TABLE 4–2
Summary of Target Contaminant Concentrations in Typical Historic Fill Material (mg/kg)

Contaminant (ppm)	Maximum	Average
Benzo(a)anthracene	160	1.37
Benzo(a)pyrene	120	1.89
Benzo(b)fluoranthene	110	1.91
Benzo(k)fluoranthene	93	1.79
Indeno(1,2,3-cd)pyrene	67	1.41
Dibenz(a,h)anthracene	25	1.24
Arsenic	1098	13.15
Beryllium	80	1.23
Cadmium	510	11.15
Lead	10700	574
Zinc	10900	575

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997; 7:26E–4.6(a)2 operative November 19, 1997).
See: 28 N.J.R. 1098(a) 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
Added "and historic fill" to section heading; in (a), substituted "ISRA" for "ECRA" and "as follows:" for "which may contain contaminants above the applicable remediation standards,"; recodified former (b) through (e) as (a)1 through 4; in (a)3, inserted reference to Geographic Information System and amended N.J.A.C. reference; in (a)4, substituted "responsible for conducting the remediation" for "responsible for the investigation"; and inserted new (b).

7:26E–4.7 Remedial investigation of ecological receptors

(a) If further ecological investigation is required pursuant to N.J.A.C. 7:26E–3.11(a)4, additional investigation shall be conducted during the remedial investigation to characterize the extent of contamination along contaminant migration pathways and within an environmentally sensitive natural resources. Neither an ecological investigation nor an ecological risk assessment is required for contaminated ground water, but see N.J.A.C. 7:26E–4.8(c)12 for reporting requirements. Ecological investigations and risk assessments shall be conducted by a person experienced in the use of techniques and methodologies for conducting ecological risk assessments in accordance with EPA guidance. Ecological investigations and risk assessments shall be conducted in accordance with EPA and other Federal guidance, as applicable, including, without limitation, the following, incorporated herein by reference:

1. "Ecological Assessment of Hazardous Waste Sites: A Field and Laboratory Reference," EPA/60013–89/013;

2. "Risk Assessment Guidance for Superfund, Volume II, Environmental Evaluation Manual," EPA/540/1–89/001, and the associated supplementary guidance Ecological Update Series—Volumes 2 and 4; and

3. "Framework for Ecological Risk Assessment," EPA/630/R–92/001;

4. Eisler, R., "Contaminant Hazard Reviews," Fish and Wildlife Service, U.S. Department of Interior, various dates;

5. EPA, "Wildlife Exposure Factors Handbook," Vol. I and II, EPA 600/R–93/187a, b;

6. EPA, "BTAG Forum," Intermittent Bulletin published by USEPA, Office of Emergency and Remedial Response;

7. EPA, "ECO Update," Intermittent Bulletin published by USEPA, Office of Emergency and Remedial Response;

8. Opresko, D.M., B.E. Sample and G.W. Suter, "Toxicological Benchmarks for Wildlife: 1994," Oak Ridge National Laboratory, Oak Ridge, TN; and

9. Will, M.E. and G.W. Suter II, "Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Terrestrial Plants: 1994 Revision," Oak Ridge National Laboratory, Oak Ridge, TN.

(b) A site specific ecological risk assessment report, in accordance with (a) above, shall be completed during the remedial investigation and shall be submitted as part of the remedial investigation report. The ecological risk assessment report shall:

1. Describe actual impacts and potential risks to identified environmentally sensitive natural resources;

2. Present appropriate ecologically-based, site specific remediation standards for site contaminants of ecological concern, if applicable; and

3. Recommend measures for incorporation into the remedial action workplan, pursuant to N.J.A.C. 7:26E–6.2, to mitigate actual impact or ecological risks, if applicable.

New Rule, R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
Amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).
In (a), rewrote the introductory paragraph; and in (b), inserted "report" following "assessment" in the introductory paragraph, rewrote 1, and substituted "Present" for "Develop" and inserted "of ecological concern" in 2.

7:26E–4.8 Remedial investigation report

(a) The remedial investigation report shall comply with all requirements in N.J.A.C. 7:26E–3.13 (site investigation report) and in addition shall present and discuss any additional information collected pursuant to N.J.A.C. 7:26E–4.1 through 4.7 and the approved remedial investigation workplan as outlined in N.J.A.C. 7:26E–4.2, if applicable. The remedial investigation report shall be presented in a format that corresponds to the outline of this section.

(b) The remedial investigation report shall include the following:

1. Historical information pursuant to N.J.A.C. 7:26E–4.2(b)3;

2. Physical setting pursuant to N.J.A.C. 7:26E–4.2(b)4. In addition, if a well search was conducted, it shall be

presented pursuant to Appendix B, incorporated herein by reference;

3. Technical overview pursuant to N.J.A.C. 7:26E–3.13(b)3 and, in addition, the following items shall be discussed:

i. A summary of the results of any treatability, bench scale, or pilot studies conducted to support remedy selection;

ii. A summary of the results of any data collected to develop permit limitations for any permits which may be required during potential remedial actions; and

iii. A summary of the results of any ecological assessments conducted; and

4. Findings/recommendations pursuant to N.J.A.C. 7:26E–3.13(b)4.

(c) The remedial investigation report shall include the following data and information:

1. Results of all analyses, copies of all laboratory data sheets and the required laboratory data deliverables pursuant to N.J.A.C. 7:26E–2.1 (Quality Assurance Requirements). Laboratory data deliverables may be submitted as a separate attachment;

2. A summary table of analytical methods and quality assurance indicators pursuant to N.J.A.C. 7:26E–2.2 (Quality Assurance Workplan);

3. Sampling Results Summary Table(s) of all analyses, including sample location, media, sample depth, and field and lab identification numbers pursuant to N.J.A.C. 7:26E–3.13(c)3 and, in addition:

i. All summary tables shall be organized by area of concern. For each area of concern, average concentrations for each contaminant shall be presented along with individual sample results if averaging will be used for compliance with applicable remediation standards.

(1) All contaminant concentrations exceeding the applicable remediation standard shall be identified; and

(2) Samples with MDLs (or PQLs if available) exceeding the applicable remediation standard shall be identified and an explanation provided in the table key; and

(3) If some contaminants are detected and quantified and some contaminants are "estimated" or non-detectable, for purposes of calculating the average, the person submitting the site investigation report shall substitute one half the reported method detection limit for all contaminants reported as non-detectable, and "estimated" values shall be included in the contaminant average "as is."

(4) "Non-detectable" values for contaminants in samples which have been diluted shall not be included in the area of concern average for those contaminants. "Detectable" values for contaminants in diluted samples shall be included in the area of concern average for those contaminants.

(5) The average shall be calculated for the contaminated area only, and shall not include clean zone data (data from outside the boundaries of the contaminated area as defined by samples contaminated greater than the applicable remediation standard). For example, if data points within a 50 foot "clean" buffer zone around an area of concern were identified during pre-remedial sampling, this clean zone shall not be included in the average. Samples from different depth intervals shall not be averaged together to determine compliance with applicable remediation standards.

(6) Post excavation sample data shall not be averaged for compliance with applicable remediation standards.

ii. The data in the Sampling Results summary table shall be presented pursuant to N.J.A.C. 7:26E–3.13(c)3.

4. Stratigraphic logs, which include soil/rock physical descriptions and field instrument readings detected during drilling for each soil boring, test pit and monitoring well, if applicable:

i. For fill material and historic fill material the logs shall include a description of fill type, any layering of the fill material, texture and size of materials, an assessment of fill homogeneity, field indicators of contamination including, without limitation, odors, staining or other discoloration, and field measurements of organic vapors using a calibrated PID/FID or other suitable instrument. The presence of any process waste including metal processing waste such as slag, tailings or free and/or residual product determined pursuant to N.J.A.C. 7:26E–2.1(a)11 shall be noted;

5. Stratigraphic cross sections of the site using information from monitoring wells, test pits and borings;

6. All soil boring, piezometer, and monitoring well records, including the State permit numbers and as-built specifications, if applicable;

7. For each monitoring well sampled, the information required pursuant to N.J.A.C. 7:26E–3.13(c)7 shall be reported for each ground water sampling event.

