



Standard Practice for Conducting Environmental Baseline Surveys¹

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1. Scope

1.1 Purpose—The purpose of this practice is to define good commercial and customary practice in the United States for conducting an environmental baseline survey (EBS) in order to determine certain elements of the environmental condition of federal real property, including excess and surplus property at closing and realigning military installations. This effort is conducted to fulfill certain requirements of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) section 120(h), as amended by the Community Environmental Response Facilitation Act of 1992 (CERFA). As such, this practice is intended to help a user to gather and analyze data and information in order to classify property into seven environmental condition of property area types (in accordance with the Standard Classification of Environmental Condition of Property Area Types). Once documented, the EBS is used to support Findings of Suitability to Transfer (FOSTs), Findings of Suitability to Lease (FOSLs), or uncontaminated property determinations, or a combination thereof, pursuant to the requirements of CERFA. Users of this practice should note that it does not address (except where explicitly noted) requirements for appropriate and timely regulatory consultation or concurrence, or both, during the conduct of the EBS or during the identification and use of the standard environmental condition of property area types.

1.1.1 Environmental Baseline Survey—In accordance with the Department of Defense (DoD) policy, an EBS will be prepared or evaluated for its usefulness (and updated if necessary) for any property to be transferred by deed or leased. The EBS will be based on existing environmental information related to storage, release, treatment, or disposal of hazardous substances or petroleum products on the property to determine or discover the obviousness of the presence or likely presence of a release or threatened release of any hazardous substance or petroleum product. In certain cases, additional data, including sampling, if appropriate under the circumstances, may be needed in the EBS to support the FOST or FOSL. A previously

conducted EBS may be updated as necessary and used for making a FOST or FOSL. An EBS also may help to satisfy other environmental requirements (for example, to satisfy the requirements of CERFA or to facilitate the preparation of environmental condition reports). In addition, the EBS provides a useful reference document and assists in compliance with hazard abatement policies related to asbestos and lead-based paint. The EBS process consists of discrete steps. This practice principally addresses EBS-related information gathering and analysis.

1.1.2 CERCLA Section 120(h) Requirements—This practice is intended to assist with the identification of installation areas subject to the notification and covenant requirements of CERCLA § 120(h) relating to the deed transfer of contaminated Federal real property (42 USC 9601 *et seq.*).

1.1.3 CERFA Requirements—This practice can be used to provide information that can be used to partially fulfill the identification requirements of CERFA [Pub. L. 102-426, 106 Stat. 2174], which amended CERCLA. Property classified as area Type 1, in accordance with Classification D 5746 is eligible for reporting as “uncontaminated” under the provisions of CERFA. Additionally, certain property classified as area Type 2, where evidence indicates that storage occurred for less than one year, may also be identified as uncontaminated. At installations listed on the National Priorities List, Environmental Protection Agency (EPA) concurrence must be obtained for the property to be considered “uncontaminated” and therefore transferable under CERCLA § 120(h)(4). The EPA has stated that there may be instances in which it would be appropriate to concur with the DoD Component that certain property can be identified as uncontaminated under CERCLA § 120(h)(4) although some limited quantity of hazardous substances or petroleum products have been stored, released, or disposed of on the property. If the information available indicates that the storage, release, or disposal was associated with activities that would not be expected to pose a threat to human health or the environment (for example, housing areas, petroleum-stained pavement areas, and areas having undergone routine application of pesticides), such property should be eligible for expeditious reuse.

1.1.4 Petroleum Products—Petroleum products and their derivatives are included within the scope of this practice. Areas on which petroleum products or their derivatives were stored

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for one year or more, known to have been released or disposed of [CERCLA § 120(h)(4)] are not eligible to be reported as “uncontaminated property” under CERFA.

1.1.5 Other Federal, State, and Local Environmental Laws—This practice does not address requirements of any federal, state, or local laws other than the applicable provisions of CERCLA identified in 1.1.2 and 1.1.3. Users are cautioned that federal, state, and local laws may impose additional EBS or other environmental assessment obligations that are beyond the scope of this practice. Users should also be aware that there are likely to be other legal obligations with regard to hazardous substances or petroleum products discovered on property that are not addressed in this practice and that may pose risks of civil or criminal sanctions, or both, for noncompliance.

1.1.6 Other Federal, State, and Local Real Property and Natural and Cultural Resources Laws—This practice does not address requirements of any federal, state or local real property or natural and cultural resources laws. Users are cautioned that numerous federal, state, and local laws may impose additional environmental and other legal requirements that must be satisfied prior to deed transfer of property that are beyond the scope of this practice.

1.2 Objectives—Objectives guiding the development of this practice are (1) to synthesize and put in writing a standard practice for conducting a high quality EBS, (2) to facilitate the development of high quality, standardized environmental condition of property maps to be included in an EBS that can be used to support FOSTs, FOSLs, and other applicable environmental condition reports, (3) to facilitate the use of the standard classification of environmental condition of property area types, and (4) to facilitate the development of a standard guide for preparing and updating EBS reports.

1.3 Limitations—Users of this practice should note that, while many of the elements of an EBS are performed in a manner consistent with other “due diligence” functions, an EBS is not prepared to satisfy a purchaser of real property’s duty to conduct an “appropriate inquiry” in order to establish an “innocent landowner defense” to CERCLA § 107 liability. Any such use of any EBS by any party is outside the control of the United States Department of Defense and its components and beyond the scope of any EBS. No warranties or representations are made by the United States Department of Defense, its components, its officers, employees, or contractors that any EBS Report satisfies any such requirement for any party.

1.4 Organization of This Practice—This practice has 15 sections. Section 1 is the scope. Section 2 identifies referenced documents. Section 3, Terminology, includes definitions of terms not unique to this practice, descriptions of terms unique to this practice, and acronyms and abbreviations. Section 4 is the significance and use of this practice. Section 5 describes user’s responsibilities. Sections 6–13 are the main body of the data gathering analysis steps of the EBS process. Section 14 briefly describes the EBS Step 3 classification of environmental condition of property area types. Section 15 contains a list of keywords.

1.5 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appro-

priate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:

E 1527 Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process²

E 1528 Practice for Environmental Site Assessments: Transaction Screen Process²

D 5746 Classification of Environmental Condition of Property Area Types²

2.2 Department of Defense Policies:

DoD Policy on the Environmental Review Process to Reach a Finding of Suitability to Lease (FOSL), September 1993³

DoD Policy on the Environmental Review Process to Reach a Finding of Suitability to Transfer (FOST) for Property Where No Release or Disposal Has Occurred, June 1994³

DoD Policy on the Environmental Review Process to Reach a Finding of Suitability to Transfer (FOST) for Property Where Release or Disposal Has Occurred, June 1994³

DoD Policy on the Implementation of the Community Environmental Response Facilitation Act (CERFA), September 1993³

2.3 Department of Defense Guidance Document:

BRAC Cleanup Plan Guidebook, Fall 1993³

2.4 Federal Standards:⁴

Title 40, Code of Federal Regulations (CFR), Part 300, National Oil and Hazardous Substances Pollution Contingency Plan

Title 40, Code of Federal Regulations (CFR), Part 302, Designation Reportable Quantities and Notification

Title 40, Code of Federal Regulations (CFR), Part 355, Emergency Planning and Notification

3. Terminology

3.1 This section provides definitions (of terms not unique to this practice), descriptions of terms specific to this practice, and a list of acronyms and abbreviations used herein. The terms are an integral part of this practice and are critical to its understanding and use. Many of these terms are also found in Practice E 1527.

3.2 Definitions:

3.2.1 asbestos—six naturally occurring fibrous minerals found in certain types of rock formations. Of the six, the minerals chrysotile, amosite, and crocidolite have been most commonly used in building products. When mined and processed, asbestos is typically separated into very thin fibers. Because asbestos is strong, incombustible, and corrosion-resistant, asbestos was used in many commercial products beginning early in this century and peaking in the period from

² Annual Book of ASTM Standards, Vol 11.04.

³ Available from Department of Defense, Office of Environmental Security, 3400 Defense Pentagon, Washington, DC 20301-3400.

⁴ Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

World War II into the 1970s. When inhaled in sufficient quantities, asbestos fibers can cause serious health problems.

3.2.2 *asbestos-containing material (ACM)*—any material or product that contains more than 1 % asbestos.

3.2.3 *Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)*—the list of sites compiled by EPA that EPA has investigated or is currently investigating for potential hazardous substance contamination for possible inclusion on the National Priorities List.

3.2.4 *contaminated public wells*—public wells used for drinking water that have been designated by a government entity as contaminated by toxic substances (for example, chlorinated solvents), or as having water unsafe to drink without treatment.

3.2.5 *drum*—a container (typically, but not necessarily, holding 55 gal [208 L] of liquid) that may have been used to store hazardous substances or petroleum products.

3.2.6 *dwelling*—structure or portion thereof used for residential habitation.

3.2.7 *environmental lien*—a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon a property, including (but not limited to) liens imposed pursuant to CERCLA 42 USC § 9607(1) and similar state or local laws.

3.2.8 *ERNS list*—EPA’s Emergency Response Notification System list of reported CERCLA hazardous substance releases or spills in quantities equal to or greater than the reportable quantity, as maintained by the National Response Center. Notification requirements for such releases or spills are codified in 40 CFR Parts 302 and 35515.

3.2.9 *Federal Register (FR)*—publication of the United States government published daily (except for Federal holidays and weekends) containing all proposed and final regulations and some other activities of the Federal government. When regulations become final, they are included in the Code of Federal Regulations (CFR) as well as published in the Federal Register.

3.2.10 *hazardous substance*—a substance defined as a hazardous substance pursuant to CERCLA 42 USC § 9601(14), as interpreted by EPA regulations and the courts: “(A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to Section 9602 of this title, (C) any hazardous waste having the characteristics identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act (42 USC § 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act (42 USC § 6921 *et seq.*) has been suspended by Act of Congress), (D) any toxic pollutant listed under Section 1317(a) of Title 33, (E) any hazardous air pollutant listed under Section 112 of the Clean Air Act (42 USC § 7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator (of EPA) has taken action pursuant to Section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous

substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).” Users of this practice should note that certain states may expand this definition to include other substances not meeting the above definition. The user or environmental professional should consider whether the state in which the installation is located has identified such identified substances.

3.2.11 *hazardous waste*—any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (42 USC § 6901 *et seq.*) (but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by Act of Congress) and so forth.

3.2.12 *landfill*—a place, location, tract of land, area, or premises used for the disposal of solid wastes as defined by state solid waste regulations. The term is synonymous with the term solid waste disposal site and is also known as a garbage dump, trash dump, or similar term.

3.2.13 *local street directories*—directories published by private (or sometimes government) sources that show ownership, occupancy, or use of sites, or combination thereof, by reference to street addresses. Often local street directories are available at libraries of local governments, colleges or universities, or historical societies.

3.2.14 *material safety data sheet (MSDS)*—written or printed material concerning a hazardous substance which is prepared by chemical manufacturers, importers, and employers for hazardous chemicals pursuant to OSHA’s Hazard Communication Standard, 29 CFR 1910.1200.

3.2.15 *National Contingency Plan (NCP)*—the National Oil and Hazardous substances Pollution Contingency Plan found at 40 CFR § 300, which is the EPA’s regulations for how hazardous substances are to be cleaned up pursuant to CERCLA.

3.2.16 *National Priorities List*—list compiled by EPA pursuant to CERCLA 42 USC § 9605(a)(8)(B) of properties with the highest priority for cleanup pursuant to EPA’s Hazard Ranking System. See 40 CFR Part 300.

3.2.17 *occupants*—those tenants, subtenants, or other persons or entities using the property or a portion of the property.

3.2.18 *owner*—generally the fee owner of record of the property.

