

COMMITTEE: Soil PA/SI/RI/RA Technical Guidance Committee
DOCUMENT: *Landfills Investigation Guidance*

Start of Comment Period: 12-Apr-11
End of Comment Period: 24-May-11

Commentors:

| Name | Affiliation |
|------------------|----------------------------------|
| Roger Ferguson | CHMM |
| George Nicholas | NJDEP |
| Joseph Krulik | Brilliant Environmental Services |
| George Schlosser | DOL |
| Suzanne Shannon | NJDEP |

NJDEP TECHNICAL GUIDANCE
Draft Document Review Form

Note: Please note that the Landfill Investigation Guidance was formerly an Appendix to the SI/RI/RA Soil Technical Guidance. It was decided, by the committee, that the Landfill Investigation appendix should be a separate guidance document. Therefore, the pages, chapters, sections, and subsections of the original comments do not match the pages, chapters, sections, and subsections indicated below. The formatting below reflects the pages, chapters, sections, and subsections in the current guidance document.

| Page | Chapter | Section | Subsection | COMMENTS | RESPONSE TO COMMENTS |
|------|---------|---------|------------|---|--|
| - | - | - | - | General Comment: The guidance should acknowledge the current Solid Waste rules, and advise the investigator that obtaining a minor or major landfill disruption permit from NJDEP Division of Solid and Hazardous waste is a requirement under their regulations; the investigator and person responsible for conducting the investigations would be subject to enforcement action without the disruption permit. | The investigator is already required to comply with all other federal, state, and local laws and regulations, so it is not necessary to list specific ones in the guidance as it gives the false impression that it may be the only other law or regulation the investigator has to comply with. In addition, any changes to the regulatory citation or content of the regulation may make the citation incorrect or inapplicable. No revision needed. |
| 4 | 1 | - | - | Please remove the following paragraph: " <i>The procedure for a person to vary from the technical requirements in regulation is outlined in the Technical Rule at N.J.A.C. 7:26E-1.7. For more information about variances and professional judgment go to the Department web site at: http://www.nj.gov/dep/srp/srra/training/matrix/important_messages/variance_and_bpj.pdf.</i> " | Revised to reflect current Department text: The procedures for a person to vary from the Technical Rules in regulation are outlined in the Technical Rules at N.J.A.C. 7:26E-1.7. Departure from guidance must be documented and adequately supported with data or other information. In applying technical guidance, the Department recognizes that professional judgment may result in a range of interpretations on the application of the guidance to site conditions. However, the investigator still needs to provide written technical rationale justifying any deviations from guidance. |
| 6 | 3 | 1 | - | General Guidelines for Investigation of Landfills. At the end of the paragraph add "Please be aware that any landfill investigation is also required to receive written approval by meeting the standards in N.J.A.C. 7:26 – subchapter 2A-8(j) for landfill disruptions." | The investigator is already required to comply with all other federal, state, and local laws and regulations, so it is not necessary to list specific ones in the guidance as it gives the false impression that it may be the only other law or regulation the investigator has to comply with. In addition, any changes to the regulatory citation or content of the regulation may make the citation incorrect or inapplicable. No revision needed. |
| 10 | 4 | 3 | - | It is stated that " <i>There may be situations where a geophysical survey is not necessary. If this is the case, then a variance is required and the Site Investigation Report should include detailed documentation to support the decision not to conduct a geophysical survey</i> ". Provide the regulatory citation that requires a variance in this scenario. | Revised to include the citation to N.J.A.C. 7:26E-3.12(a)2. |

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| 11 | 4 | 4 | - | <p>The sentence "If a subsurface investigation is performed without a prior geophysical survey, negative results from the subsurface investigation will usually need a geophysical survey to substantiate that the test pits or soil borings were installed in the appropriate locations to detect the presence of waste." is not supported by investigations. In fact, most geophysical surveys are not specific enough to meet the standards of this statement (which will usually be stated in their reports that the interpretation should not be solely relied upon), generally geophysical investigations need to be confirmed by test pits and soil borings, not the other way around. For instance, white wastes, ovens, refrigerators etc. will give a signature of buried metal, which of course can be interpreted as buried drums. Single buried drums may be masked by the presence of other metals and objects in the fill material.</p> | <p>Previous investigations have supported the need to supplement subsurface investigations with geophysical investigations to confirm that there are no subsurface anomalies that need a subsurface investigation. Neither technique, in and of itself, is usually sufficient to confirm that a landfill is not present. The two techniques are mutually reinforcing. The comment is correct that a geophysical survey usually requires confirmatory investigation of subsurface anomalies with a subsurface investigation to confirm that a landfill is present as well as to confirm negative results from a geophysical survey that a landfill is not present. No revision needed.</p> |

