

**BUREAU OF ENVIRONMENTAL REMEDIATION/REMEDIAL SECTION
POLICY**

DEVELOPING A SOIL-WASTE MANAGEMENT PLAN

**BER POLICY # BER-RS-55
DATE: July 30, 2013
PAGES: 8**

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Introduction:

This guidance provides an outline for developing site-specific Soil-Waste Management Plans (SWMP). SWMPs are KDHE-approved plans that outline procedures for current and future users of a site for various types of activities that physically disturb and/or alter existing contaminated soil, wastes, engineering controls (i.e., caps, recovery trenches, etc.), and/or other remedial actions. The primary goal of SWMPs are to minimize risks to owners, developers, and human health and the environment by providing a KDHE pre-approved plan for disturbing (i.e., digging, drilling, tunneling, etc.) known contaminated areas at a site. SWMPs generally include such items as notification to KDHE prior to the disturbance, handling excavated soil and/or waste (“material”), sampling requirements, management and disposal of contaminated material, and documentation of the disturbance activity. SWMPs are commonly used in conjunction with Environmental Use Controls (EUCs) and Long-Term Care Agreements (LTCAs) to assist property owners, operators, developers and any other party that may be conducting activities that disturb contaminated material and/or engineering controls at a site.

The benefits of developing an SWMP is to establish pre-approved procedures so that future utility work or redevelopment activities can be performed in a timely and predictable manner. Once the SWMP is approved the future soil disturbing activities can follow established procedures that are described in advance with established procedures and timelines. This can be very important when installing utilities or redeveloping a contaminated site.

For the purposes of this guidance, the term “disturbance activities” shall mean any activity including, but not limited to, drilling, digging, trenching, excavating, tunneling, grading, scraping, plowing, burrowing or any other activity that may disturb and/or alter a KDHE-approved remedial action involving contaminated material and/or engineering controls at a site.

SWMPs are generally site-specific and may include, but are not limited to, the following components:

- **PURPOSE AND OBJECTIVES**
- **SITE DESCRIPTION AND BACKGROUND**
- **APPLICABILITY**
- **SOIL MANAGEMENT PROCEDURES**
 - **PROCEDURES FOR PRE-DISTURBANCE ACTIVITIES**
 - **PROCEDURES FOR DISTURBANCE ACTIVITIES**
 - **PROCEDURES FOR POST-DISTURBANCE ACTIVITIES**
- **HEALTH AND SAFETY**
- **SPECIAL CONSIDERATIONS**

The components listed above are further discussed in Sections 1.0 through 6.0 of this guidance.

1.0 PURPOSE AND OBJECTIVES

A SWMP should concisely describe the reason for the SWMP including any site-specific objectives. In general, the purpose of a SWMP is to protect human health and the environment during any disturbance activities within the boundaries established by the Environmental Use Control and/or SWMP. The following objectives may be included in this section:

- To establish procedures for documenting the decision-making process prior to performing disturbance activities;
- To establish procedures for management and disposal of contaminated material which may be generated during disturbance activities;
- To establish proper notification procedures to KDHE and other recognized entities;
- To protect personnel from potential and uncontrolled exposure to contaminated material while performing disturbance activities or other routine work activities;
- To ensure that disturbance activities are conducted and contaminated material is managed in accordance with the SWMP and all applicable federal, state and local laws, regulations and requirements; and,
- To maintain the integrity of designed engineering controls.

2.0 SITE DESCRIPTION AND BACKGROUND

This section includes a brief background of the site and may include the following information:

- Site name, location, and boundary (KDHE Project No., street address, city, county, legal description, etc.);
- Location and boundaries of any sub-sites, if applicable, including Environmental Use Control (EUC) areas;
- Site's operational history as related to the contaminants of concern;
- Current land use of site and adjacent properties;
- Site features (topography, soil types, surface water drainage areas, etc.);
- Investigative and remedial action history, including remedial systems and structures in place at the site;
- Contaminants of concern: concentrations, locations, depths, established cleanup levels and analytical methods; and
- Any other pertinent site information.

Site information may be conveyed in figures and/or tables, as appropriate in the SWMP. This section should provide future users with an idea of the contamination issues and remedial activities conducted at the site.