8. If applicable, ground water elevation, for each monitoring well, to the nearest hundredth (0.01) foot relative to a permanent, on-site datum taken prior to evacuation, from the top of well casing with locking cap removed;

9. A summary of the review of inventory control records to identify product loss and any actions taken to investigate potential discharge areas;

10. Results of any treatability, bench scale, or pilot studies or other data collected to support remedy selection;

11. Any data collected to develop permit limitations;

12. The results of any ecological assessments and evaluations conducted, including, without limitation, characterization of natural resource injuries, in accordance with N.J.A.C. 7:26E–4.7(b). This information shall be submitted in a format compatible with the Department's Geographic Information System (see N.J.A.C. 7:1 Appendix A. For additional guidance, see the version of the Department's "Guidance for the Submission and use of Data in GIS Compatible Formats" most recent to the time of submission. This guidance document may be found at www.state.nj.us/dep/srp/regs/techrule/techgis2.htm). In lieu of an ecological investigation or an ecological risk assessment for ground water, the person responsible for conducting the remediation shall include the following information in the remedial investigation report:

i. The area of contaminated ground water plume;

ii. The degradability of the individual ground water contaminants; and

iii. The period during which the ground water is estimated to exceed the applicable ground water quality standards;

13. For landfills, a summary of any records pertaining to the nature of waste disposed at the landfill. Copies of the records shall be submitted as a separate attachment to the report;

14. For historic fill material, the following documentation shall be submitted:

i. A statement that, based on diligent inquiry of the history of the parcel of land, including use of the Department's Geographic Information System, the fill material is non-indigenous material, was used to replace soil in an area or raise the topographic elevation of the site, was contaminated prior to emplacement, and was in no way connected with the operations at the location of emplacement; and

ii. A statement that, based on the results of the remedial investigation, the historic fill material does not include any material which is substantially chromate chemical production waste or any other chemical production waste or waste from processing of metal or mineral ores, residues, slag or tailings; and

15. Any other data and information obtained pursuant to N.J.A.C. 7:26E–4.1 through 4.7.

(d) The remedial investigation report shall include the following legible maps and diagrams:

1. Site and area of concern base maps pursuant to N.J.A.C. 7:26E–4.2(b)3i. If more than one map is submitted pursuant to (d)2 below, maps shall be presented as overlays, keyed to the base maps. Sample locations may be superimposed on the base maps.

2. Sample location map(s), including:

i. All ground water, soil, sediments and other sample locations; sample depth and contaminant concentration shall also be plotted on the map;

ii. Map scale and orientation;

iii. Field identification numbers for all samples;

iv. Ground water elevation contour maps with flow direction specified for each set of static water level measurements for each aquifer if monitoring wells were installed for flow direction;

v. Top of bedrock contour map if bedrock was encountered in a sufficient number of borings to prepare a map;

vi. Isopleth maps for ground water contaminant concentrations for each round of sampling; isopleth maps for soil sample results may also be provided;

vii. Maps depicting the horizontal and vertical extent of any free and/or residual product zones in ground water or soil, as determined pursuant to N.J.A.C. 7:26E–2.1(a)11, for each round of sampling;

viii. If data for more than 25 samples are presented for an area of concern, soil, ground water and sediment contaminant isopleth maps and cross section diagram(s) showing concentrations of potential contaminants shall be submitted, including:

(1) Horizontal and vertical distribution of contaminants in the soil and sediment, with sample point location numbers and contaminant concentrations; and

(2) Horizontal and vertical distribution of contaminants in the ground water, with sample point location numbers and contaminant concentrations; and

ix. All monitoring well, piezometer, or other ground water sampling point locations including depth of the open borehole interval and/or screened interval;

3. If applicable, map of the distribution of surface water, structure and airborne contaminants, including sample location numbers and contaminant concentrations;

4. The same alpha or numeric labels, if assigned in the remedial investigation workplan, shall be used in the remedial investigation report; and

5. Photos may be submitted to document the location of all soil and sediment sample locations.

Recodified from 7:26E–4.9 and amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997; 7:26E–4.8(c)14i operative November 19, 1997).

See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).

N.J.A.C. references amended throughout section; substantially amended (c)3i; added (c)3i(6); substantially amended (c)3ii; added

(c)4i; rewrote (c)7; in (c)12, inserted reference to evaluations and added second sentence; inserted new (c)14; recodified former (c)14 as (c)15; inserted new (d)2vii; recodified former (d)vii and viii as (d)viii and ix; and deleted Tables 4–2 through 4–3a, providing database information. Former section "Remedial investigation workplan" was repealed.
Amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).
Rewrote (c)12.

7:26E–4.9 (Reserved)

Recodified to 7:26E–4.8 and amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).

SUBCHAPTER 5. REMEDIAL ACTION SELECTION

7:26E–5.1 Remedial action selection

(a) The purpose of remedial action selection is to select, develop and implement the most appropriate remedial action for a particular contaminated site or area of concern being investigated pursuant to N.J.A.C. 7:26E–3 and 4. A flow chart describing the remedial action selection process is set forth in the Appendix to this subchapter.

(b) A person selecting a remedial action shall first establish the remedial action objectives/goals for the site or area of concern by:

1. Identifying all media of concern;

2. Selecting applicable remediation standards based on the current and future land use for the site;

3. For each media of concern, selecting between active treatment versus containment and exposure controls; and

4. For contaminated soil, selecting among an unrestricted use, limited restricted use or restricted use remedial action.

(c) A person responsible for conducting a remediation for a site shall select a remedial action that reduces or eliminates exposure to contaminants above the applicable remediation standard. In determining the appropriate remedial action that will reduce or eliminate exposure to contaminants above the applicable remediation standard, the person responsible for conducting the remediation shall select, develop and implement a remedial action that is based on the following factors:

1. The ability of the remedial action to protect the public health and safety and the environment, including:

i. The technical performance and effectiveness of the remedial action in attaining compliance with the applicable remediation standards;

ii. The reliability of the remedial action in maintaining compliance with the applicable remediation standards;

iii. The degree to which the proposed remedial action reduces toxicity, mobility, or volume of contaminants through treatment, reuse or recycling; and

iv. The degree to which the remedial action minimizes risks and short-term impacts associated with the implementation of the remedy and with any contamination left on-site, while still providing long-term protection;

2. The implementability of the proposed remedial action, including:

i. The engineering and scientific feasibility and availability of the technologies that the proposed remedial action would employ. If treatability, bench scale, or pilot studies have been conducted pursuant to N.J.A.C. 7:26E–4.1(a)4, these results shall be utilized to determine whether or not the proposed remedial action is technically feasible; and

ii. The ability of the person responsible for conducting the remediation to implement the proposed remedial action within a reasonable time frame. A proposed remedial action will be considered timely if it will achieve the applicable remediation standard within five years from the time the remedy is implemented, or in the case where Department approval of a remedial action workplan is required or sought, five years from remedial action workplan approval. Remedial actions to address immediate environmental concerns shall be considered timely as specified by the Department in an oversight document pursuant to N.J.A.C. 7:26C;

3. The consistency of the proposed remedial action with other applicable Federal, State and local laws and regulations, including, without limitation, the provisions of the Pinelands Protection Act, P.L. 1979, c.111 (N.J.A.C. 13:18A–1 et seq.), any rules promulgated pursuant thereto, and the provisions of section 502 of the National Parks and Recreation Act of 1978, 16 U.S.C. § 4711;

4. The potential impacts of the proposed remedial action on the local community, including, without limitation:

i. The potential impacts to the community identified by the responses that the person responsible for conducting the remediation receives from the notice provided to the local government in accordance with N.J.A.C. 7:26E–1.4(a); and

ii. The degree to which the proposed remedial action is consistent with the local land use Master Plan; and

5. The potential for the selected action to cause natural resource injury.

1. Be approved by the Department prior to implementation, if a remedial action selection report is also required pursuant to N.J.A.C. 7:26E–5.2(a);

2. Comply with all applicable remediation standards in effect at the time the remedial action workplan is approved by the Department, provided, however, that if the applicable numeric remediation standards decrease by an order of magnitude or more prior to the issuance of a No Further Action Letter for the area of concern or the site, the person responsible for conducting the remediation shall be responsible for any additional necessary remediation to achieve the new remediation standards;

3. Comply with all applicable Federal, State, and local laws, regulations, and requirements;

4. Not in itself cause an uncontrolled or unpermitted discharge or transfer of contaminants from one media to another; and

5. Be monitored and evaluated pursuant to N.J.A.C. 7:26E–6.4(g), where a restricted use or a limited restricted use remedy has been implemented.

(c) Single phase remediations, where the remedial action is conducted concurrently with sampling to delineate the contamination and to confirm contaminant removal, are acceptable.

(d) Free and/or residual product determined to be present pursuant to N.J.A.C. 7:26E–2.1(a)11 shall be treated or removed when practicable, or contained when treatment or removal are not practicable. Likewise, natural ground water remediation for dissolved phase contamination may be implemented if it is determined by the Department that active ground water remediation for the dissolved phase is impracticable or not cost-effective. Decisions regarding the practicability of a remedial decision shall be made by the Department on a case by case basis. Natural remediation of free and/or residual product will not be allowed.

(e) Institutional controls shall be required whenever a restricted use remedy or a limited restricted use remedy is used to remediate a site.

(f) The person responsible for conducting the remediation of historic fill material shall do so pursuant to N.J.A.C. 7:26E–6.2(c). Remedies for any other fill material, not meeting the definition of historic fill material, shall be selected pursuant to N.J.A.C. 7:26E–5.1.

