

Guidance for Preparation of Soil Management Plans

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Division of Waste Management
District and Business Support Program
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Disclaimer:

This document is guidance for preparing a Soil Management Plan (SMP) that may be a stand-alone document or a subsection of the Interim Source Removal Proposal (ISRP) or Remedial Action Plan (RAP). The guidance provides suggested topics to be included in the SMP. There are a range of situations where a SMP is required and therefore not all topics in this guidance may be applicable to a particular project. The SMP will be evaluated for completeness as it relates to managing site soil activities that will enable an ISRP approval or a RAP Approval Order to be issued by Florida Department of Environmental Protection (FDEP). Soil activities to be managed include removal, reuse, or importing soils and all associated activity. Nothing in this guidance supersedes any Federal, State, or Local requirements; nor, as guidance, does it create any new requirements under Chapter 62-780, Florida Administrative Code (F.A.C.). All applicable Department rules must still be adhered to.

ACRONYMS

ASCTL	Alternative Soil Cleanup Target Level
COC	Contaminant of Concern
DU	Decision Unit
EU	Exposure Unit
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
ISM	Incremental Sampling Methodology
ISRP	Interim Source Removal Proposal
PRSR	Person Responsible for Site Rehabilitation
RAP	Remedial Action Plan
SCTL	Soil Cleanup Target Level
SMP	Soil Management Plan
XRF	X-Ray Fluorescence

PURPOSE

This document provides guidance on what content should be included in an SMP. SMPs should document all contaminated soil excavation, handling, reuse (blending) and disposal activities. The expectation is that these topics will be discussed in appropriate detail either in a stand-alone SMP or as a section in a RAP/ISRP. In an effort to promote consistency and standardize rule interpretation, when a release at a site occurred many years prior to initiating rehabilitation, it is recommended that these sites follow the standard Chapter 62-780, F.A.C., process (as applicable) of completing assessment, preparing a RAP/SMP, implementing remedial actions, performing groundwater monitoring, and soliciting no further action when Chapter 62-780.680, F.A.C., criteria are satisfied.

It is recommended that an SMP included in a RAP/ISRP be approved prior to any removal actions to minimize the risk of additional assessment and/or remediation.

DEVELOPING A SOIL MANAGEMENT PLAN

The SMP should be comprehensive and cover all soil management activities involving contaminated soils. An SMP should be developed any time contaminated soils are excavated, stockpiled, blended with other site soils, soil is imported for use in blending, or soils are reused on a site. An SMP is intended to document how contaminated site soils are managed to prevent contamination of soils that were not found to be impacted by a release as part of the initial site assessment. The SMP should include, as applicable: figures of locations where removal actions are planned; the depth of removal actions; if groundwater will be encountered; where stockpiles and soil mixing activity are planned; how excavated contaminated soil will be moved to the stockpile area; how stockpiles will be managed (including what impervious surface(s) the stockpiled material will be placed on, as required by Chapter 62-780.525(5)(a)7, F.A.C.); what stormwater/erosion safeguards will be put in place; how stockpiles will be managed to prevent

dust issues; how soils will be mixed; any proposed sampling plans; and, how mixed soils will be transported on site.

Per Chapter 62-780.525(7), F.A.C., documentation needs to be provided for all contaminated soils disposed of off-site (name of facility, address, volume, what site contaminant(s) of concern (COC) caused the soils to be disposed off-site). The SMP should describe if clean fill will be imported for the purpose of mixing with impacted site soils and subsequently be reused on site. The proposed source of the clean fill and proposed volume imported for blending purposes should be documented, and any analysis that was performed should be provided.

RECOMMENDED ELEMENTS OF A SOIL MANAGEMENT PLAN

- 1) Summarize the history of the site.
- 2) If this is a redevelopment project, provide a summary of all properties proposed in the redevelopment plan, and discuss land use before and after (if known). Will the redevelopment occur in phases? What kinds of property use are proposed in each phase?
- 3) Provide a figure depicting the Remedial Units (i.e., source removal areas and/or soil blending areas) and designated Exposure Units (EUs)/Decision Units (DUs) (see Guidance for Soil Reuse Involving Soil Blending Activities at Chapter 62-780, F.A.C., Sites). Discuss any variations in procedures and methodology for the different units.
- 4) Initial Assessment Summary
 - a) A summary of soil COCs and target soil cleanup target levels (SCTLs) or justification of alternative SCTLs (ASCTLs) should be provided. Generally, on-site soil assessment should be complete for the entire site or development phase prior to preparation of the SMP. However, for source removal areas, delineation may be completed post-excitation using sidewall and bottom samples. Further, recognizing the potential constraints with obtaining approval to collect off-site samples, the SMP may be developed prior to completion of off-site delineation.
 - b) Description of depth to water table, leaching potential, and any groundwater impacts prior to soil excavation activities.
 - c) When contaminated soil reuse is planned, identify if the soil concentrations are suitable for achieving the applicable SCTL(s) after blending soil and identify what post-reuse verification sampling will be conducted.
- 5) Soil Remedial Action Summary
 - a) Contaminated Soil Excavation:
 - i) Pre-excitation delineation sampling (laterally & vertically), excavation area locations (sampling type, increments, number, and locations), cut line decisions, step out process, sampling methodology, sampling locations, and soil sample intervals should be documented.