3.0 APPLICABILITY

This section should summarize current KDHE requirements for the site and the applicability of the SWMP with such requirements. These requirements may be outlined in various documents (i.e. administrative order, consent agreement and final order, voluntary agreement, EUC agreement, operation and maintenance plan, etc.). It is important that future users have an understanding of KDHE's requirements and the relevance of the SWMP to the site. The section should also clearly describe any areas of the site that are not contaminated (as approved by the KDHE project manager) so they may be exempted or excluded from the SWMP if appropriately identified.

Please note in this section that use of the SWMP is not applicable for any spill and/or emergency response, leaks, or releases that may impact soils within the site from daily facility operations. These incidents require reporting and subsequent coordination with the appropriate local, state, and federal agencies as required.

4.0 SOIL MANAGEMENT PROCEDURES

This section establishes the planning, management and disposal procedures for contaminated material generated during disturbance activities at a site. Examples of flow charts depicting the generalized process for notification requirements, characterization and management of soil waste, including options for disposal, and storage of soil on-site pending analysis (if applicable), are outlined in Attachments A and B. These examples may be used, referenced, and/or modified where appropriate.

The following sections, 4.1 through 4.3, should describe those procedures needed for the following: 1) planning for pre-soil disturbance, 2) soil disturbance activities and disposal decisions, and 3) restoration of soil disturbance areas. Please note that there may be site-specific situations which may require deviations from the soil management procedures in the KDHE-approved SWMP. Any proposed deviations from the approved soil management procedures should be clearly described and pre-approved by KDHE prior to implementation.

4.1 PLANNING ACTIVITIES PRIOR TO DISTURBANCE

This section describes the planning activities and associated procedures to follow prior to initiating disturbance activities at the site. These procedures include, but are not limited to, planning for proposed waste generation; characterization procedures for contaminated soils; obtaining permits required for the planned scope of work; identifying utility clearances needed; and evaluating and discussing controls to be implemented (i.e. work area access, dust management, storm water runoff, etc.). It is important that KDHE receive notification of disturbance activities prior to implementation which is further discussed below. Routine or *deminimus* situations may not need prior notification as approved by KDHE. The following paragraphs address additional matters to be evaluated and discussed.

4.1.1 The proposed area for disturbance activities will need to be evaluated for the presence of known or suspected contamination. Initially, existing site-specific data should be evaluated to determine if the proposed disturbance area has been properly characterized. It may be necessary to collect additional data if the evaluation of existing site-specific data indicates uncertainties or data gaps for the proposed disturbance area. A work plan may be required by the KDHE project manager for any additional in-situ testing or soil waste characterization. In cases where further characterization is determined appropriate, the type and number for samples collected should be based on site-specific information in coordination with the KDHE project manager.

4.1.2 Notification procedures for disturbance activities should be clearly defined in the SWMP and approved by the KDHE BER project manager. Notification may entail providing a description of the planned work; contact information for persons responsible for work; location of disturbance activities, including size and depth; estimated volume of material to be disturbed; schedule for planned activities; etc. General practice is for the SWMP user to submit written notification to the KDHE project manager at least seven days in advance of field activities. Notification of disturbance activities to other agencies (i.e. Environmental Protection Agency, local governments, etc.) may be required and should be included

in this section. Notification to KDHE BER may be provided online through the Remedial Section Field Activities Notification Form which is available on KDHE's website at www.kdheks.gov/remedial/fieldactivities_notification.html.

4.1.3 Transportation and disposal plans proposed for contaminated media (soil, waste and storm water runoff, etc.) generated at a site should be conducted in accordance with relevant federal, state, and local laws, regulations, policies, and guidance. In most cases, it will be necessary to confer with the KDHE Bureau of Waste Management (BWM) and KDHE Bureau of Water (BOW) to determine if the approach to manage soil and storm water runoff will satisfy and comply with all applicable or relevant and appropriate requirements (ARARs).