(g) If ground water contamination above the applicable remediation standard is confirmed to have been caused by an onsite discharge and is not from natural or offsite sources, the Department shall determine the need to establish a Classification Exception Area for the impacted area of the aquifer pursuant to N.J.A.C. 7:9–6.6, the Ground Water Quality Standards, after evaluation of the information required at N.J.A.C. 7:26E–6.2(a)17. The Classification Exception Area is the area of the aquifer that is currently and is anticipated to be impacted above the applicable Ground Water Quality Standard pursuant to N.J.A.C. 7:9–6. The Classification Exception Area shall remain in effect until the person responsible for conducting the remediation documents that contaminant concentrations have decreased to the applicable ground water quality standard.

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
In (a), inserted reference to notifying local governing body; in (b)1, substituted "if a remedial action selection report is also required pursuant to criteria in N.J.A.C. 7:26E–5.2(a)" for "unless the remedial action is a permanent remedy pursuant to N.J.A.C. 7:26E–5.1(c)"; in (b)2, added "in effect at the time ... new remediation standards"; rewrote (b)5; and added (d) through (g).
Amended by R.1997 d.499, effective November 17, 1997.
See: 29 N.J.R. 46(a), 29 N.J.R. 4957(a).
Added (b)5i and (b)5ii.
Amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).
In (b), rewrote 5; and in (e), substituted "restricted use remedy or a limited restricted use" for "non-permanent" preceding "remedy".

7:26E–6.2 Remedial action workplan

(a) If a remedial action workplan is required by the Department in an oversight document or pursuant to the ISRA or UST programs, or if the person responsible for conducting the remediation elects to obtain Department pre-approval for the workplan, the workplan shall be submitted in accordance with the schedule contained in that document, if applicable, and shall be presented in a format that corresponds directly to the outline of this section. The workplan shall include:

1. The remedial investigation report, pursuant to N.J.A.C. 7:26E–4.8, shall be presented as the first section of the remedial action workplan. If the remedial investigation report was previously submitted to the Department, either a summary of the report or a copy of the findings/recommendation section of the report may be submitted;

2. A sampling summary table for post remediation samples pursuant to N.J.A.C. 7:26E–4.2 (remedial investigation workplan).

3. A proposal to complete all requirements in N.J.A.C. 7:26E–6;

4. The identification of all applicable remediation standards;

5. A detailed description of the remedial action and the remedial technology to be conducted for each area of concern;

6. The identification of all areas where remedial action will be conducted on a scaled site map pursuant to N.J.A.C. 7:26E–4.8 (remedial investigation report). In addition, the map shall specify:

i. The location of remedial treatment units;

ii. The volume of each environmental medium to be remediated;

iii. The vertical and horizontal extent of area to be remediated;

iv. The location, depth and concentration of all contaminants in excess of the remediation standard; and

v. Sample locations, depths and parameters for all post-construction samples;

7. A quality assurance project plan including proposed sampling and analytical methods pursuant to N.J.A.C. 7:26E–2.2;

8. A list of all required permits;

9. If any construction activity is planned, the following items shall be provided in the workplan:

i. The location of any such construction facilities with additional details describing construction design;

ii. All applicable requirements and standards relating to construction for onsite remedial units including inspection and professional engineer certification.

10. A description of soil and sediment erosion control and monitoring, and dust and odor control and monitoring procedures to be implemented during remedial activities, if applicable;

11. A health and safety plan pursuant to N.J.A.C. 7:26E–1.9;

12. A detailed description of site restoration plans to comply with N.J.A.C. 7:26E–6.4 (post-remediation action requirements);

13. A description of procedures for dismantling and removal of remedial structures and equipment from the site, if applicable;

14. A cost estimate of the remedial action;

15. If remedial actions will exceed three months in duration, refer to N.J.A.C. 7:26E–6.5 (remedial action schedule and progress reports) for specific schedule and progress report requirements. A schedule is not required if the remedial action will not exceed three months from the proposed start date; however, the proposed completion date of the remedial action shall be provided;

16. A draft deed notice approved by the Department, and written approval from the owner of the property where the deed notice will be placed, if the person responsible for conducting the remediation chooses to implement an institutional control at a site in lieu of remediating the site to meet an applicable residential soil remediation standard; and

17. If a Classification Exception Area is to be established because ground water contamination above the approved remediation standard is confirmed to have been caused by an onsite discharge and is not from natural or offsite sources, the person responsible for conducting the remediation shall submit the following information to the Department:

i. A description of the fate of the contaminant plume, detailing the horizontal and vertical distance and length of time the plume is expected to travel and persist before contaminant concentrations decrease to or below the applicable standards. The most mobile and persistent contaminants present above their respective ground water quality criteria shall be used when performing this evaluation;

ii. A proposed expiration date for the Classification Exception Area;

iii. A map of the proposed area of the Classification Exception Area, compatible with the Department's Geographic Information System both as paper hard copy and electronically by means of computer disk. (For requirements on electronic data submission, see N.J.A.C. 7:1 Appendix A. For additional guidance, see the version of the Department's Guidance for the Submission and Use of Data in GIS Compatible Format most recent to the time of submission. This guidance document can be found at www.state.nj.us/dep/srp/regs/techrule/techgis2.htm);

iv. A determination as to whether the Classification Exception Area extends through a ground water use area. A ground water use area shall be determined based upon both the well search conducted pursuant to N.J.A.C. 7:26E–4.4(h)3v and an evaluation of the current and potential ground water uses of the area using a 25–year planning horizon. The evaluation shall include, without limitation, municipal and water purveyor planning data pertaining to the existence of water lines, proposed future installation of water lines, and local and/or county ordinances restricting installation of potable wells. The aquifer will be considered a water use area if any domestic, irrigation, industrial, or public supply wells, or wells with water allocation permits already exist or there is a reasonable expectation they will be installed within the 25–year planning horizon and within the proposed boundaries of the Classification Exception Area; and

v. Documentation that the person responsible for conducting the remediation has notified persons listed below of the intent to establish the Classification Exception Area. Notification shall be sent by certified mail, return receipt requested, and in accordance with N.J.A.C. 7:26E–1.4. The notifications shall describe the type and aerial extent of groundwater contamination, the proposed remedial action and its projected duration, and the limitation on groundwater use that will be necessary based on the contamination present and the proposed remedial action. Appropriate persons to be notified are as follows:

(1) The local health departments and clerks of the governing bodies of each municipality in which the Classification Exception Area is located; and

(2) In a groundwater use area as determined pursuant to N.J.A.C. 7:26E–6.2(a)17iv, all owners of properties under which the contaminant plume may flow and on which wells either already exist or there is a reasonable expectation to be installed; and

18. A description and schedule for the maintenance and evaluation pursuant to N.J.A.C. 7:26E–6.1(b)5 of all engineering and institutional controls.

(b) If contaminated soil will be reused at a site, an evaluation pursuant to N.J.A.C. 7:26E–6.4(d) shall be conducted and a soil reuse proposal shall be submitted to the Department as part of the remedial action workplan. The soil reuse proposal may also be submitted at any time during the remediation process, as appropriate. At a minimum, the soil reuse proposal shall include:

1. A description of the originating site or area of concern by the submission of a remedial investigation report or, as applicable, a remedial action report for the contaminated soil. If the reports were previously submitted to the Department, a summary of the report may be submitted;

2. A determination in accordance with N.J.A.C. 7:26–8.5 as to the waste classification of the soil, including any supporting data requested by the Department; and

3. A detailed description of the proposed reuse and conditions at the site of reuse including:

i. The location of the site including state, county, municipality, block and lot numbers;

ii. The volume of soil to be reused;

iii. Identification of the specific location on the site where the reuse will be conducted on a scaled maps pursuant to N.J.A.C. 7:26E–3.2(a)3i through iii;

iv. The depth to ground water on the receiving site, including the method of determination;

v. The receiving site use;

vi. A discussion of the performance, effectiveness and reliability of the proposed reuse and any potential negative impacts to human health, safety or the environmental as a result of the reuse; and

vii. All other applicable data and information required pursuant to (a)8 through 15.

(c) If historic fill material will not be treated or removed from the site, engineering and institutional controls shall be proposed in accordance with the Department's procedures in effect at the time of proposal, provided that the information is pursuant to N.J.A.C. 7:26E–4.8(c)14 and the following documentation is presented in the remedial action workplan:

1. A statement that all other areas of concern located in the historic fill material area have been addressed as separate areas of concern. Remedies for any such areas, not meeting the definition of historic fill material, shall be selected pursuant to N.J.A.C. 7:26E–5.1.

