In Colorado, the designated UST agency is the Division of Oil and Public Safety (OPS) within the Department of Labor and Employment (though EPA still exercises overlapping authority under its regulations). The Colorado program includes tanks in operation as well as those taken out of operation after November 1984, but still in the ground. Owners of new tanks must give notice after 30 days of the beginning of the tank’s use. There are other notification requirements for previous owners of tanks not in use, and for sellers of tanks. Failure to comply with notice requirements can result in sanctions.

New tanks must be registered by their owner or operator with OPS, and a permit is required for their installation and use. The application requires a site plan and the installation must be reported to the local fire department. The UST regulations contain technological requirements. They require corrosion protection; spill and overflow control; and leak detection for regulated tanks.

Reporting of a release from a UST is an important requirement. An owner or an operator of a UST system must report suspected leaks to OPS within 24 hours and then investigate and confirm within seven days suspected releases of petroleum or other regulated substances. The owner or operator must also contain and clean up a spill immediately, and report it to OPS within 24 hours if the spill exceeds 25 gallons or if it reaches a stream or nearby surface water. A release of less than 25 gallons does not have to be reported if it is cleaned up within 24 hours.
If a release from a UST is confirmed, an owner or operator must take corrective cleanup action, including reporting the release, implementing immediate measures to prevent further release, and taking steps to mitigate fire or explosion. Abatement procedures must be initiated to prevent further migration of the released material into the soil and groundwater, as well as to minimize any hazards from excavated contaminated soil or free product. A report must be made to OPS within 20 days of confirmation of the release.

In the event of a release, a full investigation must determine the extent of soil and groundwater contamination, if groundwater has been contaminated, or if the state requires an investigation. In addition, a corrective action plan may be required which may include long-term monitoring of groundwater.134

If a tank is to be removed permanently, it must be emptied and removed as part of “closure.” Closure requirements are detailed, and set out in OPS regulations. Prior to commencing closure, OPS must be given notice.135

A contractor installing new USTs and associated piping must conform to a code of practice developed by a nationally recognized association or independent testing laboratory and in accordance with the manufacturer instructions.136 New installations must also be certified by OPS.137

Owners or operators of regulated USTs must maintain evidence of financial responsibility for taking corrective action in the event of and responding to a release. This can be done by showing coverage by an insurance risk group, coverage by a state fund, by financial data, or certain other criteria.138 Colorado has such a fund, designed to relieve most financial responsibility requirements.

§ 13.3.5—Historic Preservation

The National Historic Preservation Act139 and related statutes and regulations establish a federal program under the auspices of the National Park Service of the U.S. Department of Interior, to identify, list and preserve historic sites, buildings, and objects subject to regulation. The Archeological Resource Protection Act140 governs archeological sites found on public lands and Indian lands of the United States. Thus, prior to commencing any construction on a site which has been so identified, the owner, architect, and contractor should carefully identify the applicable laws.

Under these programs, federal agencies must take into account the effects of a proposed federal or federally permitted undertakings on cultural resources listed or eligible for listing on the National Register of Historic Places.141 An undertaking includes any project or a activity under the direct or indirect jurisdiction of a federal agency including: actions carried out by a federal agency; actions carried out with federal financial assistance; actions requiring a federal permit, licenses or approval; and actions subject to state or local regulation administered pursuant to a delegation or approval by a federal agency.142
Under the National Historic Preservation Act, any site or resource that has been listed as having national historic, cultural or archeological significance is protected. The National Park Service administers this program. Each state also has a State Historic Preservation Officer who has primary oversight authority.

In addition, states and local governments have their own lists of protected historic and cultural resources. For example, the cities of Boulder, Blackhawk, and Central City all have areas that are protected. Any demolition, indeed, any remodeling in these areas must comply with the requirements of the laws of the municipal government in which the project is located.

Recent amendments require an agency to protect historic and cultural resources, not just on federal lands, but also to properties not subject to federal regulation but which may be potentially affected by agency actions. Thus, private lands and private projects may be affected, and an owner of a construction project that may be regulated must plan for these requirements.

Colorado also has an historic property protection program that applies to actions by state agencies and establish a state register of historic places. Under these statutes and regulations, a development or construction project may require a historic and archeological resource survey if a federal agency is involved directly or indirectly. This can result in significant delays in a project. Thus, before an owner undertakes a construction project that might be affected, the owner must become familiar with these project requirements.

§ 13.3.6—Land Clearing

Site preparation for a construction project may encounter environmental problems as a result of excavation. Buried USTs or old waste sites can be unwelcome surprises. Any construction project of size can encounter the difficulties described below.

Stream Activities

If a construction project requires fill to be placed in a stream or surface water, or if a stream must be diverted, a § 404 dredged and fill material discharge permit must be obtained by the owner or operator of the project. If the area to be affected is relatively small, it is likely that there will be a “nationwide permit” already issued that is applicable to the proposed activity, and preconstruction notification to the permitting authority may be required. Otherwise, an individual permit will be required, and that will take time. This should be considered by all parties before bidding. The owner and the contractor should understand that, even though a particular activity is permitted, responsibility to the government for compliance with all environmental impacts still rests with the permit holder. For example, the issuance of a § 404 permit does not authorize the taking of a species protected under the Endangered Species Act.

Wetlands

If the construction project includes an area to be excavated or filled that is marshy or saturated, with cattails, willows, etc., it may be a wetland under the federal CWA. If you plan to discharge pollutants or fill into such an area, a § 404 permit is needed. Even if your activity falls within the scope of a nationwide permit under the federal CWA, you still must notify the COE if
required by the permit involved. Also, if your project is in a municipality that has its own wetlands regulation, such as the City of Boulder, you must obtain a local permit as well.

**Construction Stormwater**

Construction sites that disturb areas of one acre or more must have a CDPS permit for stormwater runoff. In Colorado, the stormwater discharge permit system is administered by the CDPHE. If the project requires dewatering, a CDPS permit is needed as well.

**Fugitive Dust**

Dust is a normal part of construction projects. It is called “fugitive dust” and must be controlled. Construction projects must show compliance with National Ambient Air Quality Standards under the CAA, including standards for particulate matter. Filing of an Air Pollutant Emission Notice (APEN) with the Colorado Air Quality Control division is required except for land disturbance totaling less than 25 acres and lasting six months or less. An APEN and Application for Construction Permit from the CDPHE, Air Pollution Control Division is included in Exhibit B. For projects affecting a large area or disrupting the surface for an extended period of time, an air emissions permit may be required. Even where an APEN or permit is not required, fugitive dust from land clearing must be controlled except for small areas. Contractors must determine what dust suppression measures they must implement before bidding a job. Otherwise, construction costs may be higher than expected.

§ 13.3.7—Threatened And Endangered Species Habitat

The “spotted owl” controversy in the Pacific Northwest highlighted publicly the complex legal process to protect plants, fish, and wildlife from extinction. The Endangered Species Act (ESA) describes a national policy to conserve endangered or threatened species of fish, wildlife, and plants. Colorado has a similar statute.

The federal government has identified and “listed” endangered and threatened species along with their critical habitats. The Endangered Species Act prohibits “any person” from taking a listed species. A “taking” is broadly defined, and includes harming or harassing a listed species in any way. If a federal action is required, such as a § 404 permit or NPDES stormwater runoff permits, the ESA is automatically considered.

Construction projects that may impact listed species or their habitat require a thorough investigation by a qualified biologist as early as possible. If such a species is found at the construction site and individuals may be injured or killed during work, or their habitat is destroyed, work must stop until the requirements of the ESA are met.

§ 13.3.8—Demolition

Demolition is a frequent part of construction projects. It commonly results in adverse environmental impacts in a number of ways. For example, demolition and remodeling often involve buildings that contain asbestos products such as ceiling, insulation, and floor tile. If so, the asbestos must be removed and disposed of in strict compliance with federal and state standards by licensed asbestos remediation contractors. In any project involving demolition, an inspection for the presence of asbestos should be made by professionals who are trained to recog-
nize and analyze asbestos products. Demolition contractors should inquire about asbestos prior to its bid, inspect the structure to be demolished, and include suitable asbestos clauses in their contracts which define responsibilities for complying with applicable law.

PCBs also can be a problem during demolition. Although PCBs are typically found in electrical equipment, they have had other uses as well. For example, waste oil containing PCBs was sometimes used for gravel road application or in wood preservatives. Improper disposal of demolition materials containing PCBs can bring unexpected and unwelcome liability, even if a contractor has no knowledge of its presence.

§ 13.3.9—Lead-Based Paint

Lead-based paint presents a significant risk of lead exposure, particularly in construction, repair, renovation, and demolition projects where lead-based paint is present. Concern over lead exposure is reflected in several regulations issued by OSHA and EPA, as well as state and local agencies.

The Department of Housing and Urban Development has issued Lead-Based Paint Abatement Guidelines for public housing.\(^{157}\) Also, the Steel Structures Painting Council’s Industrial Lead Paint Removal Handbook provides guidance for lead abatement on tanks, bridges, and other steel structures painted with lead-based paint.\(^{158}\) Construction contractors must understand the requirements contained in these regulations and guidelines and have procedures in place to protect workers and the environment from lead.

The adverse effects of lead on human health and the environment are well established and well known. Lead enters the body either through inhalation or ingestion. In construction, inhalation of lead dust and fumes occurs with grinding, welding, and torch cutting during repair, dismantling, and demolition work involving lead-painted surfaces (e.g., bridges, steel tanks, and building renovation and demolition). Abrasive blasting of lead-painted structures produces some of the highest worker exposures to airborne lead. Lead particles can be unintentionally swallowed if eating, drinking, or tobacco use occurs in work areas where lead is present. It is also particularly important to remove any protective clothing and wash after working around lead.

Lead poisoning can occur from both short-term exposure to very high levels of lead and from long-term exposure to low levels over time. Lead accumulates in the blood, bones, and other organs. Lead can be slowly released from the bones over time to cause health effects. Increased lead levels in the blood indicate lead exposure and buildup in the body.\(^{159}\)

The OSHA standard covering lead exposure in construction work is found in 29 C.F.R. § 1926.62. The standard applies to all construction work where employees may be exposed to lead. Significant requirements imposed upon contractors include:

- a Permissible Exposure Limit (PEL) of 50 ug/m\(^3\) for an 8 hour period;
- air monitoring to determine that the airborne lead concentration has not exceed the Action Level or the PEL;
• protection of employees during air monitoring;
• engineering and administrative controls, or respiratory protection for workers exposed above the PEL;
• a written compliance program to control workers’ lead exposure to below the PEL;
• protective clothing for workers exposed above the PEL or when there is a potential for eye and skin irritation;
• hygiene facilities and procedures where workers are exposed above the PEL without regard to the use of respirators;
• medical surveillance for employees exposed above the action level;
• medical removal protection for workers over-exposed to lead;
• information and training for employees who may be exposed to lead;
• warning signs where workers are exposed above the PEL; and
• recordkeeping by employers of lead monitoring information and medical examinations.\textsuperscript{160}

Compliance with these requirements can be accomplished by the contractors through the development of a comprehensive worker protection plan that specifies the practices and procedures to be implemented to control worker exposure to lead. A written compliance program is required by the OSHA Construction Lead Standard.

Contractors must also prevent contamination of soils under and around construction projects involving lead in order to avoid potential CERCLA and RCRA liability for cleanup of contaminated soils. This can be accomplished by containing or capturing lead-containing debris through the use of containment structures, tarps, or vacuuming. The effectiveness of these measures can be assessed through pre- and post-construction soil sampling for lead.