4.1.4 Proposals for beneficial land application of excavated soils contaminated with agricultural chemicals must be reviewed and approved by the KDHE BER project manager prior to implementation. Land application activities must be conducted in accordance with KDHE's BER Policy BER-RS-047 titled, "*Nitrate Presumptive Remedy*," which is available on KDHE's website at http://kdheks.gov/ber/policies/BER_RS_047.pdf. Additional information regarding land application requirements and guidelines are available on KDHE's website at http://www.kdheks.gov/remedial/scu/nitrate_contaminated_sites.html#landapp. Proposals for disposal by land farming of excavated soils contaminated with petroleum hydrocarbons must be reviewed and approved by KDHE. Land farming activities are conducted under the auspices of KDHE BWM.

4.1.5 When soil from another area is proposed to be used as backfill, cover, or to restore the disturbance area an evaluation of the proposed soil source should be submitted for approval by the KDHE BER project manager prior to its use. Selecting areas to obtain clean soil and/or fill material, commonly referred to as "borrow sites", must be conducted in accordance with KDHE's BER Policy BER-RS-048 titled, "*Consideration and Selection of Borrow Sites*," which is available on KDHE's website at http://www.kdheks.gov/ber/policies/BER_RS_48.pdf. This policy provides guidance on minimum requirements for contractors in proposing and selecting borrow sites.

4.1.6 For sites within an existing Environmental Use Control (EUC), generated soil-waste brought to the surface by a disturbance activity may be placed back into the excavation by maintaining appropriate site-specific capping criteria to prevent direct contact with the contaminated material and/or prevent water migration. The SWMP should clearly identify the site-specific capping criteria that will be used to cover the contaminated material once it is placed back into the excavation. These disturbance activities may or may not require additional KDHE oversight as approved in the final SWMP by the KDHE Project Manager.

4.2 PROCEDURES FOR DISTURBANCE ACTIVITIES

This section should describe the procedures to be implemented during disturbance activities at the site, including soil management, transportation (if any), storage and disposal procedures. Activities should be conducted in accordance with Best Management Practices that minimizes the area disturbed, reduces and/or eliminates dust creation, and protects on-site workers. Procedures must also account for preventing migration of soil contaminants to uncontaminated areas.

Soil and/or waste proposed for disposal off-site will go through a waste determination to determine if it's a hazardous, special, or solid waste. To make a hazardous waste determination, please reference KDHE BWM's Technical Guidance Document HW-2011-G1. Soil waste may be subjected to totals metals analysis and/or analysis via toxicity characteristic leaching procedure (TCLP) as per the Environment Protection Agency (EPA) SW-846 Method 1311 to support the waste determinations. If the excavated contaminated material is determined to be a listed or characteristic hazardous waste, hazardous waste regulations for storage, transportation, and disposal will apply. If the contaminated material is not hazardous and will be disposed off-site, special or solid waste requirements for storage, transportation, and disposal will apply. Management and disposal of RCRA hazardous waste or special waste must be done in coordination with KDHE BWM. Further information regarding soil characterization, hazardous waste determination, and soil management can be found in policies and guidance referenced in Section 7.0 of this document. As previously discussed, if approved in the SWMP by the KDHE Project Manager contaminated material may be placed back into the excavation and properly covered. This is only applicable to sites with existing EUC agreements and must restore the cover/cap to original conditions.

4.3 PROCEDURES FOR POST DISTURBANCE ACTIVITIES

This section should describe the procedures to be implemented following disturbance activities at the site. These procedures include, but are not limited to, backfilling protocol, restoration activities for the disturbed area(s), inspections, and proposed on-site disposal area maintenance (i.e., storm water runoff control for land farms, drum storage maintenance, etc.), if applicable.

This section should also establish reporting procedures to document the disturbance events. The amount of information needed and the degree to which activities are reported is ultimately approved by the KDHE project manager. General practice is for the SWMP user to submit a written summary to KDHE BER in the form of a letter or report 30 days within receipt of analytical results or as otherwise approved by the KDHE project manager. Soil management practices implemented should be fully documented. Reporting should also include a summary of activities completed, photo documentation, resurveying (if applicable), notification logs, notes, analytical reports, ancillary project documentation, approvals granted by KDHE, all associated waste documentation (i.e. waste disposal facility used, waste manifests, etc.), and documentation of any deviations from the approved SWMP.

5.0 HEALTH AND SAFETY

This section should briefly describe any health and safety procedures or precautions necessary during implementation of disturbance activities at the site to protect the public and/or on-site workers. Risks associated with site contaminants, actual and potential receptors and exposure routes should also be identified.