3.2.19 *petroleum exclusion*—the exclusion from CERCLA liability provided in 42 USC § 9601(14), as interpreted by the courts and EPA: “The term (hazardous substance) does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).”

3.2.20 *petroleum products*—those substances included within the meaning of the petroleum exclusion to CERCLA, 42 USC § 9601(14) as interpreted by the courts and EPA, that is: “petroleum, including crude oil or any fraction thereof which is

not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)."

3.2.21 *Phase I Environmental Site Assessment*—the process described in Practice E 1527.

3.2.22 *pits, ponds, or lagoons*—man-made or natural depressions in a ground surface that are likely to hold liquids or sludge containing hazardous substances or petroleum products. The likelihood of such liquids or sludge being present is determined by evidence of factors associated with the pit, pond, or lagoon, including, but not limited to, discolored water, distressed vegetation, or the presence of an obvious wastewater discharge.

3.2.23 *property*—the real property that is the subject of the EBS described in this practice as well as the real property adjacent to the subject property (which may be privately owned). Real property includes buildings and other fixtures and improvements located on the property and affixed to the land.

3.2.24 *property tax files*—the files kept for property tax purposes by the local jurisdiction where the property is located and includes records of past ownership, appraisals, maps, sketches, photos, or other information that is reasonably ascertainable and pertaining to the property.

3.2.25 *RCRA generators*—those persons or entities that generate hazardous wastes, as defined and regulated by RCRA.

3.2.26 *RCRA generators list*—list kept by EPA of those persons or entities that generate hazardous wastes, as defined and regulated by RCRA.

3.2.27 *RCRA TSD facilities*—those facilities on which treatment, storage, or disposal, or a combination thereof, of hazardous wastes takes place, as defined and regulated by RCRA.

3.2.28 *RCRA TSD facilities list*—list kept by EPA of those facilities on which treatment, storage, or disposal, or a combination thereof, of hazardous wastes takes place, as defined and regulated by RCRA.

3.2.29 *recorded land title records*—records of fee ownership, leases, land contracts, easements, liens, and other encumbrances on or of the property recorded in the place where land title records are, by law or custom, recorded for the local jurisdiction in which the property is located. (Commonly, such records are kept by a municipal or county recorder or clerk.) Such records may be obtained from title companies or directly from the local government agency. Information about the title to the property that is recorded in a U.S. district court or any place other than where land title records are, by law or custom, recorded for the local jurisdiction in which the property is located, are not considered part of recorded land title records. See 3.3.33 and 7.2.4.

3.2.30 *records of emergency release notifications* (SARA § 304)—Section 304 of EPCRA or Title III of SARA requires operators of facilities to notify their local emergency planning committee (as defined in EPCRA) and State emergency response commission (as defined in EPCRA) of any release beyond the facility's boundary of any reportable quantity of

any extremely hazardous substance. Often the local fire department is the local emergency planning committee. Records of such notifications are "records of emergency release notifications" (SARA § 304).

3.2.31 *solid waste disposal site*—a place, location, tract of land, area, or premises used for the disposal of solid wastes as defined by state solid waste regulations. The term is synonymous with the term landfill and is also known as a garbage dump, trash dump, or similar term.

3.2.32 *solvent*—a chemical compound that is capable of dissolving another substance and a hazardous substance, used in a number of manufacturing/industrial processes including but not limited to the manufacture of paints and coatings for industrial and household purposes, equipment clean-up, and surface degreasing in metal fabricating industries.

3.2.33 *State registered USTs*—State lists of underground storage tanks required to be registered under Subtitle I, Section 9002 of RCRA.

3.2.34 *sump*—a pit, cistern, cesspool, or similar receptacle where liquids drain, collect, or are stored.

3.2.35 *underground storage tank (UST)*—any tank, including underground piping connected to the tank that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10 % or more beneath the surface of the ground.

3.2.36 *USGS 7.5 Minute Topographic Map*—the map (if any) available from or produced by the United States Geological Survey, entitled "USGS 7.5 Minute Topographic Map" and showing the property.

3.2.37 *wastewater*—water that (1) is or has been used in an industrial or manufacturing process, (2) conveys or has conveyed sewage, or (3) is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Wastewater does not include water originating on or passing through or adjacent to a site, such as stormwater flows, that has not been used in industrial or manufacturing processes, has not been combined with sewage, or is not directly related to manufacturing, processing, or raw materials storage areas at an industrial plant.

3.3 Definitions of Terms Specific to This Standard:

3.3.1 *adjacent properties*—those properties contiguous or partially contiguous to the boundaries of the property being surveyed during an EBS or other activity intended to classify the property into a standard environmental condition of property area type, or other properties relatively near the installation that could pose significant environmental concern and/or have a significant impact on the results of an EBS or on the classification of installation property into standard environmental condition of property area types.

3.3.2 *aerial photographs*—photographs, taken from an aerial platform, having sufficient resolution to allow identification of development and activities of areas encompassing the property. Aerial photographs are commonly available from government agencies or private collections unique to a local area.

3.3.3 *all remedial action taken*—for the purposes of this practice, all remedial action, as described in CERCLA §

120(h)(3)(B)(i), has been taken if “the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to the administrator [of EPA] to be operating properly and successfully. The carrying out of long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to the administrator to be operating properly and successfully does not preclude the transfer of the property.” [42 USC § 9620(h)(3)]. Alternatively, in circumstances where a remedy has been constructed, but no ongoing treatment or operation and maintenance is required, for example, “clean closure” or excavation of soil with off-site treatment, all remedial action means that all action required to meet applicable state or federal regulatory standards, including, as required, state or federal regulatory approval, has been taken.

3.3.4 applicable requirements—those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstances found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable.

3.3.5 approximate minimum search distance—the area for which records must be obtained and reviewed pursuant to Section 7 subject to the limitations provided in that section. This may include areas outside the property and shall be measured from the nearest property boundary. This term is used instead of radius to include irregularly shaped properties.

3.3.6 BRAC statutes—Title II of the Defense Authorization Amendments and Base Closure and Realignment Act of 1988 (Pub. L. 100-526, 10 USC 2687, note.) and the Defense Base Closure and Realignment Act of 1990 (Part A of Title XXIX of Pub. L. 101-510, 10 USC 2687, note.), collectively.

3.3.7 closing military installation—installations identified for closure pursuant to BRAC statutes, or installations previously closed under the authority of 10 USC 2687.

3.3.8 DoD Component—collectively, the Office of the Secretary of Defense, the Military Departments, the Chairman of the Joint Chiefs of Staff, the Inspector General of the Department of Defense, the Defense Agencies and the DoD Field Activities.

3.3.9 disposal—the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous substances, or petroleum products or their derivatives into or on any land or water so that such hazardous substances, or petroleum products or their derivatives or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters including ground water.

3.3.10 due diligence—the process of inquiring into the environmental characteristics of a parcel of commercial real estate or other conditions, usually in connection with a commercial real estate transaction. The degree and kind of due diligence vary for different properties and differing purposes.

3.3.11 environmental audit—the investigative process to determine if the operations of an existing facility are in compliance with applicable environmental laws and regula-

tions. This term should not be used to describe Practices E 1527, E 1528, or this practice, although an environmental audit may include an EBS or, if prior audits or EBSs are available, may be part of an EBS.

3.3.12 environmental baseline survey (EBS)—a survey of federal real property based on all existing environmental information related to storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on the property to determine or discover the obviousness of the presence or likely presence of a release or threatened release of any hazardous substance or petroleum product. In certain cases, additional data, including sampling and analysis, may be needed in the EBS to support the classification of the property into one of the standard environmental condition of property area types. Additionally, an EBS may also satisfy the uncontaminated property identification requirements of CERFA. An EBS will consider all sources of available information concerning environmentally significant current and past uses of the real property, and shall, at a minimum, consist of the following:

3.3.12.1 Detailed search and review of available information and records in the possession of the DoD Components or records made available by the regulatory agencies or other involved federal agencies. The DoD Components are responsible for requesting and making reasonable inquiry into the existence and availability of relevant information and records to include any additional study information (for example, surveys for radioactive materials, asbestos, radon, lead-based paint, transformers containing PCB, RCRA Facility Assessments and Investigations, Underground Storage Tank Cleanup Program) to determine the environmental condition of the property;

3.3.12.2 Review of all reasonably obtainable federal, state, and local government records for each adjacent facility where there has been a release or likely release of any hazardous substance or any petroleum product, and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the federal real property;

3.3.12.3 Analysis of aerial photographs that may reflect prior uses of the property, which are in the possession of the federal government or are reasonably obtainable through state or local government agencies;

3.3.12.4 Interviews with current or former employees, or both, involved in operations on the real property;

3.3.12.5 Visual inspections of the real property; any buildings, structures, equipment, pipe, pipeline, or other improvements on the real property; and of properties immediately adjacent to the real property, noting sewer lines, runoff patterns, evidence of environmental impacts (for example, stained soil, stressed vegetation, dead or ill wildlife) and other observations which indicate actual or potential release of hazardous substances or petroleum products;

3.3.12.6 Identification of sources of contamination on the installation and on adjacent properties which could migrate to the parcel during federal government ownership;

3.3.12.7 Ongoing response actions or actions that have been taken at or adjacent to the parcel; and

3.3.12.8 A physical inspection of property adjacent to the real property, to the extent permitted by owners or operators of such property.

3.3.13 *environmental baseline survey (EBS) report*—the written record of an EBS that includes the following:

3.3.13.1 An executive summary briefly stating the areas of real property (or parcels) evaluated and the conclusions of the EBS;

3.3.13.2 The property identification (for example, address, assessor parcel number, legal description);

3.3.13.3 Any relevant information obtained from a detailed search of federal government records pertaining to the property, including available maps;

3.3.13.4 Any relevant information obtained from a review of the recorded chain of title documents regarding the real property. The review should address those prior ownerships/uses that could reasonably have contributed to an environmental concern, and, at a minimum, cover the preceding 60 years;

3.3.13.5 A description of past and current activities, including all past DoD uses to the extent such information is reasonably available, on the property and on adjacent properties;

3.3.13.6 A description of hazardous substances or petroleum products management practices (to include storage, release, treatment, or disposal) at the property and at adjacent properties;

3.3.13.7 Any relevant information obtained from records reviews and visual and physical inspections of adjacent properties;

3.3.13.8 Description of ongoing response actions or actions that have been taken at or adjacent to the property;

3.3.13.9 An evaluation of the environmental suitability of the property for an intended lease or deed transaction, if known, including the basis for the determination of such suitability; and

3.3.13.10 Reference to key documents examined (for example, aerial photographs, spill incident reports, investigation results).

3.3.14 *environmental condition of property area type*—any of the seven standard environmental condition of property area types defined in the Standard Classification of Environmental Condition of Property Area Types.

3.3.15 *environmental condition of property map*—a map, prepared on the basis of all environmental investigation information conducted to date, that shows the environmental condition of a DoD installation's real property in terms of the seven standard environmental condition of property area types as defined in the standard classification.

3.3.16 *environmental investigation*—any investigation intended to determine the nature and extent of environmental contamination or to determine the environmental condition of property at a BRAC installation. Environmental investigations may include, but are not limited to, environmental site assessments, preliminary assessments, site inspections, remedial investigations, EBSs, RCRA facility assessments, and RCRA facility investigations.

3.3.17 *environmental professional*—a person possessing sufficient training and experience necessary to conduct an EBS

including all activities related to this practice, and from the information and data gathered by such activities, having the ability to develop conclusions regarding environmental condition of property and recognized environmental conditions in connection with the property being evaluated. An individual's status as an environmental professional may be limited to the type of EBS to be performed or to specific steps of the EBS for which the professional is responsible. The person may be an independent contractor or an employee of the Department of Defense or its components.