Generally speaking, air emissions are only of concern on those projects that involve abrasive blasting of structures coated with lead-based paint. For these operations, it is necessary to control emissions by constructing enclosures around abrasive blasting operations. Ambient air monitoring for respirable suspended particulates (dust) and airborne lead may also be required. On projects where abrasive blasting is used, the CDPHE should be consulted on the requirements that must be fulfilled in order to comply with this standard.

Proper disposal of lead-containing material by all parties to the construction project is important. Scrap metal, even if it is coated with lead-based paint, is considered to be recycled material. It is therefore exempt from hazardous waste requirements of RCRA. Steel girders and piers coated with lead-based paint are typically transported to a salvage facility capable of handling lead-containing materials. Many contractors inform the salvage facility that girders and piers contain lead paint, and obtain a letter from the salvage facility acknowledging that the facility is aware that the structures contain lead and that the lead-containing structures will be handled properly and in accordance with applicable regulations. While this letter helps to protect the contractor as well as the owner of the lead-containing structures, it does not guarantee that the owner of the structure will not be liable in the event that structures are disposed of improperly. This is why one should deal with an established, well-run salvage facility to minimize any potential liability.
All lead-containing debris should be collected and stored in 55-gallon steel drums or other approved waste containers. The debris may include abrasive blasting grit, lead paint chips, material trapped by debris-catchers, and wash waters. This material should be tested at the end of the project to determine whether it is classified as a hazardous waste. If it meets RCRA criteria for Toxicity Characteristic Leaching Procedure (TCLP) lead (5 parts per million, leachable lead), the material is required to be transported and disposed of in accordance with EPA hazardous waste regulations.\textsuperscript{161}

\textbf{§ 13.3.10—Hazardous Materials Generally}

It is impossible to predict all the places that hazardous substances may be encountered at a construction site. Materials like asbestos and lead-based paint are relatively easy to detect, at least for trained professionals. But many substances such as solvents and pesticides may be hidden, either because they were intentionally deposited and concealed or because, over time, they were left unused and forgotten.

For example, many small farmers used DDT and related pesticides before their use was prohibited many years ago. Some abandoned supplies of pesticides on their property, and these supplies present a significant risk to owners and contractors when the site is bought for a construction project. This happened in Boulder County recently, where 3,500 tons of construction debris had to be transported to a Louisiana hazardous waste facility at a cost of over $1 million because it was contaminated with DDT from demolition activity. This problem also resulted in extensive and costly litigation between the owner and the contractor over responsibility for the removal and disposal costs. Proper pre-construction inspection and audit can minimize this risk, as well as appropriate contract clauses.

Many construction materials can become a hazardous waste if they must be disposed of rather than installed or consumed during the construction process. If such material is spilled or otherwise released apart from construction, it may also be regulated. For example, some cleaners contain solvents that are listed as hazardous wastes under CERCLA. If a 55-gallon drum overturns and the cleaner spills, there is a “release” and an unpermitted discharge that may require a formal remediation action. If only half of the cleaner is used, the storage of the barrel itself may constitute improper disposal of a listed substance under both CERCLA and RCRA.

\textbf{§ 13.4 • ENVIRONMENTAL AGENCIES THAT REGULATE CONSTRUCTION ACTIVITIES}

A myriad of federal, state, and local environmental agencies can become involved in a construction project, depending upon the circumstances. Agency roles are described in this section.

\textbf{§ 13.4.1—Federal Environmental Agencies}

Although other federal agencies also regulate specific environmental matters, the United States Environmental Protection Agency, the United States Army Corps of Engineers, and the
United States Occupational Safety and Health Administration are the three administrative agencies most likely to be involved in a construction project.

EPA is the primary federal agency that implements and enforces environmental protection legislation. EPA has responsibility for federal regulation under most of the statutes addressed in this Chapter. COE is the primary federal agency that administers permit regulations under § 404 of the CWA for discharge of dredged and fill material into wetlands, although EPA also plays an important role. OSHA is charged to protect worker safety and health under the Occupational Safety and Health Act. This includes setting and enforcing standards for exposure to hazardous substances and ensuring adequate communication of relevant health and safety information to the workers.

§ 13.4.2—State Environmental Agencies

The Colorado Department of Public Health and Environment is the primary environmental state agency in Colorado. CDPHE implements various federally delegated and state programs through its various divisions. The Colorado Water Quality Control Division administers water quality protection programs under the Colorado Water Quality Control Act. The Colorado Air Pollution Control Division implements air pollution programs under the Colorado Air Quality Control Act. The Hazardous Materials and Waste Management Division oversees requirements under RCRA and under the Uranium Mill Tailings Remedial Action Program. This Division also enforces permits and standards for handling, storage, treatment, and disposal of hazardous, solid, and infectious waste and radioactive material. Finally, CDPHE often cooperates with EPA during the study and cleanup of CERCLA sites.

The Colorado OPS is a part of the Colorado Department of Labor and Employment. It is charged with regulating underground storage tanks.

§ 13.4.3—Local Environmental Agencies

Counties and home rule cities often have their own environmental programs, either as part of a state program or in addition to state programs. (Other cities are regulated under state law.) These programs are significant because they can impose requirements for construction projects that exceed or differ from federal and state requirements. As described above, for example, the City of Boulder has implemented a wetlands ordinance that regulates wetlands too small to be subject to state or federal regulations. Local jurisdiction over environmental matters is sometimes unclear. Regardless, local ordinances should be carefully checked before undertaking a construction project.

§ 13.5 • PERMITS, REPORTING REQUIREMENTS, AND ENFORCEMENT OF ENVIRONMENTAL RULES

Environmental law contains several approaches to regulation that recur in otherwise separate statutes and rules that govern the construction industry. This section describes three such approaches: permits, reporting requirements, and enforcement approaches.
§ 13.5.1—Permits

Permits are a primary legal mechanism used by the government to protect the environment. A permit is a license. It allows the holder to perform certain activities, provided that the holder complies with the conditions of the permit. Failure to obtain a permit before commencing any such activity, or failure to comply with the permit conditions, can result in monetary penalties and even prison terms under egregious circumstances. At the very least, a construction project can be seriously delayed by a permit violation. Usually, the applicable statute specifies who bears the burden of obtaining a permit in a construction project. However, by contract provision, the owner may seek to impose responsibility for obtaining permits upon the contractor. Some environmental laws allow indemnification but not a transfer of responsibility from an owner or operator of a facility.¹⁶⁸

The processing time for a permit can be significant to a construction project, particularly if the potential for adverse environmental impact is great. Any construction project must include planning and scheduling to allow for application processing and issuance of necessary permits.

§ 13.5.2—Reporting Requirements

Many environmental statutes and regulations contain strict reporting requirements, particularly when a release of a hazardous substance has occurred. Regulatory agencies must be notified within a specific time frame. The penalties for failure to report are usually substantial fines.

Under the RCRA UST program, for example, a release of a petroleum product into the soil and groundwater must be reported to EPA and to the State Oil Inspector. Releases of substantial amounts of hazardous substances must be reported to the National Response Center, a Coast Guard entity, under CERCLA, and to the State Emergency Planner or Commissioner and others under the Emergency Planning and Community Right to Know Act.

Even a proposed act may require reporting. For example, discharge of fill material under a § 404 nationwide permit may be required to be reported to the COE before the discharge. Again, failure to report these matters to the proper agency can result in significant sanctions and may delay the construction project.

It is sometimes ambiguous as to who must report, although some statutes are clear.¹⁶⁹ The statutes and associated regulations must be checked carefully to answer this question. This often must take place under considerable time pressure.

Finally, and unfortunately, reporting requirements for material spills are typically much more ambiguous than one would expect. That problem is coupled with short deadlines for reporting that often do not allow time for a detailed analysis of reporting obligations. Finally, a failure to report, or even a delayed report, creates substantial adverse publicity. The construction manager must be prepared to deal with these requirements before a release occurs.
§ 13.5.3—Enforcement

Typically, an agency charged with administering an environmental protection program is also charged with enforcing that program. Sanctions can be as limited as a small delay in a project while a necessary permit is obtained, or as onerous as large mandatory fines, or, in exceptional cases, prison terms.

A common enforcement tool for environmental agencies is the administrative order. Under a particular statutory scheme, an agency will have the power to issue a unilateral, written order requiring that the recipient owner or contractor typically do something, such as to clean up a spill, or stop doing something, such as to terminate an activity that is causing a release. Usually, fines will be assessed. Administrative orders take many forms, and are often the subject of negotiation with an agency.

For example, if there has been a release of a hazardous substance, EPA may issue a “Section 106 Order” under CERCLA to abate dangers or threats of dangers from a release. This type of order compels responsible parties under § 107(a) of CERCLA to clean up the spill. The specific method of cleanup, the timetable, and the monitoring requirements usually can be based upon input from the respondents. This negotiated approach can prove helpful in minimizing the impact on a construction project when an environmental incident has occurred.

Civil and Criminal Penalties

As part of its enforcement authority, a regulatory agency often has the authority to seek civil or criminal penalties. These penalties often are pursued first on an administrative level, and then enforced in court. The United States Department of Justice or the Colorado Attorney General’s office are often involved. These sanctions can be frightening. Examples are outlined in Exhibit 13C to this Chapter.

Civil Liability

Environmental risks on construction projects are not limited to possible sanctions from agency enforcement. Liability may exist to agencies for their cleanup costs, to other parties to a contract for damages, and even to third parties who are not involved in the construction project.

The liabilities most familiar to those involved in construction are those arising out of contract. Typically, construction contracts include provisions that may allocate risk associated with an environmental incident. For example, a construction contract between an owner and contractor may provide for indemnification of the owner for environmental fines caused by the contractor. These include clauses for differing site conditions, site inspection, no damages for delay, hazardous materials, and indemnity. These contract provisions can visit significant liability upon the unwary party.

If a contractor is an owner, operator, generator, or transporter of a hazardous substance, it can be a responsible party under CERCLA, exposing it to significant remediation cost liability. For example, in Kaiser Aluminum & Chemical Corp. v. Catellus Development Corp., the Ninth Circuit Court of Appeals declined to dismiss a cost recovery action against a contractor for remediation costs where the contractor had excavated and graded a site. The site had been used as a
ship building plant 40 years earlier, which had caused the soil to become contaminated with paint thinner, asbestos, petroleum, and lead. The court found that the contractor, by moving these old materials around and commingling them with clean site soils, could be deemed an “operator” at the time of disposal and a “transporter,” and thus potentially liable under CERCLA. Excavating contaminated soil and placing on uncontaminated soil at the same site is all that is necessary to be a PRP.

**Common Law**

Parties to a construction project can incur environmental liability outside contracts or statutes. Over the years, the courts have evolved and expanded a body of “common law.” These theories have been used with some success, particularly by third parties, for damages resulting from environmental contamination.

Under the doctrine of negligence, a person has a duty to exercise reasonable care to protect others from unreasonable risk or harm. Negligence has formed the basis of recovery for failure to use reasonable care in the handling and disposal of hazardous materials.

An action for nuisance is premised upon an interference with a person’s use and enjoyment of its property. This theory has been used to recover for environmental damages.

The doctrine of trespass has also been used as a common law theory of recovery when hazardous materials are deposited on a person’s property, either on the surface or below.