6.0 SPECIAL CONSIDERATIONS

This guidance does not preclude the need for individuals, programs, or facilities generating waste to make appropriate waste determinations and to be familiar with relevant federal, state, and local laws, regulations, and policies, including guidance and websites referenced in Section 7.0. It may be necessary to confer with KDHE BWM and/or KDHE BOW in order to determine whether the waste management procedures identified using this guidance will satisfy ARARs. In general, this guidance document should be used as a reference.

7.0 REFERENCED GUIDANCE AND USEFUL WEBSITES

KDHE, 2010, *Risk-Based Standards for Kansas (RSK) Manual, 5th Version*, available online at http://www.kdheks.gov/remedial/download/RSK_Manual_10.pdf, Kansas Department of Health and Environment, Topeka, KS, October.

KDHE, 2005, *Potential Applicable or Relevant and Appropriate Requirements (ARARs)*, BER-RS-015, available online at http://www.kdheks.gov/ber/policies/BER_RS_015.pdf, Kansas Department of Health and Environment, Topeka, KS, August.

KDHE, *Nitrate Contaminated Sites and Land Application Guideline*, available online at http://www.kdheks.gov/remedial/scu/nitrate_contaminated_sites.html, Kansas Department of Health and Environment, Topeka, KS.

KDHE, 2007, *Consideration and Selection of Borrow Sites*, BER-RS-048, available online at http://www.kdheks.gov/ber/policies/BER_RS_48.pdf, Kansas Department of Health and Environment, Topeka, KS, June.

Davis, 2001, *Regulated Metals: the Rule of 20*, available online at <http://www.sbeap.org/publications/ruleof20.pdf>, Pollution Prevention Institute, Small Business Environmental Assistance Program, Kansas State University, Manhattan, Kansas, December.

KDHE, 2011, *Hazardous Waste Generator Handbook*, available online at <http://www.kdheks.gov/waste/forms/hazwaste/gen700-HWGenHandbook2011.pdf>, Kansas Department of Health and Environment, Topeka, KS, May.

KDHE, 1996, *Characterization and Management of Contaminated Soil Cuttings*, BER-RS-003, available online at http://www.kdheks.gov/ber/policies/BER_RS_003.pdf, Kansas Department of Health and Environment, Topeka, KS.

U.S. EPA, 1991, *Management of Investigation-Derived Wastes During Site Inspections*, EPA/540/G-91/009, available online at <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=10001WN4.txt>, United States Environmental Protection Agency, Office of Emergency and Remedial Response, Washington D.C., May.

U.S. EPA, 1992, *Guide to Management of Investigation-Derived Wastes*, Publication 9345.3-03FS, available online at <http://www.epa.gov/superfund/policy/remedy/pdfs/93-45303fs-s.pdf>, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington D.C., January.

U.S. DOE, 1999, Memorandum from T. Traceski dated December 20, 1999, Subject – *Management of Remediation Waste Under the Resource Conservation and Recovery Act (RCRA)*, available online at http://www.hss.energy.gov/sesa/environment/guidance/rcra/rem_wsteib.pdf, United States Government, Department of Energy, Office of Environmental Policy and Assistance, Washington D.C., December.

U.S. EPA, 1991, *Guide to Discharging CERCLA Aqueous Wastes to Publicly Owned Treatment Works (POTWs)*, Publication 9330.2-13FS, available online at <http://www.epa.gov/superfund/policy/remedy/pdfs/93->

[30213fs-s.pdf](#), United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington D.C., March.

KDHE, Bureau of Environmental Remediation, Remedial Section, Environmental Use Control Program, <http://www.kdheks.gov/remedial/vcp/index.html>.

KDHE, Bureau of Environmental Remediation, Remedial Section, Nitrate Contaminated Sites and Land Application Guideline, http://www.kdheks.gov/remedial/scu/nitrate_contaminated_sites.html.