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
In (a), substituted "ISRA" for "ECRA", inserted reference to electing to obtain Department pre-approval, and inserted ", if applicable," following "schedule contained in that document"; in (a)1, 2, and 6, amended N.J.A.C. references; in (a)1, inserted reference to copy of findings/recommendation section; in (a)2, inserted "for post remediation samples'; in (a)14, substituted "; however," for "and"; and added (a)16, (a)17, (b) and (c).
Amended by R.1997 d.499, effective November 17, 1997.
See: 29 N.J.R. 46(a), 29 N.J.R. 4957(a).
Added (a)18.
Amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).
In (a), deleted N.J.A.C. reference in 14, substituted "deed notice" for "declaration of environmental restrictions or other similar document" following "A draft", substituted "deed notice" for "declaration of environmental restrictions" following "where the" and substituted "residential soil" for "unrestricted use" following "applicable" in 16, and rewrote 17iii.

7:26E–6.3 Specific remedial action requirements

(a) As a first priority during remedial action, contaminants in all media shall be contained and/or stabilized to prevent contaminant exposure to receptors and to prevent further movement of contaminants through any pathway.

(b) The following requirements shall be followed for the closure of an underground storage tank:

1. The associated piping shall be drained and the tanks pumped out and cleaned thoroughly using the American Petroleum Institute's recommended Practice for the Abandonment or Removal of Used Underground Service Tanks, as amended and supplemented. Copies can be obtained from the American Petroleum Institute, 1220 L Street Northwest, Washington, DC 20005;

2. All of the openings in the tank shall be plugged except for one vent hole;

3. The soil around the tank shall be excavated and the tank shall be removed and secured;

4. After the tank is secured, it shall be examined for holes and the NJDEPE HOTLINE, (609) 292–7172, shall be called if any holes are found unless a discharge from the tank was previously reported to the Department;

5. The tank shall then be prepared for disposal by labeling the tank regarding its site of origin, ultimate destination site and the substance(s) that were stored in it during its use as a storage tank; and

6. The tank shall be removed from the site according to all applicable laws and regulations.

i. During tank removal, the following observations shall be made and documented:

(1) A description of tank condition (with photographic documentation);

(2) The excavation floor and sidewalls shall be examined for any physical evidence of soil contamination;

(A) When tanks that contained volatile organics, including No. 2 fuel oil, diesel fuel, gasoline, kerosene, jet fuel, waste oil, are removed, the excavation floor and sidewalls shall be field screened with a properly calibrated flame ionization detector (FID), or photoionization detector (PID) along transects spaced no more than five feet apart.

(B) If the tank did not contain volatile organics (for example, No. 4, No. 6 fuel oil), the excavation shall be examined visually for evidence of a discharge.

(3) If there is no evidence of a discharge, soil samples for laboratory analysis shall be taken immediately after tank removal as follows:

(A) If there is no ground water in the excavation, center line soil samples are required at a frequency equal to the total length of the tank divided by five (minimum of one sample), provided that samples are spaced equidistantly and that the outermost samples obtained are no greater than 2.5 feet from each respective end of the tank. If the total length of a tank is not evenly divisible by five, one additional sample shall be obtained for any fraction remaining;

(B) If there is ground water in the excavation, soil samples shall be taken as follows:

(I) If potential contaminants have a specific gravity of one or less, independent of the number of tanks in the excavation, one sample shall be taken from the zero to six inch interval above the water table from each excavation sidewall for every 30 linear feet of sidewall (minimum of one sample per sidewall); except that, for no. 2 fuel oil or diesel oil tanks of 550 gallon capacity or less, one sample, biased to the suspected location of greatest contamination, shall be taken from one excavation sidewall at the zero to six inch interval above the water table;

(II) If potential contaminants have a specific gravity of more than one, samples shall be taken pursuant to (b)6i(3)(A) above; or

(III) If the tanks contained mixed substances such that some contaminants had a specific gravity of more than one and some contaminants had a specific gravity of less than one (for example no. 6 fuel, or waste oil potentially contaminated with chlorinated solvents), samples shall be taken below the water table pursuant to (b)6i(3)(A) above, and, independent of the number of tanks in the excavation, from the zero to six inch interval above the water table from each excavation sidewall for every 30 linear feet of sidewall (minimum of one sample per sidewall); and

(IV) Soil samples taken from below the water surface shall be taken using appropriate sediment sampling methods; and

(4) If there is evidence of a discharge and a soil remedial action will occur, refer to N.J.A.C. 7:26E–6.4. If there is evidence of a discharge, but there is insufficient soil to conduct a soil remedial action, (for example, tank is located in bedrock) or any portion of the tank is located within or immediately above the ground water table, a ground water sample shall be taken pursuant to N.J.A.C. 7:26E–3.7(c);

(5) If there is any evidence of ground water contamination, including without limitation, a sheen or odor, a ground water sample shall be collected pursuant to N.J.A.C. 7:26E–3.7; and

(6) A description of product type and quantity spilled from tank or tank system during excavation.

ii. The following requirements shall be followed for the abandonment in–place of a physically accessible underground storage tank. If contamination is detected above an applicable remediation standard and remedial action will occur, the tank system shall be removed to facilitate remedial action, if feasible. If it is not feasible to remove the tank system, a certification shall be submitted, signed and sealed by a licensed New Jersey professional engineer, stating why the removal is not feasible:

(1) The tank system and associated piping shall be drained and the system pumped out and cleaned thoroughly using American Petroleum Institute guidance applicable at the time of cleaning. Because vapors in the tank atmosphere will be displaced during the tank cleaning and abandonment operation, particular emphasis shall be placed on health and safety concerns;

(2) After the tank is cleaned, the tank shall be inspected and any areas of questionable integrity, including, without limitation, any cracks or corrosion, or evidence of discharge, shall be documented. Photographs may be submitted to document that the integrity of the system has been breached, if the evidence is clearly visible in the photograph;

(3) Upon completion of tank cleaning, soil sampling shall be conducted by completing borings through the bottom of the tank, along the center line, at a frequency equal to the total length of the tank divided by five (minimum of one sample), provided that the samples are spaced equidistantly and that the outermost samples obtained are no greater than 2.5 feet from each respective end of the tank. If the total length of a tank is not evenly divisible by five, one additional sample shall be obtained from any fraction remaining;

(f) If the person responsible for conducting the remediation required for real property not owned by that person does not obtain the property owner's written consent to implement the institutional and/or engineering control at the property and to record a deed notice, the person shall remediate the property to an applicable unrestricted soil remediation standard.

(g) Any person responsible for conducting remediation implementing a restricted use or a limited restricted use remedy, and any owners, lessees, and operators, during their ownership, tenancy or operation, shall:

1. Maintain all engineering and institutional controls to ensure that they continue to be protective of public health and safety and of the environment;

2. Perform periodic inspections of the engineering controls to determine that the engineering controls are operating as designed and intended, including the integrity, operability, and effectiveness of the engineering controls;

3. Perform periodic inspections of the site to determine that the land use does not violate the institutional control; and

4. Submit to the Department a monitoring report documenting and certifying compliance with (g)1 through 3 above every two years, along with an electronic copy on computer disk, in a format acceptable to the Department. Information regarding acceptable formats may be obtained from the Department's web site at www.state.nj.us/dep/srp or from the Division of Publicly Funded Site Remediation, P.O. Box 413, Trenton, NJ 08625–0413. The first certification is due two years from the date of the Department's written no further action letter for the site or the area of concern and every two years thereafter on the same calendar day. If no further action letters were issued at different times for one or more area of concern at the same site, the monitoring report for these areas of concern may be combined and submitted the day that the first no further action letter was issued. The monitoring report shall include the following information for the site:

i. The site name, the name, address and telephone number of the person responsible for maintaining the engineering and/or institutional controls, the Known Contaminated Site List number, the street address, the tax block and lot number, and the name of each municipality and county in which the site is located;

ii. A description of how the engineering controls have been maintained and evaluated since the no further action letter, or the last monitoring report pursuant to this section, was submitted to the Department;

iii. The results of the inspections of the property relative to the institutional controls, and the results of the inspection and maintenance of the engineering controls and an evaluation of the effectiveness of the engineering and institutional controls including, the results of any testing; and

iv. Any recommendation regarding additional remediation, if the results of the inspection or evaluation show that any engineering or institutional controls are not operating as designed and intended.

(h) If the person having the obligation for complying with (g) above changes:

1. The person who is relinquishing the obligation shall notify the Department of the name, address and telephone number of the person assuming the responsibility and the effective date of the change;

2. The person who is assuming the obligation to comply with (g) above shall submit a letter signed and certified pursuant to N.J.A.C. 7:26E–1.5, stating that he/she is assuming the obligation for compliance with (g) above; and

3. The letters required by (h)1 and 2 above shall be submitted to the Department within 30 days of the effective date of the change.