3.3.18 *fill dirt*—dirt, soil, sand, or other earth, that is obtained off-site, that is used to fill holes or depressions, create mounds, or otherwise artificially change the grade or elevation of real property. It does not include material that is used in limited quantities for normal landscaping activities.

3.3.19 *innocent landowner defense*—that defense to CERCLA liability provided in 42 USC § 9601(35) and 42 USC § 9607(b)(3). One of the requirements to qualify for this defense is that the party make "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice." There are additional requirements to qualify for this defense.

3.3.20 *installation restoration program (IRP)*—the DoD program, mandated by 10 USC § 2407 to assess and respond to releases of hazardous substances on military property under the control of the military services. Additionally, based upon policy decisions, the IRP serves as an umbrella program for environmental response in all media, including RCRA corrective action, LUST corrective action, as well as CERCLA removals and remedial actions. Generally, where field sampling or intrusive environmental testing is required, the IRP will serve as a vehicle for such testing. The IRP is also known as the Defense Environmental Restoration Program.

3.3.21 *interviews*—sessions with current or former employees involved in operations on the real property, conducted to ascertain if storage, release, treatment, or disposal of hazardous substances, petroleum products or their derivatives occurred or is occurring on the real property.

3.3.22 *local government agencies*—those agencies of municipal or county government having jurisdiction over the property. Municipal and county government agencies include, but are not limited to, cities, parishes, townships, and similar entities. Local government agencies may also include, where appropriate, state agencies with local jurisdiction which perform functions commonly performed in other locations by local government agencies.

3.3.23 *migration*—the movement of contaminant(s) away from a source through permeable subsurface media (such as the movement of a ground water plume of contamination), or movement of contaminant(s) by a combination of surficial and subsurface processes.

3.3.24 *obviousness*—the condition of being plain or evident. A condition or fact which could not be ignored or overlooked by a reasonable observer while conducting a records search or while physically or visually observing the property in conjunction with an EBS.

3.3.25 *other historical sources*—any source or sources other than those designated in 7.2.1-7.2.4 that are credible to a

reasonable person and that identify past uses of the property. The term includes, but is not limited to: miscellaneous maps, newspaper archives, and records in the files and/or personal knowledge of the property owner and/or occupants.

3.3.26 *physical setting sources*—sources that provide information about the geologic, hydrogeologic, hydrologic, or topographic characteristics of a property.

3.3.27 *practically reviewable*—information that is practically reviewable is information provided by the source in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data. The form of the information shall be such that the user can review the records for a limited geographic area. Records that cannot be feasibly retrieved by reference to the location of the property or a geographic area in which the property is located are not generally practically reviewable. Most data bases of public records are practically reviewable if they can be obtained from the source agency by the county, city, zip code, or other geographic area of the facilities listed in the record system. Records that are sorted, filed, organized, or maintained by the source agency only chronologically are not generally practically reviewable. This term has the same meaning as provided in Practice E 1527.

3.3.28 *preliminary assessment (PA)*—review of existing information and an off-site reconnaissance, if appropriate to determine if a release or potential release may require additional investigation or action. A PA may include an on-site reconnaissance, if appropriate.

3.3.29 *publicly available*—information that is publicly available means that the source of the information allows access to the information by anyone upon request.

3.3.30 *reasonably available*—information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable. This term has the same meaning as the term “reasonably ascertainable” as provided in Practice E 1527.

3.3.31 *reasonably obtainable*—information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable. This term has the same meaning as the term “reasonably ascertainable” as provided in Practice E 1527. Reasonably available and reasonably obtainable are synonyms.

3.3.32 *recognized environmental conditions*—the presence or likely presence of any hazardous substances or petroleum products on any federal real property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into the environment. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if these conditions were brought to the attention of appropriate governmental agencies. This term is introduced in Practice E 1527, and is used herein only in conjunction with EBS Steps 1 and 2 (see 6.2), as an intermediate outcome prior to the Step 3 classification of environmental condition of property area types. A

Phase I Site Assessment results in recognized environmental conditions, but not environmental condition of property area types.

3.3.33 *recorded chain of title documents*—this term has the same meaning as recorded land title records.

3.3.34 *records search and/or review*—detailed search and review of available information and records in the possession of the DoD components and records made available by the regulatory agencies or other involved federal agencies, including, but not limited to IRP studies and analyses, surveys for radioactive materials, asbestos, radon, lead-based paint, electrical devices (that is, transformers) containing PCB, RCRA facility assessments and Investigations to determine what, if any, hazardous substances or petroleum products may be present on the property. For the purposes of adjacent facilities, a records search includes the review of all reasonably obtainable federal, state, and local government records for each adjacent facility where there has been a release or likely release of any hazardous substance or any petroleum product, and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the federal real property.

3.3.35 *release*—any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles) of any hazardous chemical, extremely hazardous substance, or CERCLA hazardous substance.

3.3.36 *relevant and appropriate requirements*—those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or State environmental or facility siting laws that, while not “applicable” to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are identified in a timely manner and are more stringent than federal requirements may be relevant and appropriate.

3.3.37 *remedial actions*—those actions consistent with a permanent remedy taken instead of, or in addition to, removal action in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment.

3.3.38 *removal*—the cleanup or removal of released hazardous substances from the environment; such actions as may be necessary to take in the event of the threat of release of hazardous substances into the environment; such actions as may be necessary to monitor, assess, and evaluate the release or the threat of release of hazardous substances; the disposal of removed material; or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release.

3.3.39 *required remedial actions*—remedial actions determined necessary to comply with the requirements of CERCLA § 120(h)(3)(B)(i).

3.3.40 *required response actions*—removal and/or remedial actions determined necessary to comply with the requirements of CERCLA § 120(h)(3)(B)(i).

3.3.41 *significant and significance*—in this practice, significant and significance connote the opposite of trivial or *de minimis*. An event or condition is considered significant if it has the potential to present a nontrivial risk to human health and the environment, using the risk range established by the NCP. A probability is considered significant when an environmental professional estimates the probability as nontrivial. For example, in the hypothetical case of an underground tank that was installed and removed prior to the existence of regulatory requirements for tank closure, the environmental professional must evaluate the possibility of release from the tank in the absence of soil testing results. If such an evaluation, based upon observed site conditions and documented soil corrosivity characteristics were to conclude that the probability of release is trivial or very close to zero, then no soil testing would be undertaken in the absence of a specific regulatory requirement for such testing. On the other hand, there is a significant probability of release if such an evaluation were to determine that the probability of release were greater than the extremely low probability encompassed by the concept of trivial. The evaluation of significance, in this sense, is a matter of professional judgment on the part of the environmental professional and should be so documented.

3.3.42 *site inspection (SI)*—an on-site investigation to determine whether there is a release or potential release and the nature of the associated threats. The purpose is to augment the data collected in the PA and to generate, if necessary, sampling and other field data to determine if further action or investigation is appropriate.

3.3.43 *standard classification*—the Standard Classification of Environmental Condition of Property Area Types.

3.3.44 *standard environmental condition of property area type*—one of the seven environmental condition of property area types defined in the Standard Classification.

3.3.45 *standard practice*—the activities set forth in this practice and Practices E 1527 and E 1528, where referenced.

3.3.46 *storage*—the containment of hazardous substances, petroleum products or their derivatives, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such hazardous substances, petroleum products, or their derivatives.

3.3.47 *transaction screen process*—the process described in Practice E 1528.

3.3.48 *transaction screen questionnaire*—the questionnaire provided in Practice E 1528.

3.3.49 *user*—the party seeking to use this practice to perform an EBS of the property. A user may include, without limitation, a DoD component (acting as owner of the property).

3.3.50 *visual and/or physical inspection*—actions taken during an EBS to include observations made by vision while walking through or otherwise traversing a property and struc-

tures located on it and observations made by the sense of smell, particularly observations of noxious or foul odors.

3.4 *Acronyms: Acronyms and Abbreviations:*

3.4.1 *ARARs*—applicable or relevant and appropriate requirements.

3.4.2 *ASTM*—American Society for Testing and Materials.

3.4.3 *BRAC*—Base Realignment and Closure.

3.4.4 *CERCLA*—Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 USC 9620 *et seq.*).

3.4.5 *CERCLIS*—Comprehensive Environmental Response, Compensation and Liability Information System.

3.4.6 *CERFA*—Community Environmental Response Facilitation Act of 1992 (102 Pub. L. 426, 106 Stat. 2174).

3.4.7 *CFR*—Code of Federal Regulations.

3.4.8 *DoD*—Department of Defense.

3.4.9 *EBS*—environmental baseline survey.

3.4.10 *ECP*—environmental condition of property.

3.4.11 *USEPA*—United States Environmental Protection Agency.

3.4.12 *EPCRA*—Emergency Planning and Community Right to Know Act, 42 USC.

3.4.13 *ERNS*—Emergency Response Notification System.

3.4.14 *ESA*—environmental site assessment.

3.4.15 *FOIA*—U.S. Freedom of Information Act (5 USC 552 *et seq.*).

3.4.16 *FOSL*—Finding of Suitability to Lease as described in applicable DoD Policy.

3.4.17 *FOST*—Finding of Suitability to Transfer as described in applicable DoD Policy.

3.4.18 *FR*—Federal Register.

3.4.19 *IRP*—Installation Restoration Program.

3.4.20 *LUST*—leaking underground storage tank.

3.4.21 *MSDS*—material safety data sheet.

3.4.22 *NCP*—National Contingency Plan.

3.4.23 *PA*—preliminary assessment.

3.4.24 *PCBs*—polychlorinated biphenyls.

3.4.25 *RCRA*—The Resource Conservation and Recovery Act, as amended, 42 USC 6901 *et seq.*

3.4.26 *SARA*—Superfund Amendments and Reauthorization Act of 1986.

3.4.27 *SI*—site inspection.

3.4.28 *TSD*—treatment, storage, and disposal.

3.4.29 *USC*—United States Code.

3.4.30 *USGS*—United States Geological Survey.

3.4.31 *UST*—underground storage tank.

4. Significance and Use

4.1 *Uses*—This practice is intended for use by DoD components and environmental professionals in order to facilitate EBS efforts. It is also intended for use by preparers and reviewers of environmental condition of property maps and EBS Reports used to support CERFA uncontaminated property identifications and property suitable for transfer by lease or by deed.

4.2 *Clarifications on Use:*

4.2.1 *Use Not Limited to CERCLA*—This practice is designed to assist the user in developing information about the environmental condition of a property and as such has utility

for a wide range of persons, including those who may have no actual or potential CERCLA liability.

4.2.2 Residential Tenants/Purchasers and Others—No implication is intended that it is currently customary practice for residential tenants of multifamily residential buildings, tenants of single-family homes or other residential real estate, or purchasers of dwellings for one's own residential use, to conduct an EBS in connection with these transactions. Thus, these transactions are not included in the term commercial real estate transactions. Thus, although such property may be included within the scope of an EBS, their occupants shall not be treated as key site personnel with regard to the housing occupied for the purpose of conducting an EBS.

4.2.3 Site-Specific—This practice is site-specific in that it relates to assessment of environmental conditions of federal real property. Consequently, this practice does not address many additional issues raised in transactions such as purchases of business entities; or interests therein, or of their assets, that may well involve environmental liabilities pertaining to properties previously owned or operated or other off-site environmental liabilities.

4.3 Related Practices—See Practices E 1527 and E 1528.

4.4 Principles—The following principles are an integral part of this practice and all related practices and are intended to be referred to in resolving any ambiguity or exercising such discretion as is accorded the user or environmental professional in performing an EBS or in judging whether a user or environmental professional has conducted appropriate inquiry or has otherwise conducted an adequate EBS.