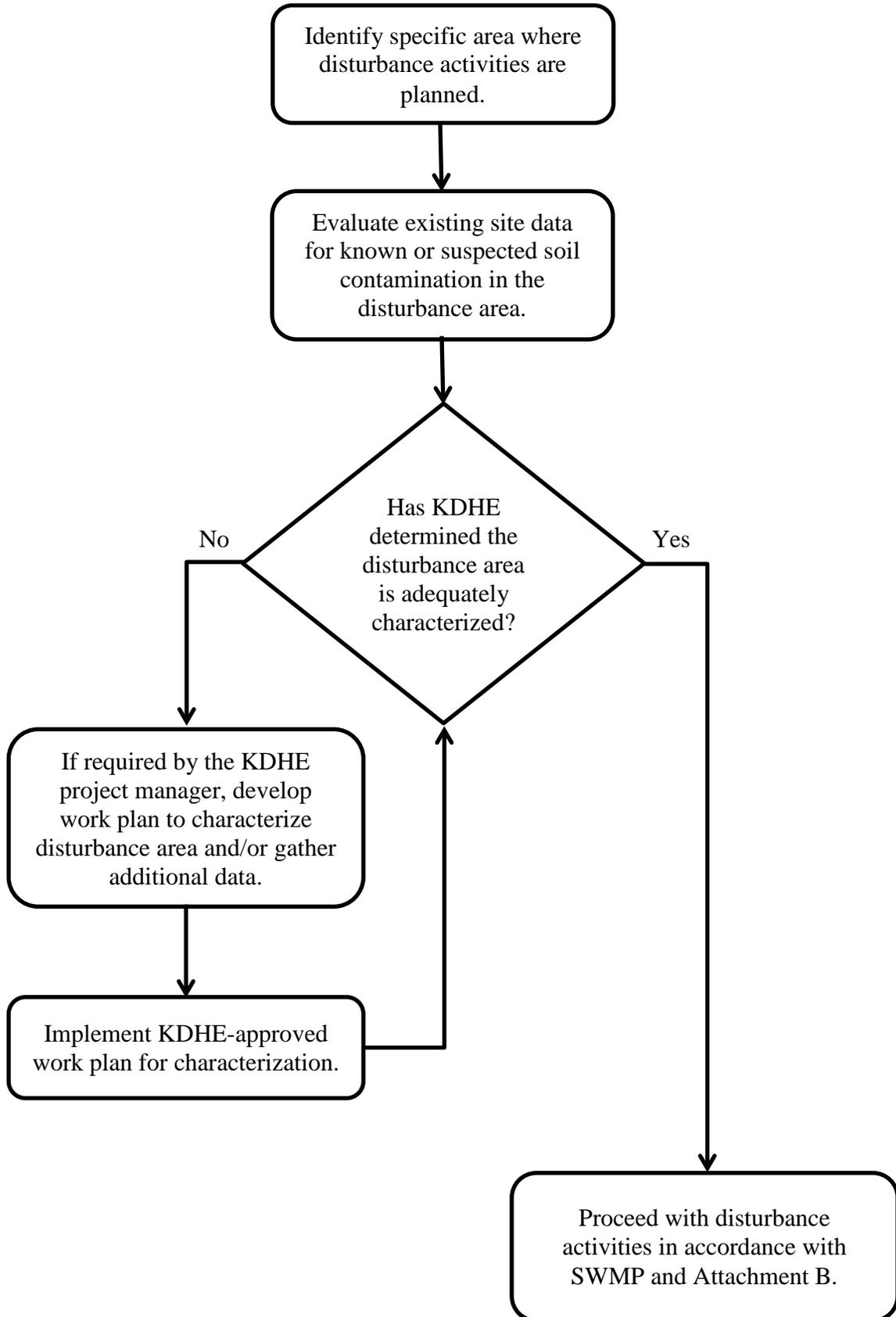
KDHE, Bureau of Waste Management, Waste Management, <http://www.kdheks.gov/waste/index.html>.

KDHE, Bureau of Water, Industrial Programs Section Stormwater Program, <http://www.kdheks.gov/stormwater/index.html>.

United State Department of Labor, Occupational Safety and Health Administration (OSHA), Occupational Safety and Health Standards, http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9765.

ATTACHMENT A

SOIL – WASTE CHARACTERIZATION FLOW CHART



ATTACHMENT B

SOIL – WASTE MANAGEMENT FLOW CHART