The courts sometimes will hold a defendant strictly liable, that is, liable irrespective of intent or standard of care, for certain activities that are ultrahazardous. In *City of Northglenn v. Chevron U.S.A.*, the court held storage of gasoline in an underground storage tank at a neighborhood service station was an ultrahazardous activity and formed the basis for strict liability to adjacent property owners seeking to recover damages from gasoline leakage and migration underground to adjacent properties.

**Officer and Director Liability**

The parties to a construction project often are corporate entities rather than individuals. Shareholders of corporations are ordinarily protected from liability for the acts of the corporation by the so-called “corporate veil.” Traditionally, the personal liability of officers and directors is also limited, unless they violate their statutory duties and responsibilities.

The corporate veil may be disregarded and shareholders as well as officers and directors may be held individually liable where: (1) “the stockholders’ disregard of the corporate entity made it a mere instrumentality . . . of their own affairs”; (2) “there is such unity of interest and ownership that the separate personalities of the corporation and the owners no longer exist”; and (3) “to adhere to the doctrine of corporate entity would promote injustice or protect fraud.” Thus, where an officer and director of a construction corporation was not a shareholder but ran the companies and dominated the two shareholders (his wife and son) as to corporate policy, activities, and funds, the corporate veil was disregarded and the individual was held personally liable.
Absent failure to meet corporate formalities or fraud and other corporate misconduct, individuals are insulated from the corporation’s environmental liability. The Supreme Court, in *United States v. Bestfoods*,¹⁸² has clarified the application of these traditional corporate and shareholder liability principles in the CERCLA context.¹⁸³

As a result, individuals, especially those with authority and responsibility, as well as the corporations themselves, must act responsibly when it comes to environmental matters. Reasonable steps include: (1) developing a sound corporate environmental policy — not just window dressing; (2) instituting environmental education and training programs for all key personnel; (3) developing environmental procedures and checks, including a comprehensive reporting system, to ensure compliance with all applicable laws; and (4) conducting regular environmental compliance audits of the company’s operations.

**Real Estate Transactions**

Many of the environmental risks discussed in this Chapter derive from the ownership of real property. Developers and companies contemplating the acquisition of property for construction projects therefore must be cognizant of environmental risks. Their potential liability can extend far beyond the value of the land.

Again, CERCLA is the most critical statute for owners of real property. As described above, CERCLA imposes strict, retroactive, and joint and several liability on owners of contaminated property, without proof of causation of the contamination.¹⁸⁴

CERCLA contains an “innocent landowner” defense that can apply when the release and the harm were caused solely by a third party who is not an agent or employee of the owner, and when the only “contractual relationship” between the third party and the owner is in the purchase of the property after the disposal. This defense is narrow, however, because the owner must show that it was an “innocent” purchaser. To do so, the owner must establish that, at the time of acquisition, the owner “did not know and had no reason to know that hazardous substances . . . was disposed of on the [property].”¹⁸⁵ The owner “must demonstrate . . . that on or before the [owner] acquired the facility, the [owner] carried out all appropriate inquiries, as provided in [42 U.S.C. § 9601(35)(B)(ii) and (iv)], into the previous ownership and uses of the facility in accordance with generally accepted good commercial and customary standards and practices.”¹⁸⁶ The owner must also show that it exerted due care with respect to the hazardous substances, and that it took precautions against foreseeable acts or omissions of third parties.¹⁸⁷

The cases illustrate a landowner’s liability. For example, in *Tanglewood East Homeowners v. Charles-Thomas, Inc.*,¹⁸⁸ a federal appeals court affirmed the trial court’s denial of a motion to dismiss the CERCLA claims of residents of a subdivision against real estate agents, developers, lenders, and real estate agents involved in the subdivision. The subdivision was contaminated with highly toxic waste from an historic wood treatment plant. And, in *New York v. Shore Realty Corporation*,¹⁸⁹ owners were found liable for multi-million dollar remediation costs of a hazardous waste site even though they had not contributed to the contamination.
The best advice for purchasers of property is to make sure that a thorough environmental site assessment is made of the property, with the closing contingent upon a favorable report. Warranty and indemnity clauses can also be negotiated to provide insurance of a sort, although the value of these provisions depends upon the resources and solvency of the sellers. In appropriate circumstances, commercial insurance policies are available against pollution risk. Again, environmental liability under CERCLA extends to all remediation costs, and these can often exceed the value of the property itself.

**Surety Liability**

Contractors are increasingly at risk for cleanup of hazardous substances at a construction site, even if the presence of the substances is unknown to the contractor, and even if the contractor did not contribute to the original placement of the substances. Sureties on payment and performance bonds will be asked to share some of the liability of their contractor principal.

A surety’s liability is generally coincident with that of its principal. Under standard bond language, when a contractor is in default a surety is obligated to complete the contractor’s work, finance the contractor to complete the work, or hire another contractor (or the owner) to complete the work. Generally, the penal amount of the bond is the limit of a surety’s liability. Query whether these obligations include the obligation to clean up contamination at the construction site? The answer is not clear, although a strong argument can be made that the surety must do so, at least up to the amount of the bond. If the contractor’s contract with the owner has a broad indemnification clause, arguably the surety would be liable for indemnification of the owner’s expenses related to environmental problems. If a surety does undertake to complete a job on a site already having hazardous substances, has it incurred liability as an operator? Also, if a surety does take over a remediation effort, it incurs additional risks associated with potential problems at the ultimate disposal site.

Amendments to CERCLA in 1996 address the liability of lenders, sureties, and fiduciaries. These provisions must be reviewed carefully to minimize risks.

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**§ 13.6 • ENVIRONMENTAL INCIDENTS**

Despite care and preventative measures, environmental incidents will occur. When they do, they must be recognized immediately as environmental threats and the response must be appropriate, both from a health and safety perspective and from a project standpoint. In this way, all parties to a construction project can minimize injury and economic damages.

**§ 13.6.1—Emergency Response**

Whenever the health or safety of people is threatened, or when it is clear that significant environmental impact is imminent, the construction manager must take emergency measures to ensure that the injury is minimized and that the threat of continued damage is eliminated. It is not always clear whether there is any damage or even a threat. Certainly a physical injury or unmis-
takable physical evidence like caustic fumes is a significant problem. However, the discovery of slightly discolored subsoil might not be so clear.

OSHA requires an employer to prepare an emergency action plan as a contingency for a release of a hazardous substance. This plan must be communicated to employees. In the event of an incident, the first step is to stop any activity that in any way contributes to the problem. OSHA requires that, in the event of the discovery or release of a hazardous material, an employer must elect to evacuate its employees, or have them participate in response and corrective measures.

If employees participate in a response to an emergency, their activities are governed by OSHA regulations. An employer that elects employee participation must have an “Emergency Response Plan” in place and must ensure that employees responding to an emergency are trained in accordance with their responsibilities during a response. Lines of authority, responsibility and procedural requirements are also set out in OSHA regulations.

The nature of an incident will largely determine a contractor’s response choice. Some incidents, such as a small release of diesel fuel onto the ground, may not be inherently dangerous and may not require special training or licensing to clean up. Other incidents, such as the release of PCBs or the discharge of oil into a water course, are dangerous and require special response expertise. General considerations include the nature of the incident, the associated risk, the location, and the kind of response required by law. Even if a contractor undertakes a response to an incident that does not pose an imminent threat, or that does not require special training, the incident may still require compliance with statutes and regulations, such as reporting.

The contractor or the owner must report the incident to the necessary agencies and authorities immediately, and arrange for final cleanup and disposal. Specific contract matters such as notice and work suspensions must also be addressed.

§ 13.6.2—Environmental Reporting

It is usually necessary to report an environmental incident immediately to the government. Under applicable reporting statutes, it is usually an owner, operator, or “person in charge” who must report. Sanctions attach for failure to report, or failure to report within the time periods in applicable statutes. Deciding whether one must report, what must be reported, and when are often difficult legal decisions, especially when an emergency is still occurring. Often an incident will be governed by more than one statute and will require multiple reporting. Thus, the owner and contractor at a construction site have considerable work to do, and very quickly, if a release occurs. If a hazardous substance is involved in an incident, CERCLA requires:

Any person in charge of a . . . facility shall, as soon as he has knowledge of any release (other than a federally permitted release) of a hazardous substance from such . . . facility in quantities equal to or greater than those determined pursuant to Section 9602 of this title, immediately notify the National Response Center. . . .
The “person in charge” can be both an individual and a corporation; it can include an “owner” or an “operator” of a site who is involved in daily site operations, or employees at supervisory levels. Several entities at a construction site might be affected. A “reportable quantity” of a hazardous substance under CERCLA is one pound unless a greater amount is set by the EPA.

The CERCLA report must be made immediately to the National Response Center in Washington, D.C. In addition, ordinarily CDPHE should also be notified.

The Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted as part of the 1986 amendments to CERCLA. It expands reporting requirements under CERCLA. Under EPCRA, immediate notice by the owner or operator of a facility must be given to state and local emergency personnel (in addition to the National Response Center) of a release or threatened release of listed “extremely hazardous substances” as well as CERCLA hazardous substances. The report must be made immediately to: (1) the Community Emergency Coordinator for the Local Emergency Planning Committee in areas likely to be affected by the release; (2) the State Emergency Planning Commission; and (3) a 911 emergency number or an operator in the absence of such a number. Much of the information described above must be given immediately, although there can be no delay to obtain information not immediately available. Missing or corrected information must be supplied as soon as possible thereafter.

The reporting requirement of the CWA states:

Any person in charge of . . . an onshore facility . . . shall, as soon as he has knowledge of any discharge of oil or a hazardous substance [in quantities as may be harmful] from such . . . facility in violation of paragraph (3) of this subsection, immediately notify the appropriate agency of the United States Government of such discharge.

Here, the persons who occupy positions of “responsibility and power,” with respect to a facility, are not everyone who might merely have knowledge of a discharge. Reports of a discharge of oil or hazardous substances into or upon navigable waters of the U.S. must be made to the National Response Center, or to the U.S. Coast Guard if it is not practicable to report to the National Response Center. The Colorado Water Quality Control Act also contains a reporting requirement for contamination of water.

The primary reporting requirement for construction-related incidents under TSCA concerns PCBs. The “responsible party,” the owner of PCB equipment, facility, or other source of PCBs, or the owner’s designated agent (such as a foreman or supervisor for the equipment or facility), must report any discharge of PCBs at concentrations of 50 ppm or greater to the National Response Center and to an EPA Regional Office, Pesticides and Toxic Substances Branch, for guidance within 24 hours of the release.

Owners and operators of “treatment, storage and disposal facilities” must report releases and other incidents involving hazardous wastes to the National Response Center. In the event
of a discharge of a hazardous waste during transportation, a “transporter” must notify local authorities such as fire and police departments as soon as practicable, but no later than 12 hours, after the incident occurs when there has been severe injury or death, extensive property damage, or other imminent threat. There are also reporting requirements under the Department of Transportation regulations for a transportation incident involving hazardous waste.

Under the CAA, asbestos removal activities require notification to the CDPHE prior to removal activities. Asbestos is a hazardous substance under CERCLA and appropriate remedial action, including notification to the National Response Center, must be taken for an environmental incident involving asbestos in significant amount.

§ 13.6.3—Contractual Notice And Other Requirements

An environmental incident can be troublesome even if all regulatory requirements are met. The cost of the project will increase as a result of remediation actions required and the disruption of construction activities. In addition, the construction schedule likely will be adversely affected, leading to delay damages. These additional costs must be allocated among the parties to a project, and the parties can and should take steps to preserve their rights.