4.4.1 Uncertainty Not Eliminated—No EBS can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce uncertainty regarding the potential for recognized environmental conditions in connection with a property to the minimum practicable level, but not eliminate such uncertainty altogether, as well as to recognize reasonable limits of time and cost for property information (see 7.1.3.2).

4.4.2 Not Exhaustive—Appropriate inquiry does not mean an exhaustive assessment of an uncontaminated property. There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. One of the purposes of this practice is to identify a balance between the competing goals of limiting the costs and time demands inherent in performing an EBS and the reduction of uncertainty about unknown conditions resulting from additional information.

4.4.3 Level of Inquiry Is Variable—Not every property will warrant the same level of EBS effort. Consistent with good practice, the appropriate level of EBS will be guided by the type of property subject to EBS and the information developed in its conduct.

4.4.4 Comparison With Subsequent Inquiry—It should not be concluded or assumed that an inquiry was not an appropriate inquiry merely because the inquiry did not identify recognized environmental conditions in connection with a property. The EBSs must be evaluated based on the reasonableness of

judgments made at the time and under the circumstances in which they were made. Subsequent EBSs should not be considered valid standards to judge the appropriateness of any prior EBS based on hindsight, new information, use of developing technology or analytical techniques, or other factors.

4.5 Continued Viability of Environmental Baseline Survey—An EBS meeting or exceeding this practice and completed less than 180 days prior to the date of a subsequent use is presumed to be valid for that use. An EBS not meeting or exceeding this practice or completed more than 180 days previously may be used to the extent allowed by 4.6-4.6.5.

4.6 Prior EBS Usage—This practice recognizes that EBSs performed in accordance with this practice or otherwise containing information which was reasonably accurate at the time prepared will include information that subsequent users may want to use to avoid undertaking duplicative EBS procedures. Therefore, this practice describes procedures to be followed to assist users in determining the appropriateness of using information in EBSs performed previously. The system of prior EBS usage is based on the following principles that should be adhered to in addition to the specific procedures set forth elsewhere in this practice:

4.6.1 Use of Prior Information—Subject to 4.6.4, users and environmental professionals may use information in prior EBSs provided such information was generated as a result of procedures that meet or exceed the requirements of this practice or accurately state the limitations of the information presented. When using information from an EBS which, as a whole, fails to meet or exceed the requirements of this practice, the use shall be limited to those portions of the EBS which, based upon the limitations and methodology of the EBS Report, the environmental professional finds to be reasonably accurate.

4.6.2 Prior EBS Meets or Exceeds—Subject to 4.6.4, a prior EBS may be used in its entirety, without regard to the specific procedures set forth in these practices if, in the reasonable judgment of the user, the prior EBS meets or exceeds the requirements of this practice and the conditions at the property likely to affect environmental condition of property area types in connection with the property are not likely to have changed materially since the prior EBS was conducted. In making this judgment, the user should consider the type of property subject to the EBS and the conditions in the area surrounding the property.

4.6.3 Current Investigation—Except as specifically provided in 4.6.2, prior EBSs should not be used without current investigation of conditions likely to affect the environmental condition of property in connection with the property that may have changed materially since the prior EBS was conducted. For an EBS to be consistent with this practice, a new visual inspection, interviews, an update of the records review, and other appropriate activities may have to be performed.

4.6.4 Actual Knowledge Exception—If the user or environmental professional(s) conducting an EBS has actual knowledge that the information being used from a prior EBS is not accurate or if it is obvious, based on other information obtained by means of the EBS or known to the person conducting the

EBS, that the information being used is not accurate, such information from a prior EBS may not be used.

4.6.5 Contractual Issues Regarding Prior EBS Usage—The contractual and legal obligations between prior and subsequent users of EBSs or between environmental professionals who conducted prior EBSs and those who would like to use such prior EBSs are beyond the scope of this practice.

5. User's Responsibilities

5.1 Scope—This section is limited to the responsibilities of users of this practice. Users may be either DoD component staff or environmental professionals contractually engaged to perform EBSs. Users of this practice should be familiar with its entire contents before conducting or documenting an EBS, and to use best professional judgment regarding its applicability to a particular situation.

5.1.1 DoD Component Staff—DoD component staff who have both the requisite specialized knowledge and experience and appropriate training can use this practice as a starting point for conducting or updating EBSs. Although this practice has been designed to help DoD components meet certain legal and policy requirements, it should not be used as a substitute for meeting environmental, BRAC statute, or health and safety legal requirements that exist under various laws, regulations, and DoD and DoD component policies and guidance.

5.1.2 Environmental Professionals—Environmental professionals who have both the requisite specialized knowledge and experience, and appropriate training can use this practice as a starting point for conducting or updating EBSs. Although this practice has been designed to help environmental professionals contractually engaged by DoD components to conduct EBSs, in accordance with applicable legal and policy requirements, it should not be used as a substitute for meeting environmental, BRAC statute, or health and safety legal requirements that exist under various laws, regulations, and DoD and DoD component policies and guidance. Contractually engaged environmental professionals should not use this practice to perform tasks that are inherently governmental functions.

5.2 Specialized Knowledge or Experience of the User—Users of this practice are expected to have the requisite environmental and health and safety training necessary to conduct the tasks identified in this practice. The DoD components are responsible for identifying appropriate staff for conducting these functions, and are also responsible for contractually ensuring that environmental professionals engaged to perform EBSs have appropriate qualifications. These qualifications should be identified in the contract or scope of work.

6. Environmental Baseline Survey Process

6.1 Objective—In accordance with DoD policy, the purpose of the EBS is to determine or discover and to document the obviousness of the presence or likely presence of a release or threatened release of any hazardous substance or petroleum product. In certain cases, additional data, including sampling and analysis, may be needed in the EBS or EBS supplement to support the classification of the property into one of the standard environmental condition of property area types. Additionally, an EBS may also satisfy the uncontaminated property identification requirements of CERFA. Users are cau-

tioned that elements of this practice pertain to an initial EBS conducted by a DoD component as well as to EBS updates, supplemental EBSs, or site-specific EBSs, or a combination thereof, (however termed by the DoD component). As such, it is anticipated that it will only be necessary to complete all steps and tasks identified in this practice for the initial EBS for the property. The user or environmental professional should obtain the input of the DoD component end user regarding the level of effort to be used during any supplemental EBS efforts.

6.2 Five Steps—Within the limitations described in 6.1, it is anticipated that the EBS process will commonly consist of at least four and possibly five discrete steps. These are summarized as follows:

6.2.1 EBS Step 1—Gathering of data and information in accordance with the process described in the applicable DoD policy referenced in 2.2 and as further elaborated in Sections 7-13 of this practice.

6.2.2 EBS Step 2—Analysis of data and information in accordance with the process described in Sections 7-13 of this practice.

6.2.3 EBS Step 3—Determination of the environmental condition of property area type for the real property being evaluated by the EBS, in accordance with the process described in this practice and DoD policy.

6.2.4 EBS Step 4—Preparation of an EBS Report in accordance with the format described in the applicable DoD policy.

6.2.5 EBS Step 5—Updating and enhancing, as necessary, an EBS Report to support property transfer transactions (for example, FOSLs, FOSTs, or environmental condition reports). This process may require repeating Steps 1 through 3 to incorporate additional information or data, or both, generated between the time an initial EBS report is issued and the time an updated version is used to support a property transfer transaction.

6.3 Additional Explanation of EBS Steps 1 and 2—Steps 1 and 2 of the EBS process will consider all sources of available information concerning environmentally significant current and past uses of the real property, and shall, at a minimum, consist of the following eight components, as described in overview as follows (more detailed descriptions of each component are found in Sections 7-13):

6.3.1 Records Search and Review Scope—Detailed search and review of available information and records in the possession of the DoD components or records made available by the regulatory agencies or other involved federal agencies. Department of Defense (DoD) components are responsible for requesting and making reasonable inquiry into the existence and availability of relevant information and records to include any additional study information (for example, surveys for radioactive materials, asbestos, radon, lead-based paint, drinking water quality, indoor air quality, transformers containing PCBs, RCRA Facility Assessments and Investigations, and Underground Storage Tank Cleanup Program) to help support the determination of the environmental condition of property area type.

6.3.2 Adjacent Facility Records Search and Review Scope—Review of all reasonably obtainable federal, state, and local government records for each adjacent facility where there has

been a release or likely release of any hazardous substance or any petroleum product, and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the real property.

6.3.3 Aerial Photography Analysis—Analysis of aerial photographs that are in the possession of the federal government or are reasonably obtainable through state or local government agencies that may reflect prior uses of the property.

6.3.4 Interviews—Interviews with key current or former employees, or both, involved in operations on the real property.

6.3.5 Visual Inspections—Nonintrusive visual inspections of the real property; any buildings, structures, equipment, pipe, pipeline, or other improvements on the real property; and of properties immediately adjacent to the real property, noting sewer lines, runoff patterns, evidence of environmental impacts (for example, stained soil, stressed vegetation, dead or ill wildlife), and other observations which indicate actual or potential release of hazardous substances or petroleum products.

6.3.6 Contamination Source Identification—Identification of sources of contamination on the installation and on adjacent properties which could migrate to the real property.

6.3.7 Ongoing Response Actions—Ongoing response actions or actions that have been taken at or adjacent to the property will be identified and documented.

6.3.8 Physical and Visual Inspection of Adjacent Property—A physical inspection of property adjacent to the real property, to the extent permitted by owners or operators of such property. A visual inspection will be accomplished from areas of public access if a physical inspection is not authorized by the owners or operators of such property.

7. Records Search and Review

7.1 Introduction—Reasonable prudence, CERFA requirements (in the case of an EBS performed to support the identification of uncontaminated property), and DoD guidance mandate that the federal real property be evaluated in order to support real property transactions. One component of this evaluation is the review of all reasonably obtainable federal, state, and local government records to determine where, on the installation, there has been storage, release or likely release of any hazardous substance or any petroleum product, and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the real property.

7.1.1 Objective—The objective of the records review is to perform those parts of Steps 1 and 2 of the EBS process pertaining to obtaining and reviewing adequate and complete records that will help the user or environmental professional make an environmental condition of property area type determination regarding the federal real property.

7.1.2 Accuracy and Completeness—Accuracy and completeness of record information varies among information sources, including governmental sources. Record information is often inaccurate or incomplete. The user or environmental professional is not obligated to identify mistakes or insufficiencies in information provided. However, the environmental professional reviewing the records shall make a reasonable effort to compensate for mistakes or insufficiencies in the

information reviewed that are obvious in light of other information of which the environmental professional has actual knowledge.

7.1.3 Reasonably Obtainable/Standard Sources—Availability of record information varies from information source to information source, including governmental jurisdictions. The user or environmental professional is not obligated to identify, obtain, or review every possible record that might exist with respect to a property. Instead, this practice identifies record information that shall be reviewed from standard sources, and the user or environmental professional is required to review only record information that is reasonably ascertainable from those standard sources. Record information that is reasonably obtainable means: (1) information that is publicly available, (2) information that is obtainable from its source within reasonable time and cost constraints, and (3) information that is practically reviewable.

7.1.3.1 Publicly Available—Information that is publicly available means that the source of the information allows access to the information by anyone upon request.

7.1.3.2 Reasonable Time and Cost—Information that is obtainable within reasonable time and cost constraints means that the information will be provided by the source within a reasonable amount of time of receiving a written, telephone, or in-person request at no more than a nominal cost intended to cover the source's cost of retrieving and duplicating the information. Information that can only be reviewed by a visit to the source is reasonably ascertainable if the visit is permitted by the source within a reasonable amount of time of the request.