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
In (a)1 and (a)2iv, amended N.J.A.C. references; in (a)2vi, substituted N.J.A.C. reference for specific sampling guidelines; deleted (a)4, relating to sampling frequencies for building interiors; recodified former (a)5 as (a)4; inserted new (a)5; added (a)6; in (b), inserted N.J.A.C. reference; in (b)1, substituted "environmentally sensitive areas" for "critical habitat areas as defined in N.J.A.C. 7:26D–5"; and added (d).
Amended by R.1997 d.499, effective November 17, 1997.
See: 29 N.J.R. 46(a), 29 N.J.R. 4957(a).
Added (e) and (f).
Amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).
In (a)5, substituted references to residential soil remediation standards for references to unrestricted use remediation standards throughout, and substituted "deed notice' for "Declaration of Environmental Restriction or other similar document approved by the Department" at the end; in (b)1, substituted a reference to environmentally sensitive natural resources for a reference to environmentally sensitive areas; rewrote (e); in (f), substituted "deed notice" for "declaration of environmental restrictions" following "record a"; and added (g) and (h).

7:26E–6.5 Remedial action schedule and progress reports

(a) If the remedial action activities at a site are being performed pursuant to N.J.A.C. 7:26C or the ISRA or UST programs, and require more than three months for completion, a schedule for completion of the remedial action by task and final completion schedule is required in addition to progress reports at a frequency which shall be specified by the Department in the oversight document or by the ISRA or UST program. The remedial action schedule shall contain the following elements:

1. Schedules shall utilize monthly timeframes, when possible, for the initiation or completion of tasks;

2. The remedial action workplan shall not list specific dates as these will be contingent upon Department approval of the remedial action workplan;

3. After remedial action workplan approval is obtained, the schedule shall be revised to identify the projected month/year for each task;

4. All tasks for all areas of concern shall be identified in the schedule;

5. Contractor bidding/review/acceptance process timeframe shall be included in the schedule;

6. The schedule shall consider timeframes for permit applications (municipal, NJDEP, etc.) and final permit approvals. A critical path schedule shall be included when any permits are involved because certain tasks cannot proceed without permit approval;

7. When projecting dates for submission of reports to the Department, the schedule shall consider review time of not only the person preparing the report but all other persons who are deemed necessary to finalize the report;

8. The schedule shall identify all anticipated report submittals (month/year) to the Department including, without limitation, progress reports, ground water monitoring reports, post-remediation data reports for individual areas of concern, construction design reports and final remedial action reports. Laboratory analysis time shall be accounted for in projecting report submittal dates;

9. The schedule shall allow for Department review time of submitted reports;

10. The schedule shall include time for obtaining waste classification from the Department for disposal or treatment of waste material generated during remediation;

11. The schedule shall include a timeframe for site restoration (backfill, regrade, pave, etc.) and Department final inspection; and

12. The schedule shall include projected date for full compliance with the Department program overseeing the remediation.

(b) A progress report shall include, at a minimum, the following information:

1. Specification/reporting of all remedial actions accomplished during the reporting period;

2. Proposal of any deviations from and/or modifications to the approved remedial action workplan. All modifications shall be approved by the Department prior to enactment;

3. Reporting of problems or delays in the implementation of the remedial action workplan. Proposed corrections shall be presented with changes to the approved project schedule and shall be approved by the Department. A revised schedule shall be submitted as part of the progress report. The status of all permit applications shall be included in this schedule;

4. Identification of the remedial actions for the next reporting period;

5. Presentation annually of the actual costs of remediation incurred to date;

6. If required in an oversight document pursuant to N.J.A.C. 7:26C or by ISRA or UST, the following shall be provided:

i. Tabulation of all sample results received during this period pursuant to N.J.A.C. 7:26E–3.13(c)3 and submission of a report summarizing the data and presenting conclusions; and

ii. Tabulation of waste classification and/or characterization samples collected including the physical state of the material (solid, liquid, sludge), the volume of material, number of samples collected, analyses performed and results;

7. A listing of all types and quantities of waste generated by the remedial action during the reporting period and to date. Include the name of the disposal facilities, and transporters' dates of disposal, and if appropriate, the manifest numbers of each waste load; and

8. Any additional support documentation that is available (e.g. photographs) shall be submitted.

(c) If the Department determines in writing that oversight of some of the remedial activities will occur pursuant to Federal, State or local permits, then the requirements of this subchapter may be waived for those activities. The Department may request a summary of permitted activities.

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
In (a) and (b)6, substituted "ISRA" for "ECRA"; in (a)6, substituted "NJDEP" for "NJDEPE"; and in (b)6i, substituted N.J.A.C. reference for specified items to be included in tabulation.

7:26E–6.6 Remedial action report

(a) Any remedial action report submitted to the Department for approval shall present and discuss all data and information collected in compliance with N.J.A.C. 7:26E–6.3 (specific remedial action requirements) and N.J.A.C. 7:26E–6.4 (specific post-remedial action requirements), if applicable. The report shall be presented in a format that corresponds directly to the outline of this section.

(b) Any remedial action report submitted to the Department for approval shall include the following:

1. All information contained in the remedial investigation report pursuant to N.J.A.C. 7:26E–4.8 or a summary of the report; and

2. The remedial investigation report section entitled "Findings/Recommendations," shall be renamed "Findings/Remedial Action Report" and shall include a description of how each area of concern was addressed.

(c) The Findings/Remedial Action report section shall state for each area of concern either "no remediation was conducted for this area of concern" or "remedial actions were completed for this area of concern." Where remedial actions were completed, the following shall be included:

1. A summary by area of concern of all remedial actions completed;

2. A list of the remediation standards applied to the remedial actions;

3. Tables and figures pursuant to N.J.A.C. 7:26E–4.8 (remedial investigation report) containing all pre– and post–remedial data keyed appropriately so that completion of the remedial action is documented. The figures shall clearly indicate the volume of contaminated soil or sediment which was remediated:

4. A detailed description of site restoration activities pursuant to N.J.A.C. 7:26E–6.4 (Post-Remedial Action Requirements);

5. A detailed description of source and quality of fill pursuant to N.J.A.C. 7:26E–6.4;

6. A detailed report of actual costs;

7. "As-built" diagrams for any permanent structures including, without limitation, caps, slurry walls, treatment units, or other remedial structures which will remain in place after completion of the remedial action;

8. Fully executed manifests documenting any offsite transport of waste material;

9. A copy of the Department approved deed notice signed and recorded by the office of each county recording officer responsible for recording deeds for the municipality(s) in which the site is located;

10. In addition to a the paper copy of the deed notice, an electronic copy shall be submitted with the following information submitted by means of computer disk, except as provided in (c)11 below:

i. The site name and site number according to the Department's list of Known Contaminated Sites in New Jersey;

ii. The street address of the site;

iii. The date the notice was filed;

iv. The date the remedial action work plan was approved;

v. The name of the lead Department program handling the site;

vi. A contact name, mailing address (if different from the deed noticed property), and phone number of person responsible for monitoring and maintenance of the institutional and/or engineering control(s), and

vii. Exhibits A, B and D of the Deed Notice (Appendix E), in a format compatible with the Department's Geographic Information System (see N.J.A.C. 7:1 Appendix A. For additional guidance, see the version of the Department's Guidance for the Submission and Use of Data in GIS Compatible Formats most recent to the time of submission. This guidance document may be found at www.state.nj.us/dep/srp/regs/techrule/techgis2.htm).

11. Areas of concern that consist of an underground storage tank storing heating oil for on-site consumption in a one to four family residential building, where there has been no ground water impact, are exempt from the reporting requirements of (c)10 above.

(d) For active ground water remedial actions, the remedial action report shall also include:

1. Figures representative of flow conditions immediately preceding initiation of the remedial action and flow conditions representative of pumping conditions; and

2. Graphs depicting changes in contaminant concentration over time for all contaminated non–pumping monitoring wells and all downgradient delineation monitoring wells.

(e) If applicable, the remedial action report shall include a plan for the maintenance and monitoring of engineering and institutional controls pursuant to N.J.A.C. 7:26E–6.4(g).

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
In (b)1 and (c)3, amended N.J.A.C. references; in (c)3, substituted "contaminated soil or sediment" for "contaminated media"; and added (d).
Amended by R.1997 d.499, effective November 17, 1997.
See: 29 N.J.R. 46(a), 29 N.J.R. 4957(a).
Inserted (b)3; rewrote (d)9; and added (e).
Amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).
In (b), deleted a former 3; in (c), deleted N.J.A.C. reference in 6, rewrote 9, and added 10 and 11; and rewrote (e).

7:26E–6.7 Removal or modification of the declaration of environmental restrictions and deed notices

(a) Any person that wishes to conduct additional remediation or other activities which may compromise the integrity of an engineering control shall obtain the Department's approval of the additional remediation or shall notify the Department of the implementation of activities other than remediation prior to implementation of those activities.

1. The person planning to conduct additional remediation shall submit to the Department a memorandum of agreement application, pursuant to N.J.A.C. 7:26C–3, for the Department's oversight of the additional remediation, if the person is not already subject to an oversight document for the property in question.