After emergency measures have been taken and a contaminant and remediation plan implemented, notice of the incident may be usually required under the contracts that govern the work. Typically, a construction contract requires a notice of suspension of work and a notice of claim. These normally require that a contractor notify the owner of circumstances affecting the project or giving rise to a claim within a prescribed period of time, so that the owner has an opportunity to decide how to proceed. Failure to give the requisite notice can result in a loss of a claim.

Most contractors and owners carry comprehensive general liability insurance, some carry builder’s risk insurance and, others, infrequently, carry pollution insurance. These insurance policies also contain strict notice provisions. Although specific policies may not cover injury from an environmental incident, written notice still should be given to each insurer as soon as possible in order to preserve any coverage or defense obligations which may exist.

A surety may also have some responsibility for an environmental incident if the impact is large enough to place the contractor at economic risk, or otherwise unable to perform. Therefore, the contractor and the owner should give written notice of an incident to the surety as soon as possible. That will allow the surety to participate if it decides to, and preserve any rights under the bond.

§ 13.6.4—Remediation

Environmental remediation and corrective actions can be complicated undertakings, involving the owner or operator of a facility, consultants, the remediation contractor, government agencies, and attorneys. The site must be evaluated carefully to identify the nature and extent of the problem (e.g., identify the contaminant, the concentrations, and the volume of contaminated material). Sorting out responsibility among the parties for the cleanup costs and liability for a
long-term remediation project is also very complex. Liability among owners, operators, generators, and transporters (potentially all of the parties to a construction project), if not negotiated, can be the result of a private cost recovery action.

A remediation contractor under contract to the government generally is not liable for a release or a threatened release unless that contractor is negligent, grossly negligent, or intentionally causes the release.221 A provision of CERCLA allows government indemnification of a remediation contractor for negligence which results in a release.222

Remediation projects are often the subject of an administrative order under which the government identifies the responsible parties, reviews the contamination at the site, establishes cleanup standards, and sets a timetable for compliance. The cleanup procedures must comply with the National Contingency Plan.223 These requirements are complex and subject to modification, approval, and other specific directions under administrative orders or agreements.

For a long-term, permanent remedy under CERCLA, the first step after the discovery of a release or threatened release and reporting is a preliminary assessment to identify the nature of the release and its source, and the risk to the environment and to public health.224 Next, the responding party must perform a “scoping” analysis to assure that the proposed response is appropriate for the specific contaminated site.225 After scoping, a remedial investigation is required to develop and evaluate remedial alternatives.226 This includes identification of “applicable or relevant and appropriate requirements” (ARARs) that are cleanup standards.227 A concurrent feasibility study may also be required to develop and evaluate alternative cleanup goals and technologies.228 The nine criteria for selection of the final cleanup plan are: overall protection of human health and the environment; compliance with ARARs; long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; cost; state acceptance; and community acceptance.229 The final cleanup plan must also be presented to the public for comment in the context of a community relations program.230

§ 13.7 • ALLOCATION OF RISK: ADJUSTING CONTRACTUAL RELATIONSHIPS TO ALLOCATE ENVIRONMENTAL LIABILITIES

The risks associated with an environmental incident at a construction site are uncertain but potentially substantial. The ultimate impact of these risks can be additional project costs, construction delays and cleanup costs, and liability associated with long-term disposal. The contractual relationships among the parties to a construction project govern the allocation of these risks among themselves.

Contract language is the primary source of such risk allocation, but many construction contracts do not contemplate potential liability for environmental incidents. Those that do, for the most part, address only a few risks, such as those associated with PCBs or asbestos. Well-drafted contract provisions should define and allocate most of the risks before an environmental problem
arises so that the parties are clear on their relative rights and responsibility when an incident occurs. Such provisions may also reduce dispute resolution costs after the project has been completed.

§ 13.7.1—Owners

The owner’s objectives in a construction project are to design a facility for a specific property, and have it constructed within a specific time frame at a known cost. Many business decisions are based upon these parameters. If the objectives are not met because of an environmental incident, the owner’s business can be severely disrupted. For example, the discovery of a hazardous substance during excavation for a major structure in Colorado would require that all work in the affected area be stopped, site evaluations made, and remediation performed, all under the auspices of the CDPHE and the EPA. This takes time. Work on other parts of the site, even if not stopped, will be affected and the CPM schedule would likely change dramatically.

The effect of this upon an owner can be devastating. Overall project costs can increase, the project schedule can be delayed, work sequencing changed, and the ultimate use of the structure can be postponed, perhaps requiring the use of other facilities and even loss of business.

Under most environmental statutes, the owner of a site at which an environmental incident occurs is one of the primary potentially responsible parties for remediation liability. The value of the property itself will probably be affected as well.

The owner should recognize these issues from the very beginning of the project. There is a great opportunity to do appropriate investigation during property acquisition. The purchase/sale contract for real property should require environmental review and provide for contingencies if problems are discovered. That way, environmental problems are not as likely to come up during construction.

During the design process, an owner can require warranties and indemnification from the general contractor to ensure compliance with environmental regulations during construction and after completion. If the potential risk of environmental problems is high enough, the owner should retain an environmental consultant. In addition, pollution insurance may be available to cover a variety of risks.

§ 13.7.2—Design Professionals

Although historically insulated from liability in construction disputes between owners and contractors, design professionals are no longer protected. In most instances, a design professional has only a common law duty to exercise the same degree of skill and care as would other design professionals under similar circumstances. However, when it comes to environmental risk, all bets may be off.

The greatest exposure of design professionals to environmental risk is under CERCLA. If a design professional on a particular project can be classified as a potentially responsible party, it could be held strictly, and jointly and severally, liable for all cleanup costs, either to the government or to a private party which initiates the cleanup.231
A design professional typically is not the owner of a site, but the design professional can be classified as an operator to the extent that it has the requisite control over the site, directing movement of materials, for example. More likely, however, is the prospect that a design professional may be classified as someone who “arranges” for transportation of hazardous wastes. If the plans and specifications require removal or disposal of soil or construction debris that is found to be contaminated with a hazardous substance, the design professional arguably could be a PRP.

Design professionals can take several steps to minimize their risk. They can include contract provisions in the contract with the owner, and in the contract between the owner and the contractor, specifically excluding responsibility for hazardous materials and requiring indemnification from the owner and contractor for any claims brought by government or private parties. The design scope of work might avoid specifying disposal of excavation materials. Another preventative measure is to ensure that an appropriate environmental evaluation is performed prior to any site work. This could be included as a design contract requirement.

§ 13.7.3—Contractors And Subcontractors

Construction contractors and subcontractors are on the front lines when it comes to unknown environmental hazards at the job site. Irrespective of risk allocation clauses in their contracts, contractors may be held directly liable to the government or to third parties for all the cleanup costs. Like design professionals, if the contractor is liable under CERCLA, its liability is joint and several, strict, and even retroactive.

Depending on its responsibilities, a contractor can be held to be an “operator” of a site, if it has the authority to control the cause of the contamination at the time of the release. A contractor can also be deemed to have disposed of a hazardous substance by moving contaminated soil around the site during excavation and grading. And, a contractor can be regarded as a transporter under CERCLA even if it moves the contaminated material from one part of the site to another. In the *Kaiser Aluminum* case, an excavation contractor was found to fit all three categories.

Again, a contractor may take steps to remediate liability. Pre-bid measures include site inspection for signs of potential problems, and inquiry to the owner as to whether an environmental inspection has been made at the site. If one has not been made, the contractor should request one. Review of any pre-bid documents (like the soils report and the plans and specifications) may also be helpful. Contract clauses clearly allocating environmental liability will at least spell out what a contractor’s risks are and, if favorably drafted, can help avoid or minimize much of the potential liability.

§ 13.7.4—Sureties

A surety’s liability is commensurate with that of its principal. Thus, a surety’s obligations under a bond may include costs of dealing with an environmental incident should the construction contract be interpreted to allocate those risks to the contractor. If the change in the contractor’s scope of work is within the completion of the construction contract, a surety’s obligation is not discharged if the bond permits changes without notice to the surety.
There are some ways for sureties to reduce their exposure. For example, they can require that their principals include express provisions in their construction contracts allocating liability for hazardous materials to others, providing indemnification from others, and allowing for suspension or termination of performance. Sureties can also include provisions in their bonds excluding environmental remediation from bond coverage. Prior to very careful deliberations, sureties should be wary of opportunities to become active participants in, or exercise control over, construction projects associated with hazardous materials.

§ 13.7.5—Other Parties

Other parties to a construction project can also incur some liability for an environmental incident at a job site, especially if it involves hazardous materials. Prior owners or operators of the property, although not directly involved in construction, may nevertheless be implicated under CERCLA and under a contract for sale of the property if there are risk allocation provisions which survive the closing. Lenders may also inadvertently become involved, depending upon their participation in the management and control of the project.

§ 13.7.6—Construction Contract Clauses

The fundamental parts of a construction contract are its scope of work, the contract amount, and the schedule. In addition, a good contract provides for contingencies such as changes and disputes, and will allocate risks which may not be fully known. There is no fully standardized language, and it is probably impossible to write enough intelligible words to address every situation which may arise during or after construction. Thus, construction contracts, as a whole, are inherently ambiguous, particularly when allocating risk.

Even if a contract is perfectly clear on a particular issue, circumstances extrinsic to the contract can modify the language or change its meaning. For example, many construction contracts contain written notice provisions for changes in the scope of work. The purpose of written notice is to protect both the contractor and the owner from later disputes over such things as the scope of the change and responsibility for the additional costs. Nevertheless, the parties can modify this provision merely by their conduct and without a written amendment to the contract, notwithstanding a contract clause which requires that all modifications be in writing.239

Even well-drafted construction contracts have uncertainty as to risk. When a contract fails to provide for specific contingencies such as environmental incidents, or where the provisions are incomplete or unclear, the parties do not have full agreement as to responsibility for these contingencies when they arise. For the owner, this can mean that it pays more for a project than it intends. For the contractor, it may inadvertently agree to incur more risk than is justified by its compensation. In Colorado, if a contract does not provide for an unforeseen contingency, the contractor may assume the risk.240

Because of the potential for huge cleanup costs beyond the value of the contract, the parties should attempt to reach a clear agreement on risk allocation for environmental problems. The most basic way to do this is in the construction contract. Many contract forms are used in nonpublic construction, most of which do not adequately deal with environmental risk. Even standard forms such as the pre-1997 American Institute of Architects (AIA) documents may be deficient.
Some clauses which do not expressly address environmental liability may nevertheless apply, albeit with great uncertainty. Other clauses attempt to address the question, but not in a complete or sufficient way. Some, such as the EJCDC contract, are very thorough for hazardous materials, but completely ignore other environmental risks.

A well-drafted environmental liability contract provision should allocate the risk for an incident and define the rights, obligations, and procedures to be followed in response. If it does not, other standard clauses will govern.

Several examples of construction contract environmental clauses are described in Exhibit 13D to this Chapter.

§ 13.7.7—Public Contracts

Public contracts also raise environmental issues. Federal government contracts are governed by the Federal Acquisition Regulations (FARs).241 The same considerations apply to public contract clauses as to private construction contracts, although the contract language differs somewhat and applicable case law may affect the outcome for a specific dispute.