7.1.3.3 Practically Reviewable—Information that is practically reviewable means that the information is provided by the source in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data. The form of the information shall be such that the user can review the records for a limited geographic area. Records that cannot be feasibly retrieved by reference to the location of the property or a geographic area in which the property is located are not generally practically reviewable. Most databases of public records are practically reviewable if they can be obtained from the source agency by the county, city, zip code, or other geographic area of the facilities listed in the record system. Records that are sorted, filed, organized, or maintained by the source agency only chronologically are not generally practically reviewable. For large databases with numerous facility records (such as RCRA generators and registered USTs), the records are not practically reviewable unless they can be obtained from the source agency in the smaller geographic area of zip codes. Even when information is provided by zip code for some large databases, it is common for an unmanageable number of sites to be identified within a given zip code. In these cases, it is not necessary to review the impact of all of the sites that are likely to be listed in any given zip code because that information would not be practically reviewable. In other words, when so much data is generated that it cannot be feasibly reviewed for its impact on the property, it is not required to be reviewed.

7.1.4 Alternatives to Standard Sources—Alternative sources may be used instead of standard sources if they are of similar or better reliability and detail, or if a standard source is not reasonably ascertainable.

7.1.5 Coordination—If records are not reasonably ascertainable from standard sources or alternative sources, the environmental professional shall attempt to obtain the requested information by other means specified in this practice such as questions posed to the current owner or occupant(s) of the property or appropriate persons available at the source at the time of the request.

7.1.6 Sources of Standard Source Information—Standard source information or other record information from government agencies may be obtained directly from appropriate government agencies or from commercial services. Government information obtained from nongovernmental sources may be considered current if the source updates the information at least every 90 days or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public.

7.1.7 Documentation of Sources Checked—The EBS report shall document each source that was used, even if a source revealed no findings. Sources shall be sufficiently described, including name, date request for information was filled, date information provided was last updated by source, date information was last updated by original source (if provided other than by original source; see 7.1.4) so as to facilitate reconstruction of the research at a later date.

7.1.8 Significance—If a standard environmental record source (or other sources in the course of conducting the EBS) identifies the property or another site within the approximate minimum search distance, the EBS report shall include the environmental professional's judgment about the significance of the listing to the analysis of recognized environmental conditions in connection with the property (based on the data retrieved pursuant to this section, additional information from the government source, or other sources of information). In doing so, the environmental professional may make statements applicable to multiple sites (for example, a statement to the effect that none of the sites listed is likely to have a negative impact on the property except ...).

7.2 EBS Step 1: Records Gathering—In accordance with 6.2.1, this section specifies the general level of effort required to complete EBS Step 1 tasks associated with records gathering. At a minimum, records to be gathered and reviewed when an EBS is initially conducted include the following:

7.2.1 Background and Physical Setting Records.

7.2.1.1 Physical Setting Sources—A current USGS 7.5 Minute Topographic Map showing the area on which the property is located shall be reviewed, provided it is reasonably obtainable. If a current USGS 7.5 Minute Topographic Map is not readily obtainable, a current 15 Minute Topographic Map showing the area on which the property is located shall be reviewed, provided it is reasonably obtainable. It is the only standard physical setting source and the only physical setting source that is required to be obtained (and only if it is reasonably obtainable). One or more additional physical setting

sources may be obtained in the discretion of the environmental professional. Because such sources provide information about the geologic, hydrogeologic, hydrologic, or topographic characteristics of a site, discretionary physical setting sources shall be sought when: (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to the property or from or within the property into the ground water or soil and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map is generally obtained, pursuant to local good commercial or customary practice in initial environmental site assessments in the type of commercial real estate transaction involved, in order to assess the impact of such migration on recognized environmental conditions in connection with the property.

Standard Physical Setting Source: Current USGS 7.5 Minute Topographic Map

If this map is unavailable, obtain the USGS 15 Minute Map, if available. If neither the USGS 7.5 Minute Topographic Map nor the 15 Minute Map are available, a larger scale (for example, 1:250 000) USGS topographic map should be considered. Where appropriate, a comparable topographic map, prepared by the Defense Mapping Agency, may be used instead of the USGS 7.5 Minute Topographic Map.

Other Physical Setting Sources:

The following sources may also be utilized if requested:

- USGS and/or State Geological Survey—Groundwater Maps
- USGS and/or State Geological Survey—Bedrock Geology Maps
- USGS and/or State Geological Survey—Surficial Geology Maps
- Soil Conservation Service—Soil Maps
- Other physical setting sources that are reasonably credible (as well as reasonably ascertainable)

7.2.2 Department of Defense (DoD) Component records maintained on the property or elsewhere, but reasonably obtainable, which are relevant to classification of environmental condition of property area types, including, but not limited to records of:

7.2.2.1 Ongoing and completed site remediation and environmental response activities, including IRP activities, corrective action programs, LUST responses, and similar activities. This includes all records in the Administrative Record maintained under CERCLA.

7.2.2.2 Records of reported spills of hazardous substances and responses.

7.2.2.3 Records of hazardous waste accumulation, storage, treatment, or disposal, including satellite accumulation records, manifests, and records maintained in connection with permitted hazardous waste activities.

7.2.2.4 Records of hazardous substance and petroleum usage and/or storage.

7.2.2.5 Records of potential hazard surveys, including, but not limited to asbestos surveys, lead-based paint surveys, radioactive materials surveys, mercury surveys, PCB surveys, and radon surveys.

7.2.2.6 Environmental compliance records not specifically included in other required records. This includes, but is not

limited to Safe Drinking Water Act reports, Clean Water Act permits and discharge reports, Clean Air Act permits and discharge and emission reports, EPCRA reports, hazardous waste minimization plans and reports, and pollution prevention plans and reports.

7.2.2.7 Additional records to include planning maps, base historian records, the base comprehensive plan or base master plan, military construction records, real property records, fire department records, historical photographs, and facility and utility records.

7.2.3 Federal, state, and local agency records.

7.2.4 Recorded chain of title documents.

7.3 *EBS Step 2: Records Analysis*—Upon review of the required records gathered to complete EBS Step 1, the user or environmental professional shall indicate in the EBS Report whether the search revealed any of the following on the property:

7.3.1 Spills of hazardous substances or petroleum products, or both,

7.3.2 Leaks of hazardous substances or petroleum products, or both,

7.3.3 Discharges of hazardous substances or petroleum products, or both,

7.3.4 Leaching of hazardous substances or petroleum products, or both,

7.3.5 Injection of hazardous substances or petroleum products, or both,

7.3.6 Dumping of hazardous substances or petroleum products, or both,

7.3.7 Abandoned or discarded barrels, containers, or other,

7.3.8 Receptacles containing hazardous substances or petroleum products,

7.3.9 Automotive batteries,

7.3.10 Industrial batteries,

7.3.11 Pesticides in containers, cartons, sacks, storage bins, canisters,

7.3.12 Paints in containers, cartons, sacks, storage bins, canisters,

7.3.13 Drums containing hazardous substances or petroleum products, or both,

7.3.14 Tanks containing hazardous substances or petroleum products, or both,

7.3.15 Fill dirt from a contaminated site,

7.3.16 Fill pipes,

7.3.17 PCBs in transformers or capacitors,

7.3.18 Heavy industrial equipment, including hydraulic equipment in storage or use,

7.3.19 Ditches subject to contaminated runoff or discharges,

7.3.20 Railroad loading/unloading areas,

7.3.21 Ordinance,

7.3.22 Medical/biohazardous waste,

7.3.23 Radioactive materials and mixed wastes, or

7.3.24 Mercury, for example, seals.

7.4 If the records review revealed any of the above, the EBS Report shall document it/them.

8. Adjacent Facility Records Search and Review

8.1 *Introduction*—Reasonable prudence, CERFA requirements (in the case of an EBS performed to support the

identification of uncontaminated property), and DoD guidance mandate that the federal real property be evaluated in order to categorize real property into applicable environmental condition of property area types. One component of this evaluation is the review of all reasonably obtainable federal, state, and local government records for each adjacent facility where there has been a release or likely release of any hazardous substance or any petroleum product, and which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product on the real property or which might migrate to the federal real property. In this connection, adjacent has the meaning provided in 3.3.1 and includes those properties near enough to the federal real property to present a reasonable probability of affecting the environmental condition of property on the federal real property.

8.1.1 *Objective*—The objective of the adjacent facility records search and review is to perform those parts of Steps 1 and 2 of the EBS process pertaining to identifying, obtaining, and reviewing those reasonably available Federal, State, and local agency records that might disclose information which would affect the environmental condition of property area type determination regarding the federal real property.

8.1.2 *Approximate Minimum Search Distance*—Adjacent facility records pertain not only to facilities adjacent to the federal real property, but also pertain to properties within an additional approximate minimum search distance in order to help assess the likelihood of problems from migrating hazardous substances or petroleum products. When the term approximate minimum search distance includes areas outside the property, it shall be measured from the nearest property boundary. The term approximate minimum search distance is used instead of radius in order to include irregularly shaped properties.

8.1.2.1 *Reduction of Approximate Minimum Search Distance*—When allowed by 8.2.1.1, the approximate minimum search distance for a particular record may be reduced at the discretion of the environmental professional. Factors to consider in reducing the approximate minimum search distance include: (1) the density (for example, urban, rural, or suburban) of the setting in which the property is located; (2) the distance that the hazardous substances or petroleum products are likely to migrate based on local geologic or hydrogeologic conditions; and (3) other reasonable factors. The justification for each reduction and the approximate minimum search distance actually used for any particular record shall be explained in the EBS report.

8.1.3 *Accuracy and Completeness*—See 7.1.2.

8.1.4 *Reasonably Obtainable/Standard Sources*—See 7.1.3.

8.1.4.1 *Publicly Available*—See 7.1.3.1.

8.1.4.2 *Reasonable Time and Cost*—See 7.1.3.2.

8.1.4.3 *Practically Reviewable*—See 7.1.3.3.

8.1.5 *Alternatives to Standard Sources*—See 7.1.4.

8.1.6 *Coordination*—See 7.1.5.

8.1.7 *Sources of Standard Source Information*—See 7.1.6.

8.1.8 *Documentation of Sources Checked*—See 7.1.7.

8.1.9 *Significance*—See 7.1.8.

8.2 EBS Step 1: Adjacent Facility Records Gathering—In accordance with 6.2.1, this section specifies the level of effort required to complete EBS Step 1 tasks associated with adjacent facility records gathering. At a minimum, the following records are to be searched:

8.2.1 Standard Environmental Sources—The following standard environmental record sources shall be reviewed, subject to the conditions of 7.1.1-7.1.8:

8.2.1.1 Standard Environmental Record Sources: Federal and State—The approximate minimum search distance should be established for each installation or portion of an installation, based on the physical setting and surrounding land use. Table 1 includes recommended approximate minimum search distances. An approximate minimum search distance for a particular record may be reduced at the discretion of the environmental professional. Factors to consider in reducing the approximate minimum search distance include: (1) the density (for example, urban, rural, or suburban) of the setting in which the property is located; (2) the distance that the hazardous substances or petroleum products are likely to migrate based on local geologic or hydrogeologic conditions; and (3) other reasonable factors. The justification for each reduction and the approximate minimum search distance actually used for any particular record should be explained in the EBS report.

8.2.2 Additional Environmental Record Sources: State or Local—One or more additional state sources or local sources of environmental records may be checked, at the discretion of the environmental professional, to enhance and supplement federal and state sources identified in Table 1. Factors to consider in determining which local or additional state records, if any, should be checked include: (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are generally obtained, pursuant to local good commercial or customary practice, in initial environmental site assessments in the type of commercial real estate transaction involved. To the extent additional state sources or local sources are used to supplement the same record types listed in Table 1, approximate minimum search distances should not be less than those specified (adjusted as provided in 8.1.2.1 and 8.2.1.1). Some types of records and sources that may be useful include:

Types of Local Records
Lists of Landfill/Solid Waste Disposal Sites
Lists of Hazardous Waste/Contaminated Sites
Lists of Registered Underground Storage Tanks
Records of Emergency Release Reports (SARA Part 304)
Records of Contaminated Public Wells

Local Sources
Department of Health/Environmental Division
Fire Department
Planning Department
Building Permit/Inspection Department
Local/Regional Pollution Control Agency
Local/Regional Water Quality Agency
Local Electric Utility Companies (for records relating to PCBs)

8.2.3 Physical Setting Sources—See 7.2.1.

8.3 EBS Step 2: Adjacent Facility Records Analysis—Upon review of adjacent facility records listed in 8.2, the environmental professional shall indicate in the EBS report whether or not the search revealed any of the following on the property:

8.3.1 Potential or actual migration of hazardous substances or petroleum products, or both, into the area in question from sources of these substances.