2. Subsequent to implementation of the Department approved additional remediation or other activities, the person shall submit to the Department for approval a remedial action report for the additional remediation or a report for the other activities and a request, pursuant to (b) through (c) below, to remove or modify, as appropriate, the declaration of environmental restrictions or deed notice.

(b) A person who owns property which is subject to a declaration of environmental restrictions or a deed notice shall submit a written request to the Department, along with the memorandum of agreement application, pursuant to (a) above, as applicable, at the address provided at N.J.A.C. 7:26C–1.6, to remove or modify the declaration of environmental restrictions or deed notice recorded pursuant to this subchapter. The written request shall include a copy of the existing declaration of environmental restrictions stamped "filed" or the recorded deed notice and the reason for the removal or modification, including, but not limited to:

1. The existing declaration of environmental restrictions or deed notice should be modified or is no longer required due to the following:

i. The performance of subsequent remediation necessitates the modification or removal of the declaration of environmental restrictions or deed notice;

ii. A change in conditions at the site warrants the removal or modification of the declaration of environmental restrictions or deed notice; or

iii. The adoption of revised remediation standards warrants the removal or modification of the declaration of environmental restrictions or deed notice; and

2. Any additional information or documentation that supports the person's request for removal or modification of the declaration of environmental restrictions or deed notice.

(c) The Department shall evaluate the request submitted pursuant to (b) above and within 90 calendar days after the Department's receipt of the written request either:

1. Approve the request and send written notification requiring the property owner to:

i. Record with the office of each county recording officer a notice executed by the Department that the use of the property is no longer restricted or that the restriction has been changed and that the declaration of environmental restrictions or deed notice is therefore either terminated or modified. Any Department-approved modified declaration of environmental restrictions or deed notice delineating the new restrictions shall be recorded pursuant to N.J.A.C. 7:26E–6.4(e);

ii. Provide written notice to each municipality in which the property is located, with a copy to the Department sent to the address provided at N.J.A.C. 7:26C–1.6, of the removal or change of the restrictive use conditions;

iii. Provide an electronic copy of all information required in N.J.A.C. 7:26E–6.6(c)10, to the Department for the approved modified declaration of environmental restrictions or deed notice, except as provided N.J.A.C. 7:26E–6.6(c)11; or

2. Issue a written notification of intent to deny the request.

(d) Within 30 calendar days after receipt of the Department's written notification of intent to deny, the property owner may respond by submitting new or additional information to support the request. Within 60 calendar days after receipt of the property owner's response the Department shall issue its written decision which may be considered final agency action.

New Rule, R.1997 d.499, effective November 17, 1997.
See: 29 N.J.R. 46(a), 29 N.J.R. 4957(a).
Amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).
Inserted references to deed notices throughout; in (b), inserted a reference to recorded deed notices in the introductory paragraph; and rewrote (c)1.

SUBCHAPTER 7. PERMIT IDENTIFICATION AND APPLICATION SCHEDULE

7:26E–7.1 Permit identification

(a) Any person conducting a remedial action shall identify all relevant Federal, State and local permits or permit modifications or certifications needed to implement the selected remedial action including but not limited to:

1. Soil Erosion and Sediment Control Plan Certification for Land Disturbance Control (N.J.A.C. 2:90);

2. Permit to Construct/Install/Alter Air Quality Control Apparatus/Equipment (N.J.A.C. 7:27–8);

3. Certificate to Operate Air Quality Control Apparatus/Equipment (N.J.A.C. 7:27–8);

4. Coastal Area Facility Review Act (CAFRA) Permit (N.J.S.A. 13:19–1 et seq.);

5. Waterfront Development/Upland Waterfront Permit (N.J.S.A. 12:5–3);

6. Wetlands Permit (N.J.S.A. 13:9A–1 et seq.);

7. Freshwater Wetlands/Open Water Fill Permit (N.J.S.A. 13:98–1 et seq.);

E. Spike Sample Results Summary—A summary of the spike sample analysis shall be submitted. The following information shall be reported: ID number of the sample chosen for spiking, sample matrix, the concentration of each spiked target analyte, the results of the unspiked sample analysis, the results of the spiked sample analysis, the percent recovery for each spiked analyte and the QC limit for percent recovery for each spiked analyte.

F. Duplicate Sample Results Summary—A summary of the duplicate sample analysis shall be submitted. The following information shall be reported: ID number of the original sample and the duplicate samples, sample matrix, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference of each target analyte for the original duplicate sample analyses and the QC limit for relative percent difference for each target analyte.

G. Laboratory Control Sample Results Summary—When specified by the analytical method, the results of the laboratory control (quality control) sample shall be submitted. The following information shall be reported: control sample matrix, list of all target analytes, the true concentration for each analyte in the control sample, the reported concentration for each target analyte in the control sample, the percent recovery for each target analyte and the QC limit for percent recovery for each target analyte.

H. Serial Dilution Summary—If required by the analytical method, a summary of the serial dilution results shall be submitted. The following information shall be reported: ID number of the original sample and the serial dilution samples, sample matrix, results of the original sample analysis, results of the serial dilution sample analysis, the percent difference of each target analyte compared to the original analytes' results and the QC limit for percent difference for each target analyte.

5. **General Chemistry Requirements**

A. Analytical Results Summary—An analytical results form shall be submitted for each sample. Each form shall contain the following information: sample identification number (laboratory and/or field ID), sample matrix, date sample received, date sample analyzed, sample moisture content, dilution factor (if any), list of target analytes and detected analyte concentrations and method detection limits.

B. Blank Results Summary—A blank results form shall be submitted for all method blank samples associated with all field and QC samples. Each form shall contain the following information: list of all target analytes, matrix of the method blank, concentration units of the method blank, reported concentration of all target analytes found in all method blanks.

C. Spike Sample Results Summary—A summary of the spike sample analysis shall be submitted. The following information shall be reported: ID number of the sample chosen for spiking, sample matrix, the concentration of each spiked target analyte, the results of the unspiked sample analysis, the results of the spiked sample analysis, the percent recovery for each spiked analyte and the QC limit for percent recovery for each spiked analyte.

D. Duplicate Sample Results Summary—A summary of the duplicate sample analysis shall be submitted. The following information shall be reported: ID number of the original sample and the duplicate samples, sample matrix, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference of each target analyte for the original duplicate sample analyses and the QC limit for relative percent difference for each target analyte.

6. **Petroleum Hydrocarbon Requirements**

A. Analytical Results Summary—An analytical results form shall be submitted for each sample. Each form shall contain the information contained in Section 2A above. In addition, the identification of the GC instrument employed and the volume of extract injected shall be included.

B. Method Blank Summary—An analytical results form shall be submitted for all method blanks as well as a listing of all field and QC samples associated with each method blank. Each form shall contain the information in Section 6A above.

C. Standards Summary—A summary form containing GC standards information for all associated samples shall be submitted for all analyses. This summary shall contain the following information: instrument ID number, GC column used, date and time of standard(s) analysis, volume injected, listing of all associated field, QC and method blank samples, identity of each analyte in the hydrocarbon standard and/or the identity of petroleum product standard(s), retention times of each analyte in the hydrocarbon standard (when applicable), retention times of the surrogates and internal standard (when applicable), retention times of pristane and phytane (when applicable), retention time windows for each surrogate (when applicable), response factors/relative response factors used for quantitative determinations, response factors/relative response factors of surrogates, and percent relative standard deviations/percent differences of the surrogates.

D. Surrogate Compound Recovery Results Summary—If required by the analytical method, a summary form shall be submitted which contains the following information for all field samples, method blanks, and QC samples: sample identification number, sample matrix, surrogate compound names, concentration of surrogate compounds used, surrogate compound recoveries and QC limits for each surrogate compound.

E. Matrix Spike Results Summary—If required by the analytical method, a summary form shall be submitted which contains the following information: ID number of the sample chosen for spiking, sample matrix, the concentration of each spiked analyte/petroleum product, the results of the unspiked sample analysis, the results of the spiked sample analysis, the percent recovery for each spiked analyte/petroleum product and the QC limit for percent recovery for each spiked analyte/petroleum product.

F. Quality Control Check Standard—If required by the analytical method, a summary form shall be submitted which contains the following information: ID number of the sample, concentration of each spiked analyte/petroleum product, the results of the spiked sample analysis, the percent recovery for each spiked analyte/petroleum product, and the QC limit for percent recovery for each spiked analyte/petroleum product.

G. Duplicate Sample Results Summary—A summary of the duplicate sample results shall be submitted which contains the following: ID numbers of the original sample and the duplicate sample, sample matrix, results of the original sample analysis, results of the duplicate sample analysis, the relative percent difference calculated from the original and duplicate sample results and the QC limit for the relative percent difference (when applicable).

H. Quantitation Reports—Instrument quantitation reports shall be submitted for all field samples, QC samples, method blanks and standards.