§ 13.7.8—Liability To Third Parties

Even though parties to a construction project may allocate responsibility for environmental liability between or among themselves, these provisions may not be binding on third parties, either private or governmental, who undertake remediation of a construction site.242 Under CERCLA, liability is strict, and joint and several. Thus, if a contractor can be classified as a PRP, it may be liable to a third party for cleanup costs, notwithstanding any agreement, such as § 4.5 of the EJCDC General Conditions, to the contrary. If the owner is insolvent, the contractor may be on the hook.

§ 13.8 • MINIMIZING ENVIRONMENTAL LIABILITIES THROUGH INVESTIGATION

Minimizing environmental liability on a construction project requires: (1) taking all steps possible to evaluate the potential for environmental hazards for a particular project; (2) allocating the risks by suitable contract provisions; (3) ensuring that any activity which will impact the environment is in compliance with all legal requirements, including necessary permits; (4) advance preparation for response to environmental incidents; and (5) timely and appropriate response to an incident. The measures required will, to some extent, depend upon a particular party’s role in the project. For example, it is more likely that an owner rather than a contractor or design professional will arrange for an environmental audit of the site. Nevertheless, such measures will inure to everyone’s benefit, so it is important that all parties understand what should be done.
§ 13.8.1—Environmental Evaluations

Liabilities arise from environmental contamination in three primary arenas: (1) the environmental condition of the location of the project before the project begins; (2) contamination caused on-site during construction; and (3) liabilities for the off-site disposal of construction-related debris and waste. The primary way of dealing with these potential liabilities is to perform audits and studies of the environmental conditions and the compliance practices of the project.

Environmental Assessment Report

It is routine for the property owner to have obtained a pre-purchase environmental assessment of the property. These assessments are conducted under ASTM standard E1527-05 and EPA regulations. It is not routine for this assessment to be part of the bid documents. The contractor should ask to see the document prior to bidding if it is not provided. If the owner or architect refuses to provide the report or it does not exist, the contractor should be very cautious and should consider obtaining its own environmental assessment as a condition of the bid. Liability under the environmental statutes easily extends to entities such as contractors that exercise some degree of control over contaminated properties. Ignorance is no defense.

Another quite obvious concern is potential health and safety issues regarding the contractor’s employees should they be working around contamination and possible hazardous conditions. Reviewing the environmental assessment report is really the best avenue available to the contractor to understand and manage these potential risks.

Compliance Audits and Reports

The purpose of an environmental compliance audit is to review the operations, practices, and facilities of an owner of property and/or the contractor to evaluate the potential for environmental liability risk and to ensure compliance with applicable environmental regulations. This audit is a critical proposition for all involved, as the consequences of noncompliance with environmental regulations is an extraordinarily serious matter from both a civil and criminal point of view.

The results of an audit are used to evaluate environmental compliance. In addition, these audits can be used to: identify environmental risks; coordinate project performance; make corrections to the project; obtain more favorable insurance rates; provide information for loan transactions; provide information for a permit; or allocate responsibilities for environmental liabilities. Some matters to consider if performing a compliance audit follow.

Attorney/Client Privilege

Always consider the possibility of liability or government enforcement litigation. As you cannot predict the outcome or findings of the compliance audit, the use of counsel may allow for the protection of sensitive materials. Counsel may also be useful in the evaluation of the project objectives, in avoiding problems in the conduct of the audit, and in project completion.

One tricky question that frequently arises is whether discovered conditions require reports to government agencies or third parties. The more serious the problem, the clearer the answer to this question. Conditions that violate regulations or create imminent or substantial endangerment
to human health and the environment will require reports. Evidence of spills or releases of pollutants and contaminants, depending on the severity, may require reports. Each condition must be considered on a case-by-case basis.

**Elements of the Compliance Audit**

There are hundreds of lists of what to look for during an environmental compliance audit. The more exhaustive the list, the more likely that some of the effort is unnecessary or is too expensive. Audits should be focused intelligently in order to maximize efficiency and limit cost. The one thing that is very clear is that the point of a compliance audit is to go beyond the environmental assessment and look at the conditions and operations of the project in detail.

The specific reason for performing a compliance audit must be established. All parties need to establish the objectives up front, rather than simply purchasing a cookbook effort and wondering if it answered the questions that were important to the project. Before starting an audit, everyone needs to understand how the report will be used, to whom it will be distributed, and who is responsible for making ultimate decisions on the findings and implementation of corrective actions.

Using a phased approach will be most economical; however, it will take longer. The first phase is to initially screen the property either visually or by reviewing available records. As a second phase, you evaluate whether physical samples are necessary to address whether contamination is present. Counsel and/or the consultant performing the work will create a sampling plan to address the identified specific issues. Resist the temptation to go on unfocused fishing trips taking lots of samples and drilling lots of monitoring wells. Keep in mind you have to understand the results, not just obtain the lab report. The sampling plan should be designed so that it can be expanded based on initial results.

**Worry About Unintended Impacts of the Compliance Audit Effort**

Common worries about unintended impacts of a compliance audit include:

1) Will hazardous materials be released during sampling?
2) Might there be injury to occupants of the target property or nearby property during the audit?
3) Is there potential for injury to the auditors?
4) Public relations or employee relations concerns should be addressed. It is common for the auditors to wear protective clothing. This can be awkward to explain to people looking on who are not protected.
5) Damage to property during sampling efforts.

**Scope of Work**

This is the key document for the protection of all parties in either compliance audits or cleanup projects. This document:
1) Defines the scope of the project — specifically describing what work will be performed, project schedule, and work conditions.
2) Defines specific responsibilities for the various aspects of preparations for the project and its conduct. Who obtains necessary permits? Who is responsible for health and safety on the project? Who is responsible for disposal of wastes? Who is responsible for obtained utility location information?
3) Public and employee relations issues.
4) Specific goals and objectives of the audit.
5) Standards for determination of project completion.
6) Type and distribution of reports.
7) Procedure for changes in scope.
8) Specific personnel assigned to the project.
9) Responsibility for emergency procedures.
10) Responsibility for any necessary reports.

Minimizing the Risk of Compliance Audits to Client and Auditor

Once you have decided to perform an audit it is appropriate to start thinking about how things go wrong. First, always consider the possibility of having the compliance audit run through counsel in order to try to establish attorney work product privilege. This may be very important later, especially if it is likely that problems will be found.

Second, it is important to have established the procedures by which findings will be documented. Specifically, note visual versus physical inspection techniques. Include in the scope of work all sampling plans. Chain of custody and detailed field notes should be used for every sample. All results, including all lab reports, should be included in the report.

Photographs should be taken to establish both general and specific conditions. Photographs should also be used to document sampling programs. If required by the client, confidentiality or non-disclosure agreements may be signed in order to facilitate photography or the acquisition of any other data. Photographs and maps should be included in the report.

Two items should be avoided in compliance audits. First, do not address speculative regulatory issues. In other words, do not guess about conditions. A discovered contamination condition either is or is not in excess of applicable standards. The second item almost goes without saying. If the auditor does not have adequate expertise in a certain area, it should not be performing an audit in that area.

Lastly, be very specific in writing when defining the scope of work for compliance audits and audit reports. Note exactly what will be done and any conditions or limits imposed by the client. If the auditor is excluded from an area, no matter how small, it must be noted. Make certain that the client clearly understands the type of product it will receive. Be especially clear on whether recommendations for follow-up study or remedial work are to be made in the report. Restate all these points in the report.
It is perfectly acceptable for a client to limit the scope of the compliance audit. It may want only visual inspections, audits limited to asbestos or other specific conditions, and audits limited by time or cost. It is not necessary to describe the impact of these limitations on the scope of the audit. In other words, do not state these limitations in a judgmental fashion. Instead, specifically describe the limitation in the introductory section of the proposal and report detailing the scope of work.

The health and safety of the persons performing the compliance audit must be considered. All members of the audit team must have a level of training commensurate with the likely conditions to be found. For example, the person looking for asbestos needs to have asbestos training.

§ 13.8.2—Construction Documents

From a contractor’s perspective, the construction documents are the primary source of information about a construction project that it was to make an assessment of environmental risk. The contractor must completely review these documents to evaluate risks before submitting its bid or negotiating the final contract. These documents include the standard items such as the soils report, plans, specifications, and agreement, as well as additional documents, if they exist, such as environmental assessment reports or other reviews, whether part of the bid package or not.

Soils Report

Typically a ground-up project will include a soils report for site preparation and foundation work. While the purpose of such a report is not primarily to determine environmental conditions, there may be information in such reports (such as odors, soil discolorations or groundwater appearance) that indicates the presence of potential problems.

Plans and Specifications

If there are known environmental problems on a project site, they will likely be noted in the plans and specifications. Even if the scope of work description does not include work relating to any such conditions, a contractor’s risk may nevertheless be affected by their presence. For example, if the site plan shows an underground storage tank that is to be removed and disposed of by the owner, but near an excavation to be performed by the contractor, the contractor will be held to actual or constructive notice of the UST’s existence and liable for damages if the contractor’s work disturbs or damages the UST and causes a release requiring remediation. If the scope of work includes an environmental problem, the contractor must determine if it is qualified to perform such work, whether it must subcontract the work out to a qualified subcontractor, or whether it wants to become involved in that work at all.

The plans and specifications may be important for what they do not show as much as for what they actually depict. If hazardous material is eventually encountered where none was indicated, it likely constitutes a differing site condition for which responsibility normally is allocated under the relevant contract provision.
Contract Agreement

The proposed contract form for a project will define the scope of work and set forth the specific clauses which allocate liability for environmental hazards. A contractor should review these documents, to determine, first, if environmental remediation is included within the scope of work, and, second, how the risks of an unforeseen hazards are allocated. The parties must agree on how these risks are to be addressed.

Environmental Assessment Report

These days it is very likely that an environmental assessment of a construction site will have been made before the project is put out to bid. However, it is not necessarily the case that a report, if it exists, will be part of the construction documents or the bid package. If it does exist but is not provided, the contractor should ask to see it. If the owner or architect refuses to provide the report, the contractor should think twice about taking the work, or at least negotiate some very favorable risk allocation clauses, including indemnification. If the report is made available, it should be reviewed in detail so that the potential impact on the contractor’s work can be adequately assessed and the potential risk included in the contractor’s bid.

§ 13.8.3—Site Inspection

A visual site inspection prior to a bid will provide a contractor with additional information to assess environmental risk. The following conditions are examples that indicate the potential for environmental hazards:

- underground storage tanks
- piping in the ground
- above-ground storage tanks
- 55-gallon drums
- electrical transformers
- cans indicating contents of paint, solvent, etc.
- pesticide sacks or containers
- settling or sludge ponds
- wetlands/low boggy areas
- chemical odors
- waste storage areas
- dump sites
- discolored soil
- large variations in the color of vegetation
- sheens on surface water
- spoil piles
- stockpile areas
- rail loading areas
- evidence of industrial activity

The presence of any of these may indicate the need for further investigation.
§ 13.8.4—Training
Training programs can help employees to recognize environmental risks early and respond appropriately to incidents. Such training is particularly appropriate for the employees of the prime contractor. These are fundamental ways to reduce environmental risks. Topics to be considered include safety programs, environmental risk identification, emergency response, permitting requirements, and compliance procedures.

§ 13.8.5—Insurance
Several types of insurance on a construction project may allocate environmental risk. However, unless a policy expressly addresses environmental incidents, coverage is uncertain at best. There are several types of insurance commonly used on construction projects. Unfortunately, most do not include pollution coverage.