8.3.2 The presence of actual sources of hazardous substances or petroleum products, or both, on adjacent property and facilities with suspected migration that has not been evaluated or characterized.

8.3.3 Uncontrolled migration of hazardous substances or petroleum products, or both, in the immediate vicinity of a boundary of the area in question.

8.4 If the records review revealed any of the preceding, the EBS report shall document it/them.

9. Aerial Photography Analysis

9.1 Introduction—Analysis of aerial photography can provide an extremely useful source of supplemental information regarding both land use and the environmental condition of property area type. This analysis may encompass both the federal real property and the adjacent facilities. Analysis of aerial photography should be focused on patterns of land use and human activities as well as direct and indirect evidence of the potential existence of a recognized environmental condition.

9.1.1 Objective—The objective of the aerial photography analysis is to perform those parts of Steps 1 and 2 of the EBS process pertaining to assembling, if reasonably available, an adequately complete set of adjacent properties encompassing both the federal real property and the adjacent facilities, analyzing those photographs for patterns of land use and human activities as well as direct and indirect evidence of the potential existence of a recognized environmental condition, and thereafter, incorporating that information into the overall environmental condition of property area type. Aerial photographs will be sought for the period encompassing the past 60 years of facility use.

9.2 EBS Step 1: Aerial Photography Gathering—In accordance with 6.2.1, this section specifies the level of effort required to complete EBS Step 1 tasks associated with identifying and gathering adjacent properties. At a minimum, the following sources are to be searched:

TABLE 1 Recommended Approximate Minimum Search Distances

Record(s) Source	Approximate Minimum Search Distance, miles (kilometres)
Federal NPL site list	1.0 (1.6)
Federal CERCLIS list	0.5 (0.8)
Federal RCRA TSD facilities list	1.0 (1.6)
Federal RCRA generators list	property and adjoining properties
Federal ERNS list	property only
State lists of hazardous waste sites identified for investigation or remediation (NPL and CERCLIS equivalents)	1.0 (1.6)
State landfill and/or solid waste disposal site lists	0.5 (0.8)
State leaking UST lists	0.5 (0.8)
State registered UST lists	property and adjoining properties

9.2.1 Standard Sources: Aerial Photographs—Aerial photographs are commonly available from government agencies or private collections unique to a local area, and may also be obtained from universities, colleges, and history museums.

9.2.2 Optional Sources—Other sources of similar information, including, but not limited to satellite reconnaissance may be sought where the environmental professional feels that these records would be reasonably available and would materially enhance the analysis required in this section.

9.3 EBS Step 2: Aerial Photography Analysis—The environmental professional shall perform the analysis of photographs using an accepted photo interpretation land use and land cover classification system. Analyzed photographs should preferably be at a 1:24 000 scale or smaller scale (that is, more magnified) to reveal adequate surface detail and necessary spatial coverage. Upon review of adjacent properties in accordance with the previously stated guidelines, the environmental professional shall specify the analysis method used in the EBS Report and also indicate whether any of the following were identified on the property:

9.3.1 Evidence of excavation activities of unknown type, or of industrial operations.

9.3.2 Evidence of dumping or disposing of waste materials.

9.3.3 Evidence of significant storage activities involving drums, tanks, or pipelines containing hazardous substances or petroleum products.

9.3.4 Evidence of staining associated with industrial activities or activities of unknown origin or type.

9.4 If the aerial photography analysis revealed any of the preceding, the EBS report shall document it/them.

10. Interviews

10.1 Introduction—Reasonable prudence, CERFA requirements (in the case of an EBS performed to support the identification of uncontaminated property), and DoD guidance mandate that the federal real property be evaluated in order to categorize real property into applicable environmental condition of property area types. One component of this evaluation are interviews of current or former occupants, or both, involved in operations on the property that are conducted to aid in identifying a recognized environmental condition on the federal real property and other information necessary to determine standard environmental condition of property area types. Interviews of current or former personnel, or both, on the federal real property and interviews of appropriate local government officials supplement documented information and may also provide keys to effective interpretation of such information. Where available information indicates the presence of recognized environmental conditions, it may be necessary to conduct interviews relating to those portions of the installation that have been, or are currently being, actively investigated under the IRP or similar investigation effort.

10.1.1 Objective—The objective of conducting interviews is to perform those parts of Steps 1 and 2 of the EBS process pertaining to obtaining information indicating recognized environmental conditions in connection with the property, so that environmental condition of property area type determinations can be made.

10.2 EBS Step 1: Interviews with Site Personnel—In accordance with 6.2.1, this section specifies the level of effort required to complete EBS Step 1 tasks associated with interviewing current or former personnel, or both, and appropriate local governmental officials. At a minimum, the following should be incorporated into this process:

10.2.1 Content—Interviews with site personnel consist of questions to be asked in the manner and of persons as described in this section. The content of questions to be asked shall attempt to obtain information about uses and conditions as described in Section 9, as well as the information described in Sections 11-13.

10.2.2 Medium—Questions to be asked pursuant to this section may be asked in person, by telephone, or in writing, at the discretion of the environmental professional.

10.2.3 Timing—Except as specified in 9.8 and 9.9, it is at the discretion of the environmental professional whether to ask questions before, during, or after the site visit described in Section 11, or in some combination thereof.

10.2.4 Who Should be Interviewed:

10.2.4.1 Key Site Manager—Prior to the site visit, the owner can be asked to identify a person with good knowledge of the uses and physical characteristics of the property (the key site manager). Often the key site manager will be the installation or base commander, base civil engineer, public works commander or other property manager, chief physical plant supervisor or head maintenance person. (If the user is the current property owner, the user has an obligation to identify a key site manager, even if it is the user himself or herself.) If a key site manager is identified, the person conducting the site visit shall make at least one reasonable attempt (in writing or by telephone) to arrange a mutually convenient appointment for the site visit when the key site manager agrees to be there. If the attempt is successful, the key site manager shall be interviewed in conjunction with the site visit. If such an attempt is unsuccessful, when conducting the site visit, the environmental professional shall inquire whether an identified key site manager (if any) or if a person with good knowledge of the uses and physical characteristics of the property is available to be interviewed at that time; if so, that person shall be interviewed. In any case, it is within the discretion of the environmental professional to decide which questions to ask before, during, or after the site visit or in some combination thereof.

10.2.4.2 Occupants, Including Current and Former Employees—A reasonable attempt shall be made to interview a reasonable number of occupants of, if any, and current employees involved in operations on the property.

(1) Residential Properties—For residential properties, residential occupants do not need to be interviewed, but if the property has nonresidential uses, interviews can be held with the nonresidential occupants based on criteria specified in 10.2.4.2.

(2) Major Occupants—Except as specified in *residential properties*, if the property has five or fewer current occupants, a reasonable attempt shall be made to interview a representative of each one of them. If there are more than five current occupants, a reasonable attempt shall be made to interview the

major occupant(s) and those other occupants whose operations are likely to indicate recognized environmental conditions in connection with the property.

(3) *Reasonable Attempts to Interview*—Examples of reasonable attempts to interview those occupants specified in *major occupants* include (but are not limited to) an attempt to interview such occupants when making the site visit or calling such occupants by telephone. In any case, when there are several occupants to interview, it is not expected that the site visit must be scheduled at a time when they will all be available to be interviewed.

(4) *Occupant Identification*—The EBS report shall identify the occupants interviewed and the duration of their occupancy.

10.2.4.3 *Local Agency Officials*—A reasonable attempt shall be made to interview at least one staff member of any one of the following types of local government agencies:

- (1) Local fire department that serves the property,
- (2) Local health agency or local/regional office of state health agency serving the area in which the property is located, or
- (3) Local agency or local/regional office of state agency having jurisdiction over hazardous waste disposal or other environmental matters in the area in which the property is located.

10.2.5 *Prior Assessment Usage*—Persons interviewed as part of a prior EBS consistent with this practice do not need to be questioned again about the content of answers they provided at that time. However, they can be questioned about any new information learned since that time, or others can be questioned about conditions since the prior EBS consistent with this practice.

10.2.6 *Quality Of Answers*—The person(s) interviewed should be asked to be as specific as reasonably feasible in answering questions. The person(s) interviewed should be asked to answer in good faith and to the extent of their knowledge.

10.2.7 *Incomplete Answers*—In accordance with 10.2.7.1 and 10.2.7.2, the person conducting the interview(s) has an obligation to ask questions, in certain instances the persons to whom the questions are addressed may not have an obligation to answer them.

10.2.7.1 *User/DoD Component Personnel*—If the person to be interviewed is the user (an employee of a DoD component on whose behalf the EBS is being conducted), the user has an obligation to answer all questions posed by the person conducting the interview, in good faith, to the extent of his or her actual knowledge, or to designate a key site manager to do so. If answers to questions are unknown or partially unknown to the user or such key site manager, this interview section of the EBS shall not thereby be deemed incomplete.

10.2.7.2 *Non-User*—If the person conducting the interview(s) asks questions of a person other than a user but does not receive answers or receives partial answers, this section of the EBS shall not thereby be deemed incomplete, provided that (1) the questions have been asked (or attempted to be asked) in person or by telephone and written records have been kept of the person to whom the questions were addressed and the responses, or (2) the questions have been asked in writing sent

by first class mail or by private, commercial carrier and no answer or incomplete answers have been obtained and at least one reasonable follow-up (telephone call or written request) was made again asking for responses.

10.2.8 *Questions About Helpful Documents*—Prior to the site visit, the property owner, key site manager (if any is identified), and user (if different from the property owner) shall be asked if they know whether any of the documents listed in 10.2.8.1 exist and, if so, whether copies can and will be provided to the environmental professional within reasonable time and cost constraints. Even partial information provided may be useful. If so, the environmental professional conducting the site visit shall review the available documents prior to or at the beginning of the site visit.

10.2.8.1 *Helpful Documents*:

- (1) Environment site assessment reports, including PA, SI, or other similar reports.
- (2) Environment audit reports.
- (3) Environmental permits (for example, solid waste disposal permits, hazardous waste disposal permits, wastewater permits, NPDES permits).
- (4) Registrations for underground and above-ground storage tanks.
- (5) Material safety data sheets.
- (6) Community right-to-know plan.
- (7) Safety plans; preparedness and prevention plans; spill prevention, countermeasure, control plans, and so forth.
- (8) Reports regarding hydrogeologic conditions of the property or surrounding area.
- (9) Notices or other correspondence from any government agency relating to past or current violations of environmental laws with respect to the property or relating to environmental liens encumbering the property.
- (10) Hazardous waste—generator notices or reports.
- (11) Geotechnical studies.

10.2.9 *Proceedings Involving the Property*—Prior to the site visit, the property owner, key site manager (if any is identified), and user (if different from the property owner) shall be asked whether they know of: (1) any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property, (2) any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property, and (3) any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.

10.2.10 *Interview Questions*—The person conducting each interview shall, at a minimum, ask and document responses to the following questions:

10.2.10.1 Was or is the area in question used as a gasoline station, motor repair facility, dry cleaners, photo developing laboratory, plating shop, medical or dental facility, junkyard or landfill, training area, or as a waste treatment, storage, disposal, processing, or recycling facility?