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| 11 | 4 | 4 | - | The word "must" is used (<i>Soil borings must be performed using appropriate equipment and methods so waste material can be easily recovered and identified in the boring without clogging and to allow for sample inspection, logging, and collection</i>). If this refers to a rule requirement, cite the rule. Otherwise, use the word "should". | The document was revised to remove passive voice where applicable. This sentence was one that was revised to use active voice and is now stated "Perform borings using appropriate equipment and methods to easily recover and identify waste material in the boring without clogging and to allow for sample inspection, logging, and collection." removing the term "must". |
| 12 | 4 | 5 | | "Collection of groundwater..." Is this because it is assumed that groundwater, surface water, vapor and ecological impact are already present? This is a Soil guidance document and there is no reason that an SI should not include the other media at landfills. | The landfill investigation has been separated from the "soil" guidance and is no longer specific to soil. The initial purpose of the SI for a landfill is to confirm that a landfill is present. Collection of samples for analysis of other media as part of the SI is acceptable, but is not required until the RI. No revision needed |
| 13 | 5 | - | - | First sentence, the purpose, needs to be rewritten. | Since this is now a separate guidance, the purpose has been moved to the beginning of the document. Since the comment does not expand on the rationale as to why the "purpose" of a remedial investigation of a landfill should be re-written, no further revision is required. |
| 13 | 5 | 1 | - | SI investigations (visual inspection, BEE, etc.) should be performed during the SI stage. | The purpose of a landfill site investigation is just to confirm whether a landfill is present. Due to the complexities of many landfills, multiple phases of investigation will usually be required, so the normal SI requirements for a BEE, etc. become part of the remedial investigation. A visual inspection is required as part of the geophysical and subsurface investigation and is already required as part of the PA for landfills, so the guidance does not need to include a separate visual inspection. However, the text has been revised to make it clear that the SI should include visual inspection. |
| 15 | 5 | 3 | - | The sample frequencies are far too prescriptive, especially for large landfills. Emphasize professional judgement and not deviation from guidance. | The sampling frequencies are recommendations and the investigator may use professional judgment to increase or decrease these sampling frequencies. As with all the technical guidance, deviation from the guidance requires appropriate justification in the applicable documents submitted to the Department. No revision needed. |
| 15 | 5 | 4 | - | The sample frequencies are far too prescriptive, especially for large landfills. Emphasize professional judgement and not deviation from guidance. | The sampling frequencies are recommendations and the investigator may use professional judgment to increase or decrease these sampling frequencies. As with all the technical guidance, deviation from the guidance requires appropriate justification in the applicable documents submitted to the Department. No revision needed. |
| 19 | 5 | 5 | - | The collections of waste samples should also demonstrate that the the landfill is not subject to the Resource Conservation and Recovery Act, e.g. the waste should be characterized according to USEPA regulations at 40 CFR 261 and applicable guidance to ascertain it is non-hazardous. | This is already embodied in the last bullet in subsection 5.5, but the text has been revised to explicitly mention RCRA hazardous waste analyses. |
| 19 | 5 | 6 | - | This section should be deleted , and revised to read that the landfills engineered system should be evaluated for compliance with existing regulations for the monitoring of closed landfills as required by DSHW. Refer the investigator to the Solid Waste Landfill Technical Manual and applicable regulations. | It is not clear why this section should be deleted. Compliance with New Jersey solid waste regulations rests with the New Jersey Division of Solid and Hazardous Waste, not with the Site Remediation Program. To the extent that the evaluation in this section of the technical guidance provides data for use in complying with the solid waste requirements, so much the better. No revision needed. |
| 21 | 5 | 9 | - | Groundwater wells that are installed deeper, through the landfill, should be double cased to below the trash level, to seal off potential contamination within the trash from migrating downward. | It is usually not necessary and difficult to double-case a well that is designed for sampling of first water below the waste. Sampling of deeper water below waste should have a double-cased well properly set into appropriate geologic material below the landfill. However, casing of wells is a site-specific decision requiring the professional judgment of the investigator in conjunction with other professionals and application of other laws, regulations, and guidance that is beyond the scope of this technical guidance. However, subsection 5.9 has been revised to mention this complexity in well installation. |
| 21 | 5 | 9 | - | The word "must" is used (<i>Where radial or partial radial ground water flow from the landfill occurs, background/upgradient monitor wells must be located to be beyond the influence of ground water flow from the landfill in the shallow and deeper aquifer zones</i> .) If this refers to a rule requirement, cite the rule. Otherwise, use the word "should". | This section has been re-worded using active wording and the word "must" is no longer used. However, the section was also revised to include the regulatory citation N.J.A.C. 7:26E-4.3(a). |

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| 21 | 5 | 9 | - | <p>It is stated "<i>An appropriate number of upgradient or background monitor wells and downgradient monitor wells are required in all directions from which ground water is flowing from or influenced by a landfill.</i>" Provide the regulatory citation for this requirement.</p> | <p>The regulatory citation N.J.A.C. 7:26E-4.3(a) has been provided.</p> |
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