**Comprehensive General Liability**
Comprehensive General Liability (CGL) insurance is standard business insurance designed to protect the insured against liability to third parties imposed by a court for injuries to persons or property which occur during the policy period. CGL policies generally cover two types of costs: (1) defense costs — that is, legal expenses incurred in defending the insured against covered claims; and (2) indemnification for damages resulting from covered claims for which the insured is legally obligated to pay.

Current policies invariably contain a “pollution exclusion clause,” whereby the insurer attempts to exclude environmental damage claims from coverage. However, this was not always the case. Moreover, it is not completely certain that the current pollution exclusions are absolute, at least with respect to defense costs. Prior to 1972, CGL policies contained no pollution exclusions. In 1972, insurance companies included the so-called “sudden and accidental” exclusion. In *Hecla Mining v. New Hampshire Insurance Company*, the Colorado Supreme Court held that this pollution exclusion was ambiguous and did not bar coverage for unintended damages which occurred over a long period of time.

An insured has an obligation to notify the insurer as soon as practical after discovery of a pollution incident. If notice is not timely made, there is a possibility that an insurer’s coverage on defense obligations might be obviated. Therefore, in the event of an incident, all insurers should be put on notice, even if there is some question about coverage.

**Builder’s Risk Insurance**
Builder’s risk insurance is more common on larger construction projects and provides coverage for the insured’s loss arising out of injury or damage to the work itself. Liability to third parties is not covered. Builder’s risk policies vary greatly in form and coverage. Some policies are “all risk” policies insuring against all risks except those specifically excluded. Coverage under “named perils” policies is restricted to the perils listed in the policy. Typically, losses arising out of an environmental incident are not covered. Nevertheless, if an incident happens, the builder’s risk carrier should be notified out of an abundance of caution.
Vehicle Insurance
If environmental liability is incurred during transportation, it is possible that vehicle policies will provide coverage.247

Errors and Omissions Insurance
Most design professionals carry “errors and omissions” insurance protecting them against liability arising out of their own negligence in providing design services. The policies are generally limited to the design professional’s area of practice and expertise. Thus, architects would not be covered for environmental liability because they are not normally in the business of operating contaminated facilities, notwithstanding CERCLA’s broad definitions.

Pollution Insurance
Some reputable carriers offer pollution insurance. Virtually all types of pollution risks are insurable, albeit sometimes at substantial cost. If there is a demonstrated need for this type of coverage, the parties to a project should explore this alternative. Otherwise, they should conscientiously allocate liability among themselves.

§ 13.8.6—Bankruptcy
Although it is not generally regarded as a risk allocation technique, bankruptcy may offer an alternative, though an extreme one, for shifting environmental liability to other parties. Under some circumstances a pre-bankruptcy petition claim for cleanup costs can be discharged in bankruptcy. In Ohio v. Kovacs,248 the U.S. Supreme Court unanimously held that an order to clean up a hazardous waste site was a dischargeable claim under the U.S. Bankruptcy Code. Cases subsequent to Kovacs have generally expanded the scope of dischargeable claims, although there is some divergence among the lower courts.249 However, where contamination continues post-petition, both EPA and state environmental agencies may have significant authority to enforce environmental cleanup orders even against a party that has filed for bankruptcy, or has been discharged.250

Kenneth D. Robinson, Esq., Editor and Author (1999), Attorney at Law and Alan J. Gilbert, Esq., Author (1999), Sherman & Howard LLC, were previous contributors to this Chapter.

NOTES

1. 42 U.S.C. §§ 9601 through 9675 (Comprehensive Environmental Response, Compensation, & Liability Act (CERCLA)).
3. 42 U.S.C. § 9601(14); 40 C.F.R. § 302.3.
4. 42 U.S.C. § 9602(a); 40 C.F.R. § 302. Significantly, these definitions exclude petroleum, natural gas, natural gas liquids, liquefied natural gas, or synthetic gas useable for fuel (or mix of natural gas and such synthetic gas), 42 U.S.C. §§ 9601(14) and (33), although underground storage tank laws govern many petroleum releases.
5. 42 U.S.C. § 9601(9).
8. Id.; see also K.C. 1986 Ltd. Partnership v. Reade Mfg., 33 F. Supp. 2d 1143 (W.D. Mo. 1998) (environmental engineers who drilled groundwater wells through contaminated land can be liable for response costs as site operator).
9. 40 C.F.R. §§ 300.1 through 300.1105 (National Oil and Hazardous Substances Pollution Contingency Plan (NCP)).
10. 42 U.S.C. §§ 9607(a)(4)(A) and (B).
15. 42 U.S.C. § 9607(b).
20. 40 C.F.R. §§ 312.1 through 312.31.
22. 42 U.S.C. §§ 9601(20)(A) and (E).
29. 42 U.S.C. § 9607(c).
33. 40 C.F.R. § 262.11.
34. 42 U.S.C. § 6903(5).
35. 40 C.F.R. § 260.10.
36. Id.
40. Id.; see 8 C.C.R. § 1507-25.
41. 33 U.S.C. §§ 1251, et seq.
42. 33 U.S.C. § 1362(7).
43. 33 C.F.R. § 328.3(a).
44. 40 C.F.R. § 122.26(b)(14)(ix).
45. C.R.S. § 25-8-501; 5 C.C.R. § 1002-61 (Colorado Discharge Permit System).
46. See Colorado Water Quality Control Division website at www.cdphe.state.co.us/wq/Permits Unit/index.html.
47. Colorado’s general permits can be viewed on and downloaded from the Internet web page for the Colorado Water Quality Control Division.
48. 33 U.S.C. § 1344(a); 33 C.F.R. § 323.
49. 33 U.S.C. §§ 1344(b) and (c).
50. 16 U.S.C. §§ 661-666c.
52. 33 U.S.C. § 1341; C.R.S. § 25-8-302(f).
53. 33 C.F.R. § 328.3(b); 40 C.F.R. § 230.3(t).
60. 33 U.S.C. § 1344(f); 33 C.F.R. § 323.4.
61. See, e.g., *U.S. v. Sinclair Oil Co.*, 767 F. Supp. 200 (D. Mont. 1990) (rearranging indigenous materials in a river bed to cut off high water channels to protect river banks from erosion and to maintain river channel required permit).
63. The Corps of Engineers announces the existence of nationwide permits in the *Federal Register*, and that is also where their terms are set forth. See 33 C.F.R. § 330.5 (procedures). Most of the latest permits are found at 72 Fed. Reg. 11091 (March 12, 2007).
68. See generally 5 C.C.R. § 1001-5, Parts A and B.
69. Id.
70. 29 U.S.C. §§ 651 through 678 (Occupational Safety and Health Act); 29 C.F.R. Parts 1910 and 1926.
71. 29 U.S.C. § 651(b).
73. 29 U.S.C. § 654(a)(2).
75. 29 U.S.C. § 667.
76. See, e.g., 29 C.F.R. §§ 1926.850 through .860, and 1926.1101.
77. See, e.g., 29 C.F.R. §§ 1926.750 through .761.
78. 29 C.F.R. §§ 1926.55, 1926.1101 through .1152.
79. 29 C.F.R. §§ 1926.21(a)(3) and (5).
80. 29 C.F.R. § 1926.65.
81. 29 C.F.R. §§ 1926.1101 through .1104; 1926.1106 through .1118; 1926.1126 through .1129; 1926.1144 through .1152; 1910.101 through .126; and 1910.1000 through .1201.
82. 29 C.F.R. § 1910.6.
86. 29 U.S.C. § 666(c).
88. 29 U.S.C. § 666(e).
89. 29 U.S.C. § 657(c); 29 C.F.R. 1910.119(d), 1910.1020, 1910.1200, and 1926.64(d).
90. 29 C.F.R. § 1910.1200(a).
91. See 29 C.F.R. § 1910.1200(h).
100. 42 U.S.C. § 6991 (excepting, inter alia, farm and residential tanks of 1,000 gallons or less capacity for storing motor fuel for noncommercial purposes); C.R.S. §§ 8-20.5-101 through -209; 7 C.C.R. § 1101-14.
102. See 40 C.F.R. § 279.
104. 40 C.F.R. § 110.3.
107. 29 C.F.R. §§ 1910.12(b) and 1926.1101.
108. 40 C.F.R. § 763.
110. 29 C.F.R. § 1926.1101.
112. 40 C.F.R. § 61.145(b).
113. 40 C.F.R. §§ 61.145 through 61.147.
114. 40 C.F.R. § 61.145(b).
115. 40 C.F.R. § 61.145(c).
116. 40 C.F.R. § 61.150.
118. See C.R.S. §§ 25-7-501 through -512 (Asbestos Control).
119. See 5 C.C.R. § 1001-10, Part B.
120. See id.
121. See 5 C.C.R. § 1001-10, Part B; C.R.S. § 25-7-506.
125. 40 C.F.R. § 761.1; see generally 15 U.S.C. § 2605(c).
126. 42 U.S.C. §§ 6991a through 6991i.
127. 40 C.F.R. §§ 280, et seq.
129. See 40 C.F.R. § 280.22.
130. 40 C.F.R. §§ 280.20(a) and (b); 7 C.C.R. § 1101-14-2-2-8.
131. 40 C.F.R. § 280.20(c); 7 C.C.R. § 1101-14-2-3-1.
132. 40 C.F.R. §§ 280.40 through 280.45; 7 C.C.R. §§ 1101-14-2-4-2 through 1101-14-2-4-6.
133. 40 C.F.R. §§ 280.50 through 280.53; 7 C.C.R. §§ 1101-14-4-4.
134. 40 C.F.R. §§ 280.60 through 280.67; 7 C.C.R. § 1101-14-2-4-4.
135. 40 C.F.R. §§ 280.70 through 280.74; 7 C.C.R. §§ 1101-14-2-5-1 through 1101-14-2-5-5.
136. 40 C.F.R. § 280.20(d).
137. 40 C.F.R. § 280.20(e).
138. See 40 C.F.R. §§ 280.95 through 280.115.
142. 16 U.S.C. § 470w(7).
143. 36 C.F.R. § 800.16.
147. 33 U.S.C. § 1344; 33 C.F.R. § 323.
150. 40 C.F.R. § 122.26(b)(14).
151. C.R.S. § 25-8-503; 5 C.C.R. § 1002-61.
152. 5 C.C.R. § 1001-5, Parts A and B.
153. 5 C.C.R. §§ 1001-3, Part III(D)(2)(b) and (h).
156. 50 C.F.R. §§ 17.11, 17.12, 17.94, and 17.95.
157. 24 C.F.R. §§ 35.1100 through 35.1140.
158. See www.sspc.org.
160. 29 C.F.R. § 1926.62.
161. 40 C.F.R. §§ 260 through 265.
162. C.R.S. §§ 25-8-101 through -703 (Colorado Water Quality Control Act).
163. C.R.S. §§ 25-7-101 through -1309 (Air Quality Control).
165. C.R.S. § 25-15-200.2 (Hazardous Waste Disposal Site) and C.R.S. §§ 30-20-100.5, et seq.
166. C.R.S. §§ 8-20.5-101 through -304; 7 C.C.R. § 1101-14 (Underground Storage Tanks and Above Ground Storage Tanks Act).
168. E.g., 42 U.S.C. § 9607(e).
169. E.g., 42 U.S.C. § 9603(a) (CERCLA reporting is by the “person in charge” of the facility).
171. See Dedham Water Co., 889 F.2d at 1150-56.
174. See Corcoran, 854 P.2d at 1378 (negligence claim against an architect for failure to address asbestos in construction project).
183. See Browning-Ferris Indus., Inc. v. Ter Maat, 51 ERC 1677 (N.D. Ill. Nov. 8, 2000) (holding shareholder personally liable as operator when shareholder was integrally involved in the daily operations at the facility, including hazardous waste management decisions).
188. Tanglewood East Homeowners, 849 F.2d at 1571-74.
190. See, e.g., American Surety Co. v. Wheeling Structural Steel Co., 114 F.2d 237, 240 (4th Cir. 1940).
191. Bill Curphy Co. v. Elliot, 207 F.2d 103 (5th Cir. 1953).
192. The 1990 Amendments to Section 119 of CERCLA, 42 U.S.C. § 9619, provide specific protection for sureties of response action contractors, contractors that agree expressly to clean up a hazardous waste site. The standard construction surety is not protected by this provision.
194. See 42 U.S.C. §§ 9601(20) and 9607(n).
195. 29 C.F.R. § 1910.38.
196. See 29 C.F.R. § 1910.120(q)(1).
197. 29 C.F.R. § 1910.120.
198. Id.
199. 29 C.F.R. § 1910.120(q)(6).
200. See 29 C.F.R. § 1910.120(q)(3).
201. 42 U.S.C. § 9603(a).
202. See, e.g., U.S. v. Carr, 880 F.2d 1550 (2d Cir. 1989); U.S. v. Greer, 850 F.2d 1447 (11th Cir. 1988).
203. 42 U.S.C. § 9602(b).
204. The telephone number is 1-800-424-8802.
205. The telephone number is 303-692-2000 or 1-877-518-5608 (24-hour hotline).
206. 42 U.S.C. §§ 11001 through 11005.
207. 42 U.S.C. §§ 11004(a) and (b).
208. 42 U.S.C. § 11004(b); 40 C.F.R. § 355.40(b)(4)(i).
211. U.S. v. Mobil Oil Corp., 464 F.2d 1124, 1128 (5th Cir. 1972).
212. 40 C.F.R. § 110.6.
213. C.R.S. § 25-8-601.
215. The telephone number is 1-800-424-8802.
216. 40 C.F.R. § 263.30.
217. 40 C.F.R. § 263.30(c)(1).
218. See 49 C.F.R. § 171.15(a).
219. 49 C.F.R. § 171.16.
221. 42 U.S.C. §§ 9619(a)(1) and (2).
222. 42 U.S.C. § 9619(c).
223. 40 C.F.R. § 300.1.
224. 40 C.F.R. § 300.420.
225. 40 C.F.R. § 300.430.
226. 40 C.F.R. § 300.430(d)(1).
228. 40 C.F.R. § 300.430(e).
229. 40 C.F.R. §§ 300.430(e)(9)(iii)(A) through (I).
230. Id.
231. See § 13.2.1, above.
234. Compare Kaiser Aluminum & Chem. Corp., 976 F.2d at 1338 (holding contractor liable for moving contaminated excavation material from one part of site to another).
236. See Tanglewood East Homeowners, 849 F.2d at 1568.
238. See Sanitary Sys., Inc. v. American Surety Co. of N.Y., 331 F.2d 438 (8th Cir. 1964).
241. See generally Federal Acquisition Regulations 52.236-12, 237, 242.
243. The material in this section was provided by Timothy Gablehouse, Esq., Denver, Colorado.
249. See, e.g., In re Chateaugay Corp., 944 F.2d 997 (2d Cir. 1991) (holding that environmental laws do not supersede the Bankruptcy Code’s broad concept of a dischargeable claim); U.S. v. Gurley, 317 F. Supp. 2d 870 (E.D. Ark. 2004) (holding unmatured interest, legal fees, and collections costs, related to response work performed before the date of filing of a bankruptcy petition are recoverable costs); Signature Combs, Inc. v. U.S., 253 F. Supp. 2d 1028 (W.D. Tenn. 2003) (adopting fair contemplation standard in determining whether debtor’s liability was discharged in bankruptcy).
250. See, e.g., In re CMC Heartland Partners, 966 F.2d 1143 (7th Cir. 1992) (affirming EPA’s ability to enforce a CERCLA § 106 cleanup order in the face of a bankruptcy defense); and In re Torwico Electronics, Inc., 8 F.3d 146 (3d Cir. 1993) (affirming New Jersey’s right to enforce a cleanup injunction against a discharged debtor, even for land the discharged party no longer owns).
## APPROVED JURISDICTIONAL DETERMINATION FORM