I. Chromatograms—Chromatograms for all field samples, QC samples, method blanks and standards shall be submitted. All surrogate, internal standard (when applicable), pristane and phytane peaks on the chromatogram shall be identified along with the retention time for each peak.

[1] A negative proof is a mass spectrum offered as evidence to support an analyst's decision to negate the presence of a contaminant which has been qualitatively identified and reported by the instrument's data system.

[2] Method blanks for nonaqueous samples shall consist of performing the entire analytical procedure without any actual sample being present. The appropriate amount of sodium sulfate as specified in the current Statements of Work for Organics would be substituted as the "sample" for the semivolatile and pesticide/aroclor fractions.

Amended by R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).
Rewrote IV6.

APPENDIX B

Well Search Format

Preparer

Name of Site

Case Number

Street Address

Township

County

USGS Quadrangle

Latitude

Longitude

Instructions:

1. All sources of well records/information shall be clearly documented.

2. List all wells and State well permit numbers, including active, inactive and abandoned, within ½ mile of the site boundary. Include all wells, active, inactive and abandoned at the site.

3. Locate all listed wells on a site locus map.

4. Sources that shall be used:

a. Well records search of the Bureau of Water Allocation. There is no cost if this search is performed by the individual. Appointments shall be made to examine well records by contacting the Bureau of Water Allocation at (609) 292–2957. Upon written request, the Bureau will provide the well search for a fee.

b. Contact local or county Health Department or equivalent.

5. Submit any available analyses from wells as an attachment.

6. Complete chart on back.

	Well Owner	Address	Total Depth	Length of Casing	Static Water Elev.	Use Code	Source of Information
1.							
2.							
3.							
4.							
5.							
6.							

USE CODES
A =
B = Boring

C =
D = Domestic
E = Recovery/Decontamination Pollution Control/Leachate with Pump Capacity
F = Fire
G = Irrigation
H = Heat Pump/Geothermal
I = Industrial
J = Injection/Waste Discharge
K =
L = Livestock
M = Monitoring
N = Public Non-community
O = Oil/Gas Exploration
P = Public Supply
Q = Recharge
S = Sealed
T = Test
U = Non-public
V = Gas Vent
W = Dewatering
X = Cancelled
Y = Cathodic Protection
Z = Piezometer

NEW REPLACEMENT WELL CODES
1 = Domestic
2 = Public Community
3 = Public Non–Community
4 = Industrial
5 = Irrigation
6 = Monitoring
7 = Piezometer
8 = Heat Pump/Geothermal
9 = Recovery
0 = Gas Vent

APPENDIX C

Mann–Whitney U–Test*

The random variable to be analyzed shall be the concentrations of the individual contaminants of concern in each individual monitoring well. The statistic to be evaluated is the Mann–Whitney "U". The test shall be a Mann–Whitney U–test with the size of the test equal to 0.1. The hypotheses (H) to be tested are:

H_0: $\hat{\theta}_1 \hat{\theta}_2$ (null hypothesis)

H_1: $\hat{\theta}_1 > \hat{\theta}_2$ (alternate hypothesis)

where $\hat{\theta}_2$ represents the stochastic size of the population of each individual contaminant during the most recent 12 month period of sampling and $\hat{\theta}_1$ represents the stochastic size of the population of each individual contaminant during the previous 12 month period. The test is applied to each contaminant in each individual monitoring well. In other words, if benzene and trichloroethene are the contaminants of concern, and there are four monitoring wells involved in the sampling program, then a total of eight Mann-Whitney tests are to be performed (benzene in each of the four monitoring wells and trichloroethene in each of the four monitoring wells).

The U statistic shall be evaluated as follows:

1. The test is applied to eight consecutive quarters of analytical data for each individual contaminant in each individual monitoring well.

2. For each quarter of data, annotate the concentration of the specific contaminant in the specific monitoring well with either a "b" for the most recent four quarters or an "a" for the four quarters from the previous 12 month period.

3. Vertically arrange the eight contaminant concentrations, with notations, in order of increasing value: the lowest value on the top, and the greatest value on the bottom.

4. For each individual "a" concentration, count the number of "b" concentrations that occur below that "a" concentration in the column.

5. Add the four values (zero or some positive number) obtained for Step 4 to calculate the "U" value.

6. All values of non–detectable (ND) or values detected below the limits of quantitation are to be ranked as "zero." It is required that appropriate detection levels/quantitation limits be achieved.

7. If two or more concentrations are identical, then two vertical columns are necessary. In the first column, rank tying "b" concentrations first, and in the second column rank tying "a" concentrations first. Calculate an interim "U" for each column ("Ua" and "Ub"). The average of these interim values is the actual "U". This is shown in Example 2, below.

The hypotheses shall be tested as follows:

1. If "U" is three or less, the null hypothesis is rejected, and it is concluded, with at least 90 percent confidence, that the concentration for the individual contaminant has decreased with time at the specific monitoring well.

2. If "U" is greater than three, the null hypothesis is accepted, and it cannot be concluded, with 90 percent or greater confidence, that the concentration for the individual contaminant has decreased with time at the specific monitoring well.

* Adapted from Mann, H. B. and Whitney, D.R., 1947, On a test of whether one of two random variables is stochastically larger than the other., Ann. Math. Statist., 18, pp. 52–54.

EXAMPLE 1: All data points are numerically unique

1. Individual contaminant: TCE
   Individual monitoring well: MW-1

2. Monitoring quarters:

			$\hat{\theta}_1$				$\hat{\theta}_2$		
Sampling Round:	1	2	3	4		5	6	7	8
Sampling Result: (ppb) (concentration)	506a	1021a	612a	265a		543b	261b	77b	379b

3. 77b
   261b
   265a
   379b
   506a
   543b
   612a
   1021a

4. 265a=2, 506a=1, 612a=0, 1021a=0

5. 2+1+0+0=3, U=3

Conclusion: "U" is three, therefore the null hypothesis is rejected, and it is concluded, with 90 percent or greater confidence, that the first sampling set ($\hat{\theta}_1$) is greater than the second sampling set ($\hat{\theta}_2$), and therefore that the concentration for the specific contaminant in the specific monitoring well has decreased over the period of the ground water monitoring program.

EXAMPLE 2: two or more numerically identical data points

1. Individual contaminant: TCE
   Individual monitoring well: MW-1

2. Monitoring quarters:

			$\hat{\theta}_1$				$\hat{\theta}_2$		
Sampling Round:	1	2	3	4		5	6	7	8
Sampling Result: (ppb) (concentration)	28a	Nda	61a	Nda		63b	Ndb	77b	79b

3. a] Ndb
   Nda
   Nda
   28a
   61a
   63b
   77b
   79b

   b] Nda
   Nda
   Ndb
   28a
   61a
   63b
   77b
   79b

4. a] Nda=3, Nda=3, 28a=3, 61a=3

   b] Nda=4, Nda=4, 28a=3, 61a=3

5. a] 3+3+3+3=12 Ua=12 ==> U=13.0

   b] 4+4+3+3=14 Ub=14

Conclusion: "U" is 13, therefore we accept the null hypothesis, and we cannot conclude, with 90 percent or greater confidence, that the first sampling set ($\hat{\theta}_1$) is greater than the second sampling set ($\hat{\theta}_2$), and we cannot conclude that the concentration for that specific contaminant has decreased with time.

New Rule, R.1997 d.124, effective May 19, 1997 (operative July 18, 1997).
See: 28 N.J.R. 1098(a), 28 N.J.R. 2298(a), 29 N.J.R. 2278(b).

APPENDIX D

Historic Fill Database
Summary Table

	Minimum (ppm)[1]	Maximum (ppm)[1]	Avg (ppm)[1]	Number of Samples	Mumber > URU CDCSCC[2]	% > URU CDCSCC[2]	Number > RU CDCSCC[2]	% > RU CDCSCC[2]
B(a)A[3]	0.03	160.0	1.37	441	126	29	33	7
B(a)P[3]	0.02	120.0	1.89	431	146	34	146	34
B(b)F[3]	0.02	110.0	1.91	426	118	28	39	9
B(k)F[3]	0.02	93.0	1.79	412	101	25	26	6
I(1)P[3]	0.02	67.0	1.41	397	70	18	18	5
D(a)A[3]	0.01	25.0	1.24	286	78	27	78	27
Arsenic	0.05	1098	13.2	369	35	9	35	9
Be[3]	0.01	79.7	1.23	213	21	10	21	10
Cadmium	0.02	510	11.1	236	147	62	5	2
Lead	0.28	10700	574	538	259	48	119	22
Zinc	2.45	10900	575	197	80	4	8	4

1. ppm=parts per million
2. URU=Unrestricted Use, RU=Restricted Use, CDCSCC=Current Direct Contact Soil Cleanup Criteria
3. B(a)A=Benzo(a)anthracene, B(a)P=Benzo(a)pyrene, B(b)F=Benzo(b)fluorene, B(k)F=benxo(k)fluoranthene, I(1)P=Indeno(1,2,3–cd)pyrene, D(a)A=Dibenzo(a,h)anthracene, Be=BerylliumCE

This Deed Notice is made as of the _____ day of _____, _____, by [Name and address of each current property owner] (together with his/her/its/their successors and assigns, collectively "Owner").