10.2.10.2 Has there been any damaged or discarded automotive or industrial batteries, or pesticides, paints, or other chemical or individual containers stored or used in the area in question?

10.2.10.3 Are there drums, sacks, cartons, or other containers of chemicals located on the property in question?

10.2.10.4 Was or is the area in question used for any waste generation or disposal activities?

10.2.10.5 Was or is the area in question used as a firing or bombing range, or both?

10.2.10.6 Have there been or are there storage tanks containing hazardous substances or petroleum products located on the property in question?

10.2.10.7 Have spills, leaks, or other releases of hazardous substance or petroleum products occurred to the best of your knowledge?

10.2.10.8 Have unidentified waste materials, tires, automotive or industrial batteries, ordnance or any other waste materials been dumped, buried, or burned, or a combination thereof, in the area in question?

10.3 *EBS Step 2: Interview Analysis*—Upon completion of Step 1 of the EBS process related to interviews, the environmental professional shall refer to 7.3 and indicate in the EBS report whether or not the responses revealed any of the items in 7.3 on the property. If the responses revealed any of these items, the EBS report shall document it/them.

11. Visual and Physical Inspections

11.1 *Introduction*—Reasonable prudence, CERFA requirements (in the case of an EBS performed to support the identification of uncontaminated property), and DoD guidance mandate that the federal real property be evaluated in order to categorize real property into applicable environmental condition of property area types. One element of this evaluation is the requirement that visual inspections be conducted of the installation property and adjacent property. The visual inspection supplements the documentary record, including interviews, records developed during records search, aerial photography analysis, and the other components of the EBS. The terms “visual inspection” and “visual site inspection” as used in this practice are synonymous. For the purpose of this practice, visual inspection includes two similar, but distinct inspections, the visual inspection of the federal real property and the visual inspection of the adjacent property. The visual inspection of the federal real property will be conducted as described in 11.3. The visual and physical inspection of the adjacent property will be conducted as described in 11.4. The environmental professional and the user should exercise reasonable prudence in scoping and executing the tasks described in this section, recognizing that it is not the purpose of the EBS visual inspection to take the place of other regulatory program requirements, for example, asbestos surveys.

11.2 *Objective*—The objective of the visual inspection is to perform those parts of Steps 1 and 2 of the EBS process pertaining to visually obtaining information indicating the likelihood of recognized environmental conditions in connection with the property, so that environmental condition of property area type determinations can be made.

11.3 *EBS Step 1: Visual Inspection*—In accordance with 6.2.1, this section specifies the level of effort required to complete EBS Step 1 tasks associated with making a visual

inspection of the installation property. At a minimum, the following should be incorporated into this process:

11.3.1 *Observation*—On a visit to the property (the site visit), the environmental professional shall visually and physically observe the property and any structure(s) located on the property to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles. The environmental professional shall also prepare a visual inspection record of the visit. The visual inspection record, which can be field notes and the like, will be used to prepare the EBS report preserved to supplement the EBS report.

11.3.1.1 *Exterior*—The periphery of the property shall be visually and physically observed, as well as the periphery of all structures on the property, and the property should be viewed from all adjacent public thoroughfares. If roads or paths with no apparent outlet are observed on the property, the use of the road or path should be identified to determine whether it was likely to have been used as an avenue for disposal of hazardous substances or petroleum products. For each road without an apparent outlet, the environmental professional shall travel or overfly the length of the road and observe whether areas adjacent to the road appear to have been used for waste disposal.

11.3.1.2 *Interior*—On the interior of structures on the property, accessible common areas expected to be used by occupants or the public (such as lobbies, hallways, utility rooms, recreation areas, and so forth), maintenance and repair areas, including boiler rooms, and a representative sample of occupant spaces, should be visually and physically observed. It is generally not necessary to look under floors, above ceilings, or behind walls. The environmental professional shall exercise best professional judgment and appropriately coordinate with the DoD component when observing the interior of structures on the property.

11.3.1.3 *Methodology*—The environmental professional shall document, in the EBS report, the method used (for example, grid patterns or other systematic approaches used for large properties, which spaces for owner or occupants were observed) to observe the property. For example, representative inspections may be appropriate for structures: (1) that were built using like construction methods, during a fixed time period, (2) are geographically co-located, (3) were subjected to similar categorical use throughout their history, and (4) have no significant differences in their other investigations criteria (for example, records search, interviews, and aerial photos). Common examples would include: military housing units, barracks, officer and enlisted quarters. In consultation with the user, the environmental professional may determine the percentage of structures/properties to be inspected and establish an inspection pattern that provides sufficient representation of the area in question.

11.3.1.4 *Limitations*—The environmental professional shall document, in the EBS report, general limitations and bases of review, including limitations imposed by physical obstructions

such as adjacent buildings, bodies of water, asphalt, or other paved areas, and limiting conditions (for example, snow and rain).

11.3.1.5 Frequency—It is not expected that more than one visit to the property shall be made by the environmental professional in connection with an EBS. The one visit constituting part of the EBS may be referred to as the site visit.

11.3.2 Prior EBS Usage—The information supplied in connection with the visual inspection portion of a prior EBS may be used for guidance but shall not be relied upon without determining through a new visual inspection whether any conditions that are material to recognized environmental conditions in connection with the property have changed since the prior EBS.

11.3.3 Uses and Conditions—The environmental professional(s) conducting the visual inspection should note the uses and conditions specified in 11.3.3.1-11.3.3.4 to the extent visually or physically observed during the site visit. The uses and conditions specified in 11.3.3.1-11.3.3.4 should also be the subject of questions asked as part of interviews of owners and occupants (see Section 10). Uses and conditions to be noted shall be recorded in field notes of the environmental professional(s) conducting the visual inspection but are only required to be described in the EBS report to the extent specified in 11.3.3.1-11.3.3.4. The environmental professional(s) performing the EBS are obligated to identify uses and conditions only to the extent that they may be visually and physically observed on a site visit, as described in this practice, or to the extent that they are identified by the interviews (see Sections 9 and 10) or records search (see Section 7) processes described in this practice.

11.3.3.1 General Site Setting:

(1) Current Use(s) of the Property—The current use(s) of the property shall be identified in the EBS report. Any current uses likely to involve the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products shall be identified in the EBS report. Unoccupied occupant spaces should be noted. In identifying current uses of the property, more specific information is more helpful than less specific information. (For example, it is more useful to identify uses such as a commissary or base exchange rather than simply retail use.)

(2) Past Use(s) of the Property—To the extent that indications of past uses of the property are visually or physically observed on the site visit, or are identified in the interviews or record review, they shall be identified in the EBS report, and past uses so identified shall be described in the EBS report if they are likely to have involved the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products. (For example, there may be signs indicating a past use or a structure indicating a past use.)

(3) Geologic, Hydrogeologic, Hydrologic, and Topographic Conditions—The topographic conditions of the property shall be noted to the extent visually or physically observed or determined from interviews, as well as the general topography of the area surrounding the property that is visually or physically observed from the periphery of the property. If any information obtained shows there are likely to be hazardous

substances or petroleum products on the property or on nearby properties and those hazardous substances or petroleum products are of a type that may migrate, topographic observations shall be analyzed in connection with geologic, hydrogeologic, hydrologic, and topographic information obtained pursuant to records review (see 7.2.3) and interviews to evaluate whether hazardous substances or petroleum products are likely to migrate to the property, or within or from the property, into ground water or soil.

(4) General Description of Structures—Generally, the EBS report shall describe the structures or other improvements on the property for example: number of buildings, number of stories each, approximate age of buildings, ancillary structures (if any), and so forth.

(5) Thoroughfares—Public thoroughfares adjoining the property shall be identified in the EBS Report, and any roads, streets, railroads, and parking facilities on the property shall be described in the EBS Report.

(6) Potable Water Supply—The source of potable water for the property shall be identified in the EBS report.

(7) Sewage Disposal System—The sewage disposal system for the property shall be identified in the EBS report. Inquiry shall be made as to the age of the system as part of the process under Sections 7, 9, or 10.

(8) Storm Drains—The storm drains for the property shall be identified in the EBS report.

(9) Access Vaults—Access vaults occurring on the property shall be identified in the EBS report.

11.3.3.2 Interior and Exterior Observations:

(1) Current Use(s) of the Property—The current use(s) of the property shall be identified in the EBS report. Any current uses likely to involve the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products shall be identified in the EBS Report. Unoccupied occupant spaces should be noted. In identifying current uses of the property, more specific information is more helpful than less specific information. (For example, it is more useful to identify uses such as a commissary or base exchange rather than simply retail use.)

(2) Past Use(s) of the Property—To the extent that indications of past uses of the property are visually or physically observed on the site visit, or are identified in the interviews or records review, they shall be identified in the EBS report, and past uses so identified shall be described in the EBS report if they are likely to have involved the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products. (For example, there may be signs indicating a past use or a structure indicating a past use.)

(3) Hazardous Substances and Petroleum Products in Connection with Identified Uses—To the extent that present uses are identified that use, treat, store, dispose of, or generate hazardous substances and petroleum products on the property. The hazardous substances and petroleum products shall be identified or indicated as unidentified in the EBS report, and the approximate quantities involved, types of containers (if any) and storage conditions shall be described in the EBS report. To the extent that past uses are identified that used, treated, stored, disposed of, or generated hazardous substances

and petroleum products on the property, the information shall be identified to the extent it is visually or physically observed during the site visit or identified from the interviews or the records review.

(4) *Storage Tanks*—Above-ground storage tanks, or solvents or vent pipes, fill pipes or access ways indicating solvents shall be identified (for example, content, capacity, and age) to the extent visually or physically observed during the site visit or identified from the interviews or records review.

(5) *Odors*—Strong, pungent, or noxious odors shall be described in the EBS report and their sources shall be identified in the EBS report to the extent visually or physically observed or identified from the interviews or records review.

(6) *Pools of Liquid*—Standing surface water (other than common rain puddles) shall be noted. Pools or sumps containing liquids likely to be hazardous substances or petroleum products shall be described in the EBS report to the extent visually or physically observed or identified from the interviews or records review.

(7) *Drums*—To the extent visually or physically observed or identified from the interviews or records review, drums shall be described in the EBS report, whether or not they are leaking, unless it is known that their contents are not hazardous substances or petroleum products (in that case, the contents should be described in the EBS report). Drums commonly hold 55 g (208 L) of liquid, but containers as small as 5 g (19 L) should also be described.

(8) *Hazardous Substance and Petroleum Products Containers (Not Necessarily in Connection With Identified Uses)*—When containers identified as containing hazardous substances or petroleum products are visually or physically observed on the property and are or might be a recognized environmental condition: the hazardous substances or petroleum products shall be identified or indicated as “unidentified” in the EBS report, and the approximate quantities involved, types of containers (for example, cartons, tanks, cans), and storage conditions shall be described in the EBS report.

(9) *Unidentified Substance Containers*—When open or damaged containers containing unidentified substances suspected of being hazardous substances or petroleum products are visually or physically observed on the property, the approximate quantities involved, types of containers, and storage conditions shall be described in the EBS report.

(10) *PCBs*—Electrical or hydraulic equipment known to contain PCBs or likely to contain PCBs shall be described in the EBS report to the extent visually or physically observed or identified from the interviews or records review. Fluorescent light ballast likely to contain PCBs does not need to be noted.

11.3.3.3 Interior Observations:

(1) *Heating/Cooling*—The means of heating and cooling the buildings on the property, including the fuel source for heating and cooling, shall be identified in the EBS report (for example, heating oil, gas, electric, radiators from steam boiler fueled by gas).