U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

### SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
   - State: 
   - County/parish/borough: 
   - City: 
   - Center coordinates of site (lat/long in degree decimal format): Lat. °  
   - Long. °  
   - Universal Transverse Mercator:
      - Name of nearest waterbody: 
      - Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: 
      - Name of watershed or Hydrologic Unit Code (HUC):
      - Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
      - Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
   - Office (Desk) Determination. Date:
   - Field Determination. Date(s):

### SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]
   - Waters subject to the ebb and flow of the tide.
   - Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
      - Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.
   a. Indicate presence of waters of U.S. in review area (check all that apply):  
      - TNWs, including territorial seas
      - Wetlands adjacent to TNWs
      - Relatively permanent waters2 (RPWs) that flow directly or indirectly into TNWs
      - Non-RPWs that flow directly or indirectly into TNWs
      - Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      - Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      - Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      - Impoundments of jurisdictional waters
      - Isolated (interstate or intrastate) waters, including isolated wetlands

   b. Identify (estimate) size of waters of the U.S. in the review area:
      - Non-wetland waters: linear feet: width (ft) and/or acres.
      - Wetlands: acres.

   c. Limits (boundaries) of jurisdiction based on: Pick List
      - Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):  
   - Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
      - Explain:

---

1 Boxes checked below shall be supported by completing the appropriate sections in Section III below.
2 For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least “seasonally” (e.g., typically 3 months).
3 Supporting documentation is presented in Section III.F.
SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
   Identify TNW: .
   Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
   Summarize rationale supporting conclusion that wetland is “adjacent”: .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under Rapanos have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody\(^4\) is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

   (i) General Area Conditions:
   Watershed size: Pick List
   Drainage area: Pick List
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   □ Tributary flows directly into TNW.
   □ Tributary flows through Pick List tributaries before entering TNW.
   Project waters are Pick List river miles from TNW.
   Project waters are Pick List river miles from RPW.
   Project waters are Pick List aerial (straight) miles from TNW.
   Project waters are Pick List aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .
   Identify flow route to TNW\(^5\): .
   Tributary stream order, if known: .

\(^4\) Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

\(^5\) Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
(b) General Tributary Characteristics (check all that apply):

**Tributary is:**
- Natural
- Artificial (man-made).
- Manipulated (man-altered).

**Tributary** properties with respect to top of bank (estimate):
- Average width: feet
- Average depth: feet
- Average side slopes: Pick List

Primary tributary substrate composition (check all that apply):
- Silts
- Sands
- Gravel
- Bedrock
- Vegetation. Type/%
- Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: Pick List

Tributary gradient (approximate average slope): %

(c) Flow:

**Tributary provides for:** Pick List

Estimate average number of flow events in review area/year: Pick List

Describe flow regime:

Other information on duration and volume:

Surface flow is Pick List. Characteristics:

Subsurface flow: Pick List. Explain findings:

- Dye (or other) test performed:

**Tributary has (check all that apply):**

- Bed and banks
- OHWM (check all indicators that apply):
- the presence of litter and debris
- changes in the character of soil
- shelving
- vegetation matted down, bent, or absent
- leaf litter disturbed or washed away
- sediment deposition
- water staining
- other (list):

- Discontinuous OHWM. Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- High Tide Line indicated by:
- Mean High Water Mark indicated by:

- fine shell or debris deposits (foreshore)
- physical markings/characteristics
- tidal gauges
- other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

---

*A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

7Ibid.
(iv) Biological Characteristics. Channel supports (check all that apply):
- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
(a) General Wetland Characteristics:
  - Wetland size: acres
  - Wetland type. Explain:
  - Wetland quality. Explain:
  - Project wetlands cross or serve as state boundaries. Explain:
(b) General Flow Relationship with Non-TNW:
  - Flow is: Pick List
  - Explain:
  - Surface flow is: Pick List
  - Characteristics:
  - Subsurface flow: Pick List
  - Explain findings:
  - Dye (or other) test performed:
(c) Wetland Adjacency Determination with Non-TNW:
  - Directly abutting
  - Not directly abutting
  - Discrete wetland hydrologic connection. Explain:
  - Ecological connection. Explain:
  - Separated by berm/barrier. Explain:
(d) Proximity (Relationship) to TNW:
  - Project wetlands are Pick List river miles from TNW.
  - Project waters are Pick List aerial (straight) miles from TNW.
  - Flow is from: Pick List
  - Estimate approximate location of wetland as within the Pick List floodplain.

(ii) Chemical Characteristics:
  - Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
  - Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):
- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)
   All wetland(s) being considered in the cumulative analysis. Pick List
   Approximately ( ) acres in total are being considered in the cumulative analysis.
For each wetland, specify the following:

<table>
<thead>
<tr>
<th>Directly abuts? (Y/N)</th>
<th>Size (in acres)</th>
<th>Directly abuts? (Y/N)</th>
<th>Size (in acres)</th>
</tr>
</thead>
</table>

Summarize overall biological, chemical and physical functions being performed:  

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g., between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the Rapanos Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:  

2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absent of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:  

3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:  

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:
   - TNWs: linear feet width (ft), Or, acres.
   - Wetlands adjacent to TNWs: acres.

2. RPWs that flow directly or indirectly into TNWs.  
   - Tributaries of TNW's where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
   - Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:  

(10/07)  13-59
Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters: .

3. Non-RPWs* that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abutting an RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.9

- As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
- Demonstrate that impoundment was created from “waters of the U.S.” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):10

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: .
- Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

---

9See Footnote # 3.

10 To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

10 Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.
Provide estimates for jurisdictional waters in the review area (check all that apply):
- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters:
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
- Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain:
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):
- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

SECTION IV: DATA SOURCES
A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- Office concurs with data sheets/delineation report.
- Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters’ study:
- U.S. Geological Survey Hydrologic Atlas:
- USGS NHD data.
- USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name:
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:  

(10/07) 13-61
**EXHIBIT 13B • AIR POLLUTANT EMISSION NOTICE (APEN) AND APPLICATION FOR CONSTRUCTION PERMIT**

**- LAND DEVELOPMENT -**

Air Pollutant Emission Notice (APEN) – and – Application for Construction Permit

- New Facility  - Transfer of Ownership  - Change in Production  - No Change (APEN Update Only)

All sections of this APEN and application must be completed prior to submittal to the Division for both new and existing facilities. An application with missing information may be determined incomplete and may result in longer engineer processing times.

* Note: For transfer of ownership or company name change of a permit, you must also submit a Construction Permit Application form.