- ii) Describe the earthwork approach for contaminated soils, including cut and fill analysis, areas of soil stockpile generation, areas that will receive contaminated soils, and areas that will receive clean soils. Provide an estimate of the volume of contaminated soils to be taken off-site.
 - iii) Summarize transportation (on and off site) plans for moving excavated contaminated soils to stockpile areas. Describe safeguards employed to prevent cross contamination from the stockpile(s).
 - iv) Describe all applicable stormwater, dust, sediment, erosion, and odor controls.
 - v) Will clean fill be imported to the site to fill the excavation? If so, provide the source facility name and address. Sampling of the imported soil to ensure that it is not contaminated is not required but is recommended. The analysis is recommended to include site COCs and potential COCs associated with the source of the imported fill. Additionally, the site locations where the soil is placed should be documented.
- b) Stockpiling Procedures:
- i) Stockpile site locations should be documented; describe wet soil handling procedures.
 - ii) Describe stormwater, dust, sediment, erosion, and odor controls to prevent impacted soil from contaminating non-impacted portions of the site.
 - iii) If conducted, summarize stockpile sampling methodology and procedures, including the number and collection depth of samples. Typically, FDEP does not make site decisions based on stockpile sampling results (see [Guidance for Soil Reuse Involving Soil Blending Activities at Chapter 62-780, F.A.C., Sites](#))
 - iv) Off-Site Disposal – If impacted soils will be removed from the site and disposed of at a permitted facility, include the name of the facility, address, and permit number, if applicable. Also, the volume will need to be tracked and documented. Note: all off-site disposal is the responsibility of the Person Responsible for Site Rehabilitation (PRSR), including arrangements with the disposal facility to meet the requirements for sampling and analyses.
- c) Soil Reuse – Soil blending (see [Guidance for Soil Reuse Involving Soil Blending Activities at Chapter 62-780, F.A.C., Sites](#))
- i) Reuse feasibility should be evaluated. For example, wide-spread impacts of elevated soil concentrations must be evaluated to determine if the soil is suitable for reuse. Pilot test results and blending ratio calculations may be provided as part of this evaluation. Areas with the highest impacts should be included when determining the suitability of soil reuse.
 - ii) Soil blending shall be conducted within the contaminated site. However, if the verification testing documents that the applicable SCTL(s)/ASCTL(s) were not achieved during the initial blending, then subsequent blending may occur in place, followed by subsequent verification testing. Sampling of stockpiled blended soil is at

the discretion of the PRSR and stockpile soil samples are generally not usable for decision making purposes unless Incremental Sampling Methodology (ISM) is applied. Refer to the [White Paper – Stockpile Sampling for Soil Reuse at a Site](#) (Stuchal and Roberts, December 2020) for ISM stockpile soil sampling recommendations and the Interstate Technology & Regulatory Council for guidance on the proper implementation of ISM.

- iii) Describe all applicable stormwater, dust, sediment, erosion, and odor controls.
 - iv) If sampling is conducted, summarize the blending confirmation procedures and the decision process for re-blending.
 - v) If the 95% Upper Confidence Limit process is used, provide detailed calculations in a submittal to FDEP.
 - vi) If ISM is used for any aspect of collecting soil samples, provide a detailed description of the process to be used, including sample locations. Note: methodology should follow accepted ISM guidance.
- d) Placement of Blended Soils:
- i) Describe how blended soils will be transported from stockpile areas to placement areas.
 - ii) If soil is reused on-site, verification sampling should be conducted within the EUs/DUs where the blended soil was placed. See [Guidance for Soil Reuse Involving Soil Blending Activities at Chapter 62-780, F.A.C., Sites](#) for additional details on guidance for verification sampling of blended soils. Note: X-ray Fluorescence (XRF) is an acceptable field sampling methodology but generally cannot achieve the detection limits necessary to demonstrate the applicable cleanup target levels have been achieved. If the XRF is intended to be used for verification sampling, a site-specific demonstration that the XRF can reliably measure the applicable CTLs, including acceptable correlation with laboratory data, should be provided as part of the SMP. XRF may be used as a screening method for selecting sample locations in conjunction with an established correlation with laboratory results.
 - iii) All areas of the site where reuse will occur should be thoroughly documented.
 - iv) Describe the final cover, including any proposed engineering controls.
- 6) Summarize excavation dewatering procedures if the excavation will extend below the water table and dewatering may affect groundwater plume stability.
- 7) Describe current or proposed institutional and/or engineering controls, including the type and location, as applicable.
- 8) Provide any contingency plans, if applicable - for example, air monitoring and dust control or mitigation.