(2) *Stains or Corrosion*—To the extent visually or physically observed or identified from the interviews, stains or corrosion on floors, walls, or ceilings shall be described in the EBS report, except for staining from water.

(3) *Drains and Sumps*—To the extent visually or physically observed or identified from the interviews, floor drains and sumps shall be identified in the EBS report. Floor drains and sumps where a release or suspected release occurred should be further described in the EBS report.

11.3.3.4 Exterior Observations:

(1) *Pits, Ponds, or Lagoons*—To the extent visually or physically observed or identified from the interviews or records review, pits, ponds, or lagoons on the property shall be identified in the EBS report, and further described if they have been used in connection with waste disposal or waste treatment. Pits, ponds, or lagoons on properties adjoining the property shall be described in the EBS report to the extent they are visually or physically observed from the property or identified in the interviews or records review.

(2) *Stained Soil or Pavement*—To the extent visually or physically observed or identified from the interviews, areas of stained soil or pavement shall be described in the EBS report.

(3) *Stressed Vegetation*—To the extent visually or physically observed or identified from the interviews, areas of stressed vegetation (from something other than insufficient water) shall be described in the EBS report.

(4) *Solid Waste*—To the extent visually or physically observed or identified from the interviews or records review, areas that are apparently filled or graded by nonnatural causes (or filled by fill of unknown origin) suggesting trash or other solid waste disposal, or mounds or depressions suggesting trash or other solid waste disposal, shall be described in the EBS report.

(5) *Waste Water*—To the extent visually or physically observed or identified from the interviews or records review, waste water or other liquid (including storm water) or any discharge into a drain, ditch, or stream on or adjacent to the property shall be described in the EBS report.

(6) *Wells*—To the extent visually or physically observed or identified from the interviews or records review, all wells (including dry wells, irrigation wells, injection wells, abandoned wells, or other wells) shall be described in the EBS report.

(7) *Septic Systems*—To the extent visually or physically observed or identified from the interviews or records review, indications of on-site septic systems or cesspools should be described in the EBS report.

11.4 *Visual Inspection of Adjacent Property*—The visual inspection of adjacent property will be accomplished when consent has been obtained to enter the adjacent facility. The user or environmental professional shall visually and physically observe the adjacent property to evaluate and identify, if possible, conditions which could give rise to recognized environmental conditions on the property, through migration or other transport of petroleum products or hazardous substances.

11.4.1 *Consent of Owner/Operator of Adjacent Property*—Access to the adjacent property is required to undertake a visual and physical inspection of the adjacent property. Written consent will be sought by either the DoD Component or the environmental professional. Where voluntary consent is obtained, a visual and a physical inspection will be conducted, as described in this section. If consent is not given, a visual

inspection will be conducted from outside the facility boundaries, for example, from public rights of way, or adjacent facilities where consent has been given and from other suitable sites. If voluntary consent is not obtained, no direct access to the adjacent property will be sought through involuntary means, for example, condemnation of an easement or right of entry or obtaining an administrative warrant.

11.4.2 *General Site Setting:*

11.4.2.1 *Current Uses of Adjacent Properties*—To the extent that current uses of adjacent properties are visually or physically observed on the site visit, or are identified in the interviews or records review, they shall be identified in the EBS report, and current uses so identified shall be described in the EBS report if they are likely to indicate recognized environmental conditions in connection with the adjoining properties or the property.

11.4.2.2 *Past Uses of Adjacent Properties*—To the extent that indications of past uses of adjacent properties are visually or physically observed on the site visit, or are identified in the interviews or record review, they shall be noted by the environmental professional, and past uses so identified shall be described in the EBS report if they are likely to indicate recognized environmental conditions in connection with the adjacent properties or the property.

11.4.3 *Current or Past Uses in the Surrounding Area*—To the extent that the general type of current or past uses (for example, residential, commercial, industrial) of properties surrounding the property are visually or physically observed on the site visit or going to or from the property for the site visit, or are identified in the interviews or record review, they shall be noted by the environmental professional, and uses so identified shall be described in the EBS report if they are likely to indicate recognized environmental conditions in connection with the property.

11.5 *EBS Step 2: Visual Inspection Analysis*—If the visual inspection revealed any conditions indicating the storage, release, or disposal of hazardous substances or petroleum products, the EBS report shall document them.

12. Contamination Source Identification

12.1 *Introduction*—The identification of sources of actual or potential contamination is required by published DoD policy statements relating to each of the actions that require an EBS, particularly the DoD FOST guidance. It is anticipated that, in the ordinary course of events, all relevant records to accomplish this task will be obtained through the records search and review tasks, interview tasks, site visit tasks, and other data collection efforts prescribed in this practice. The principal additional goal of this section is to fulfill Step 1 and Step 2 EBS requirements, by analyzing information and data, where necessary to specifically identify sources of actual or potential contamination (recognized environmental conditions), leading to the identification of an environmental condition of property area type.

12.2 *Objective*—Identify sources of actual or potential contamination so as to evaluate whether they affect or may affect the categorization of the environmental condition of the property, including whether all required remedial action has been taken.

12.3 *EBS Step 1: Contamination Source Identification*—In accordance with 6.2.1, this section specifies the level of effort required to complete EBS Step 1 tasks associated with contamination source identification. At a minimum, this step should be completed by following the procedures described in Sections 7-11. If current records are incomplete regarding the nature and extent of contaminant sources, the user or environmental professional will note the status of records search efforts and which records remain incomplete.

12.4 *EBS Step 2: Contamination Source Identification Analysis*—If records are complete for a contaminant source, its nature and extent will be used to determine the environmental condition of the real property. If current records are incomplete regarding the nature and extent of contaminant sources, the user or environmental professional will note the strategy for completing relevant records so that a determination other than environmental condition of property area Type 7 can be made (for example, “contaminant source currently being characterized through remedial investigation; anticipated completion in month/year”).

13. Ongoing Response Actions

13.1 *Introduction*—The identification of ongoing response actions is required by published DoD policy statements relating to each of the actions that require an EBS, particularly the DoD FOST guidance. It is anticipated that, in the ordinary course of events, all relevant records to accomplish this task will be obtained through the records search and review tasks, interview tasks, site visit tasks, and other data collection efforts prescribed in this practice. The principal additional goal of this section is to fulfill Step 1 and Step 2 EBS requirements, by analyzing information and data, where necessary to specifically identify ongoing response actions and determine relevant information regarding effectiveness and completeness of any ongoing response actions, so that an accurate environmental condition of property area type determination can be made.

13.2 *Objective*—Identify ongoing response actions and determine what portion of the property is affected and whether the environmental condition of the property satisfies the requirements of CERCLA § 120(h)(3), including whether all required remedial action has been taken.

13.3 *EBS Step 1: Ongoing Response Actions*—In accordance with 6.2.1, this section specifies the level of effort required to complete EBS Step 1 tasks associated with identification of ongoing response actions at the installation or on properties that would affect environmental condition of property area type determinations for all or parts of the installation. At a minimum, this step should be completed by following the procedures described in Sections 7-11. If current records are incomplete regarding ongoing response actions, the user or environmental professional will note the status of records search efforts and which records remain incomplete.

13.4 *EBS Step 2: IRP and Other Ongoing Response Action Analysis*—The purpose of the Step 2 analysis is to support the objective of 13.2. This analysis can be critical to the differentiation between or among certain environmental condition of property area types (for example, between area Type 5 areas, which are not transferrable by deed, and area Type 4 areas, which are), as performed as EBS Step 3.

14. Determining Environmental Condition of Property Area Type

14.1 *Introduction*—The user or environmental professional will generally take information obtained from the activities described in Sections 7-13 and classify federal real property into the seven standard environmental condition of property area types identified in the Standard Classification. Steps 1 and 2 of the EBS process are intended to collect and analyze information that will provide the basis for assigning, in EBS Step 3, an environmental condition of property (ECP) area type for each portion of the installation. The actual classification of any portion of installation property is based on both the information and analyses at hand and on a variety of site-specific conditions (for example, geologic conditions, hydrologic conditions, nature, and extent of contamination, and so forth) and, with the exception of the general guidelines presented in this section, is beyond the scope of this practice. Ideally, the classification of any property into an ECP area type should reflect a consensus among the Military Department and the federal and state regulators. In general, Steps 1 and 2 of the EBS process will have accomplished their purpose if they provide all information and analyses required to make accurate Step 3 ECP area type determinations.

14.2 *Objective*—The objective of this section is to identify a general process to guide the EBS Step 3 classification of areas of federal real property into one of seven standard ECP area types. The ECP area type classification is a tool that is intended to provide an EBS user with a complete and accurate “snapshot” of relevant aspects of the environmental condition of installation property in support of property transfer and reuse decisions (see also Section 1).

14.3 *General Process for EBS Step 3—Determining ECP Area Types:*

14.3.1 *Process for Determining ECP Area Type 1 Property*—Complete Steps 1 and 2 of the EBS process (see 6.2.1 and 6.2.2). Identify ECP area Type 1 property in accordance with CERFA criteria (see 1.1.3). The ECP area Type 1 property may be identified as either part of the CERFA process or subsequent to the CERFA statutory deadline.

14.3.2 *Process for Determining ECP Area Type 2 Property*—Complete Steps 1 and 2 of the EBS process (see 6.2.1 and 6.2.2). Identify ECP area Type 2 property in accordance with CERFA criteria (see 1.1.3). Identify real property where only storage for less than one year occurred (CERFA uncontaminated) and where only storage occurred for more than one year. Real property may be proposed as ECP area Type 2 through the CERFA process or subsequent to the CERFA statutory deadline.

14.3.3 *Process for Determining ECP Area Type 3 Property*—Complete Steps 1 and 2 of the EBS process (see 6.2.1 and 6.2.2). If a determination can be made that concentrations of hazardous substances or petroleum products are below action levels, in accordance with the criteria contained in the Standard Classification, the real property may be classified as ECP area Type 3. The ECP area Type 3 real property may be identified at any time after completion of Steps 1 and 2 of the EBS process.

14.3.4 *Process for Determining ECP Area Type 4 Property*—Complete Steps 1 and 2 of the EBS process (see 6.2.1 and 6.2.2). If the determination can be made that all required remedial actions have been taken, in accordance with CERCLA and the criteria contained in the Standard Classification, the real property may be classified as ECP area Type 4. The ECP area Type 4 real property may be identified at any time after completion of Steps 1 and 2 of the EBS process.

14.3.5 *Process for Determining ECP Area Type 5 Property*—Complete Steps 1 and 2 of the EBS process (see 6.2.1 and 6.2.2). If the determination can be made that a remedy has been selected but that all required remedial actions have not yet been taken, in accordance with CERCLA and the criteria contained in the Standard Classification, the real property may be classified as ECP area Type 5. The ECP area Type 5 real property may be identified at any time after completion of Steps 1 and 2 of the EBS process.

14.3.6 *Process for Determining ECP Area Type 6 Property*—Complete Steps 1 and 2 of the EBS process (see 6.2.1 and 6.2.2). If the determination can be made that concentrations of hazardous substances or petroleum products are above action levels, in accordance with the criteria contained in federal, state, and local statutes and the Standard Classification, the real property should be designated as ECP area Type 6. The ECP area Type 6 real property may be identified at any time after completion of Steps 1 and 2 of the EBS process.

14.3.7 *Process for Determining ECP Area Type 7 Property*—Complete Steps 1 and 2 of the EBS process (see 6.2.1 and 6.2.2). If the real property cannot be conclusively categorized into area Types 1 through 6, as defined in the Standard Classification, the real property should be designated as ECP area Type 7. The ECP area Type 7 real property may be identified at any time after completion of Steps 1 and 2 of the EBS process.

15. Keywords

15.1 environment; environmental assessment; environmental baseline; environmental condition; environmental condition of property; restoration; site assessment; site characterization; site remediation

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