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>AIRS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Company Name:  
Billing Address:  
Zip Code:  

Person to Contact:  
Phone Number:  

Email Address:  
Fax Number:  

Please provide description of the activity:  (Also, please provide a site map)

<table>
<thead>
<tr>
<th>Project Name &amp; Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>County:</td>
</tr>
<tr>
<td>Total area of land in project:</td>
</tr>
<tr>
<td>Date earthmoving will – Commence:</td>
</tr>
<tr>
<td>Total area subject to earthmoving:</td>
</tr>
<tr>
<td>Total disturbed area at any one time:</td>
</tr>
<tr>
<td>Area to be paved (roads, parking lots):</td>
</tr>
<tr>
<td>Date paving will be completed:</td>
</tr>
<tr>
<td>Estimated time to complete entire project (includes buildings):</td>
</tr>
</tbody>
</table>

List any known or suspected contaminates in the soil:

<table>
<thead>
<tr>
<th>Brief description of how the project development will occur (attach an additional page if necessary):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Regulation No. 1 requires that a fugitive dust control plan be submitted by applicants whose source/activity results in fugitive dust emissions. The control plan must enable the source to minimize emissions of fugitive dust to a level that is technologically feasible and economically reasonable. If the control plan is not adequate in minimizing emissions a revised control plan may be required. The control plan (if acceptable to the Division) will be used for enforcement purposes on the sources.

Please check the dust control measures which you propose for your activity. The Division will enforce the control measures checked. Use separate sheets if more space is needed. Also note items with an asterisk (*). This indicates those measures which will probably be required.

### I. Control of Unpaved Roads on Site

- Watering
  - Frequent (Watering Frequency of 2 or More Times Per Day)
  - As Needed
- Application of Chemical Stabilizer
- Vehicle Speed Control
  - Speeds limited to _______________ mph maximum. Speed limit signs must be posted.
  - (Generally 30 mph is maximum approvable speed on site.)
- Gravelling

### II. Control of Disturbed Surface Areas on Site

- Watering
  - Frequent (Watering Frequency of 2 or More Times Per Day)
  - As Needed
- Application of Chemical Stabilizer
- Vehicle Speed Control
  - Speeds Limited To _______________ MPH Maximum. Speed Limit Signs Must Be Posted.
- Revegetation
  - Revegetation Must Occur Within One Year Of Soil Disturbance
- Seeding with mulch
- Seeding without mulch
- Furrows at right angle to prevailing wind
  - Depth of furrows _______________ Inches (must be greater than 6”)
- Compaction Of Disturbed Soil On A Daily Basis To Within 90 % Of Maximum Compaction
  - (As determined by a Proctor Test).
  - Foundation areas only; or
  - All disturbed soil.
- Wind Breaks
  - Type: ______________________ (Example: Snow Fence, Silt Fence, etc.)
- Synthetic Or Natural Cover For Steep Slopes.
  - Type: ______________________ (Netting, Mulching, etc.)
Colorado Department of Public Health and Environment
Air Pollution Control Division

- LAND DEVELOPMENT -

III. Prevention Of Mud And Dirt Carried Out Onto Paved Surfaces.

☐ Prevention
  ☐ Gravel Entry Ways
  ☐ Washing Vehicle Wheels
  ☐ Other:

☐ Cleanup of Paved Areas
  ☐ Street Sweeper
  ☐ Hose With Water
  ☐ Other:

Temporary:  Frequency: Times Per Day

Additional Sources of Emissions

List any other sources of emissions or control methods

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Signature of Legally Authorized Person (not a vendor or consultant) Date

Name (please print) Title

Check the appropriate box if you want:

☐ Copy of the Preliminary Analysis conducted by the Division
☐ To review a draft of the permit prior to issuance

(Checking any of these boxes may result in an increased fee and/or processing time)

Send this form along with $119.96 to:
Colorado Department of Public Health and Environment
Air Pollution Control Division
APCD-SS-B1
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Small Business Assistance Program
(303) 692-3148

Small Business Ombudsman
(303) 692-2135

Revised September 2004

http://www.cdphe.state.co.us/ap/stationary.html
**EXHIBIT 13C • EXAMPLES OF FINES AND PENALTIES UNDER ENVIRONMENTAL STATUTES**

CERCLA provides for fines and imprisonment for up to three years for failure to report to the National Response Center a release of a hazardous substance. 42 U.S.C. § 9603(b)(3). Knowingly failing to comply with facility notification requirement of CERCLA can result in a fine of up to $10,000 and imprisonment for up to one year. 42 U.S.C. § 9603(c). Activities such as destruction of records or violation of administrative orders or consent decrees can bring civil penalties of not more than $32,500 per violation. 42 U.S.C. § 9609(a)(1).

Violations of the federal CWA can result in civil penalties of not more than $32,500 per day of each violation. 33 U.S.C. § 1319(d). Assessment of civil penalties does not depend on intent. Criminal sanctions can result in fines of up to $25,000 per day per violation and/or up to one year’s imprisonment. 33 U.S.C. § 1319(c)(1). In addition, EPA can “black list” violators, precluding them from access to federal contracts and loans. 33 U.S.C. § 1368.

Under the CAA, the EPA, or the CDPHE can seek civil penalties of up to $32,500 per day for each violation, 42 U.S.C. § 7413(d)(1), and imprisonment for up to two years under certain circumstances. 42 U.S.C. § 7413(c)(2).

OSHA provides for civil penalties for a non-serious or a serious violation of up to $7,000 per violation. 29 U.S.C. § 666(c). Repeated or willful violations may result in a civil penalty of up to $70,000 per violation. 29 U.S.C. § 666(a). Criminal sanctions, including imprisonment and high fines, are even possible where the employer acts willfully and causes the death of an employee. 29 U.S.C. § 666(e).

A knowing violation of specific provisions of RCRA can result in fines up to $50,000 per day of violation, 42 U.S.C. § 6928(d), and imprisonment of up to five years and fines of up to $1,000,000 if a violation knowingly places another person in imminent danger of death or serious bodily harm. 42 U.S.C. § 6928(e). Continued noncompliance with an order relating to a UST can result in fines of up to $25,000 for each day of violation.

TSCA provides for penalties of not more than $32,500 per day for certain violators and/or imprisonment for up to one year if the offender’s conduct was a willful or knowing violation. 15 U.S.C. § 2615.
1. Hazardous Materials

There are two major sources of standardized construction contracts for non-public projects: those published by the American Institute of Architects (AIA), and those published by the Engineer’s Joint Contract Document Committee (EJCDC) of the National Society for Professional Engineers (NSPE) for the Associated General Contractors of America (AGC).

a. AIA Clauses


The AIA Document A-201 (1987) version provision can be modified to include other hazardous substances. However, the indemnification clause (¶ 10.1.4) does not address liability where neither the owner nor the contractor is negligent. Nor do these clauses expressly provide for modifications for time extensions or cost increases resulting from the presence of hazardous substances. If the AIA contract is used, the clauses should be modified to address these requirements.

b. EJCDC Clauses

The EJCDC provisions for hazardous substances in Form EJCDC No. 1910-8 (1990 ed.) are much more complete than other standard form contracts. The 1990 edition is out of print. See Appendix C, ASCE Form EJCDC No. 1910-8, ¶ 4.05 (1996 ed.).

These contract provisions allocate responsibility to the owner for hazardous substances or wastes not shown in the plans or specifications, or otherwise communicated, and they provide specific procedures for the parties to follow, including modifications to the schedule and contract price. The clauses are also comprehensive as to indemnity, requiring that the owner indemnify the contractor except where the problem arises out of the contractor’s own negligence.

c. Differing Site Conditions

Most comprehensive construction contracts include a “differing site conditions” clause to allocate risks arising out of unknown or concealed conditions which are discovered during construction. If the contract does not specifically address hazardous materials, it is likely that this provision will come into play. Various contract forms deal with differing site conditions differently.
i. AIA Clause

The AIA differing site conditions clause in the AIA Document A-201 (1987), General Conditions, recognizes two kinds of conditions: Type I condition is one which is at variance with the conditions indicated in the contract documents; a Type II condition is the unusual and unknown condition below the ground surface. See Appendix A, AIA Doc. A-201, ¶ 4.3.6 (1987).

To recover under a Type I condition, the contractor must establish four elements: (1) the actual conditions encountered; (2) the conditions indicated in the contract documents; (3) the variance from the indicated conditions; and (4) timely notice.\(^1\) A contractor can typically recover under a Type II condition unless it should reasonably have expected the encountered condition.\(^2\) Since these provisions do not directly address hazardous materials, the allocation of risk becomes a question of fact to be resolved in arbitration or litigation.

ii. EJCDC Clause

The same is also true for the EJCDC differing site conditions clause, except that no distinction is made for a Type II condition. See Appendix C, ASCE Form EJCDC 1910-8, ¶ 4.03 (1996 ed.).

d. Site Inspection

Many construction contracts contain an inspection clause by which the contractor represents that it has inspected the site and the subsurface data, and has verified their consistency. See Appendix A, AIA Doc. A-201, ¶ 3.2.2 (1987).

In the absence of a provision for hazardous substances, this language can be construed to impose responsibility for unknown hazardous materials on the contractor.

e. Compliance with Law and Regulations


Like the site inspection clause, this language could be construed to impose responsibility on the contractor for complying with laws relating to hazardous materials and other environmental hazards.

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### f. Other Clauses

Many other standard construction contract clauses may come into play depending upon the specific contract language and the circumstances out of which the dispute arises. A comprehensive discussion of all of the potentially applicable clauses is beyond the scope of this manual. However, the following listing of clauses from AIA Document A-201 (1987), General Conditions, shows which provisions in that contract form may be implicated.

<table>
<thead>
<tr>
<th>Paragraph No.</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2.4</td>
<td>Owner disclosure of information</td>
</tr>
<tr>
<td>3.2.1</td>
<td>Contractor review of plans</td>
</tr>
<tr>
<td>3.2.2</td>
<td>Contractor site inspection</td>
</tr>
<tr>
<td>3.7.2-3.7.4; 3.13.1</td>
<td>Compliance with laws</td>
</tr>
<tr>
<td>3.15</td>
<td>Cleaning up</td>
</tr>
<tr>
<td>3.18</td>
<td>Contractor indemnification of owner/architect/consultants</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Architect review of claims</td>
</tr>
<tr>
<td>4.3.3</td>
<td>Time limits on claims</td>
</tr>
<tr>
<td>4.3.4</td>
<td>Contractor’s obligation to continue performance</td>
</tr>
<tr>
<td>4.3.6</td>
<td>Claims for concealed or unknown conditions</td>
</tr>
<tr>
<td>4.3.7</td>
<td>Claims for additional cost</td>
</tr>
<tr>
<td>4.3.8</td>
<td>Claims for additional time</td>
</tr>
<tr>
<td>4.3.9</td>
<td>Notice of injury or damage</td>
</tr>
<tr>
<td>4.5</td>
<td>Arbitration</td>
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<tr>
<td>5.3.1</td>
<td>Subcontractual relations</td>
</tr>
<tr>
<td>6.0</td>
<td>Construction by owner — separate contractors</td>
</tr>
<tr>
<td>7.0</td>
<td>Changes in the work</td>
</tr>
<tr>
<td>8.3</td>
<td>Delays and extensions of time</td>
</tr>
<tr>
<td>9.8</td>
<td>Substantial completion</td>
</tr>
<tr>
<td>10.1.1; 10.2</td>
<td>Safety</td>
</tr>
<tr>
<td>10.1.2-10.1.4</td>
<td>PCBs/asbestos</td>
</tr>
<tr>
<td>10.3</td>
<td>Emergencies</td>
</tr>
<tr>
<td>11.0</td>
<td>Insurance and bonds</td>
</tr>
</tbody>
</table>
This rather extensive list illustrates how complex the impact of an environmental incident can be on a project.

g. **Implied Clauses**
- Duty to disclose
- Duty to cooperate
- Duty to inquire
- Warranty of plans/specifications
- Superior knowledge
- Cardinal change