W I T N E S S E T H:

WHEREAS, Owner is the owner in fee simple of certain real property designated as Block _____ Lot _____, on the tax map of the [City/Borough/Township/Town] of [Name of municipality], _____ County; New Jersey Department of Environmental Protection Known Contaminated Site List Number _____, more particularly described on Exhibit A attached hereto and made a part hereof (the "Property"); and

WHEREAS, the lead program during the remediation was _____, and the program identification number, if applicable was _____; and

WHEREAS, the New Jersey Department of Environmental Protection ("Department") approved remedial action on _____, for [Comprehensive Site List Case No./Case Name] concerning the Property in which the Department has approved the use of institutional controls and/or engineering controls in accordance with N.J.S.A. 58:10B–13; and

WHEREAS, this Deed Notice itself is not intended to create any interest in real estate in favor of the Department, nor to create a lien against the Property, but merely is intended to provide record or notice of certain conditions and restrictions on the property and to reflect the regulatory and statutory obligations imposed as a condition of using institutional and/or engineering controls; and

WHEREAS, the areas described on Exhibit B attached hereto and made a part hereof (the "Affected Areas") contain contaminants above the applicable remediation standards that would allow for the unrestricted use of the Property; and

WHEREAS, the type, concentration and specific location of the contaminants are described on one or more diagrams, maps and/or tables on Exhibit B attached hereto and made a part hereof; and

WHEREAS, a narrative description of all institutional controls and associated monitoring and maintenance activities are provided in Exhibit C; and

[other WHEREAS clauses shall be added to provide notice of additional site-specific concerns when required, and when engineering controls are implemented at the site, such as:

WHEREAS, a narrative description of engineering controls and associated monitoring and maintenance activities is provided in Exhibit C; and

WHEREAS, a narrative description of the monitoring and maintenance activities of the institutional and/or engineering controls is provided in Exhibit C; and

WHEREAS, to prevent the potential for migration of the contaminants and unacceptable risk of exposure to the contamination to humans or the environment, an [impermeable/permeable] surface cover is in place at the Property, at the location shown in Exhibit D on maps or diagrams; and

WHEREAS, to prevent the potential for unacceptable exposure to the contamination to humans or the environment, a [fence, posted sign(s), liners or any other engineering controls] is in place at the Property, at the locations shown in Exhibit D on maps or diagrams; and]

WHEREAS, in accordance with the Department's approval of the remedial action work plan, and in consideration of the terms and conditions of that approval, and other good and valuable consideration, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, and to restrict certain activities at the Property, as set forth below.

NOW, THEREFORE, Owner agrees to the conditions and restrictions listed below and hereby notifies all interested parties, owners, lessees and operators that the applicable regulations and statutes require of each such person while owning, leasing or operating the Property as follows:

1. RESTRICTED USES. The owner(s) of all of any fee interest in all or any portion of the Affected Areas and each

operator of all or any portion of the Affected Areas, shall not allow any of the following uses of the following portions of the Affected Areas:

Portion of the Affected Area	Restricted Use
The Affected Areas as identified in Exhibit B.	The use shall be restricted [to non-residential uses only and] pursuant to paragraphs 2 and 3.

[The scope of the restrictions will be dependent on the contaminants, concentrations, location, and type of engineering controls in place, if any. If, for example, engineering controls are designed to limit the use to non-residential, the addition of "to non-residential uses only and," as noted above is appropriate.]

[When different areas of concern of the Property have engineering controls in place which result in different use restrictions each area of concern must be described separately in Exhibit B.]

[Describe other portions of the Property by reference to Exhibits referenced in the WHEREAS clauses above]	[Describe nature of restricted use

2. EMERGENCIES. In the event of an emergency which presents a significant risk to public health, safety, or the environment, the application of Paragraph 1 above may be temporarily and unilaterally suspended, by Owner, provided that the Owner:

i. Immediately notifies the Department of the emergency;

ii. Limits both the actual disturbance and the time needed for the disturbance to the minimum reasonably necessary to adequately respond to the emergency;

iii. Implements all measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the residual contamination; and

iv. Restores the Affected Areas to the pre-emergency conditions to the extent reasonably possible, and provides a report to the Department of such emergency and restoration efforts within ninety (90) calendar days after the end of the emergency.

3. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

(a) Except as provided in Paragraph 2 above, no owner or operator shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Affected Areas which disturbs any engineering control or which creates an unacceptable risk of exposure of humans or the environment to contamination in the Affected Areas without first obtaining the express written consent of the Department. Nothing herein shall constitute a waiver of the Owner's or operator's obligation to comply with all applicable laws and regulations.

(b) Notwithstanding subparagraph 3(a) above, the Department's consent is not required for any alteration, improvement, or disturbance provided the Owner or operator:

i. Provides for restoration of any disturbance of an engineering control to pre-disturbance conditions within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

ii. Does not allow an exposure level above those noted under Restricted Uses, provided that all applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance.

4. ACCESS. While this Deed Notice is in effect, the Owner agrees to allow the Department, its agents and representatives access to the property to inspect and evaluate the continued effectiveness of the institutional or engineering controls and to conduct additional remediation to ensure the protection of the public health and safety and the environment.

5. NOTICE TO LESSEES AND OTHER HOLDERS OF PROPERTY INTERESTS. Owner shall cause all leases, grants, and other written transfers of interest in the Affected Areas to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of Owner to provide any notice required by any law, regulation, or order of any governmental authority.

6. ENFORCEMENT OF VIOLATIONS. The restrictions provided herein may be enforceable solely by the Department against any person who violates this Deed Notice. A violation of this Deed Notice shall not affect the status of the ownership of or title to the Property. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10–23.11u and require additional remediation and assess damages pursuant to N.J.S.A. 58:10–23.11g.

7. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice is invalid or unenforceable, such provision shall be deemed to have been modified automatically to conform to the requirements for validity and enforceability as determined by such court. In the event that the provision invalidated is of such a nature that this provision cannot be so modified, the provision shall be deemed deleted from this instrument as though it had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

8. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns while each is an owner or operator of the Property, and the Department.

9. REQUIREMENT OF NOTIFICATION. The Owner shall notify any person who intends to excavate on the property of the nature and location of any contamination existing on the property and of any conditions or measures necessary to prevent exposure to contaminants.

10. TERMINATION AND MODIFICATION

(a) This Deed Notice shall terminate only upon filing of an instrument, executed by the Department, in the office of the [County Clerk/Register of Deeds and Mortgages] of [Name of county] County, New Jersey, expressly terminating this Deed Notice.

(b) Any person may request in writing at any time that the Department modify or terminate this Deed Notice or initiate termination proceedings based on, for example, a proposal that the Property does not pose an unacceptable risk to public health and safety or the environment. Within ninety (90) calendar days after receiving such a request the Department will either:

i. Approve the request and have the Owner:

—Record with the office of the county recording officer a notice executed by the Department that the use of the Property is no longer restricted and the Deed Notice is terminated or record a modified Deed Notice delineating the new restrictions; and

—Provide written notice to each municipality in which the Property is located, with a copy to the Department, of the removal or change of the restrictions contained herein; or

ii. Issue a written notification of intent to deny the request pursuant to (c) below.

(c) The Department will set forth in a notice of intent to deny a request to modify or terminate this Deed Notice the basis for its decision. The owner can respond to the intent to deny by providing new or additional information or data. The Department will review any such new or additional information or data and issue a final decision to grant or deny the request within sixty (60) calendar days after the Department's receipt of the owner's response.

IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

[If Owner is an individual]

WITNESS:

_____	_____
[Print name below signature]	[Print name below signature]
[If Owner is a corporation]	
ATTEST:	[Name of corporation]
_____	By _____
[Print name and title]	[Print name and title]
[If Owner is a general or limited partnership]	
WITNESS:	[Name of partnership]
_____	By _____
[Print name and title]	_____, General Partner
	[Print name and title]

[If Owner is an individual]

STATE OF [State where document is executed]

SS.:

COUNTY OF [County where document is executed]

I certify that on , 19 , [Name of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that this person [or if more than one person, each person]

(a) is named in and personally signed this document; and

(b) signed, sealed and delivered this document as his or her act and deed.

_____
_____, Notary Public
[Print name and title]

[If Owner is a corporation]
STATE OF [State where document is executed]
SS.:
COUNTY OF [County where document is executed]

I certify that on , 19 , [Name of person executing document on behalf of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the [secretary/assistant secretary] of [Owner], the corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the [president/vice president] of the corporation;

(c) this document was signed and delivered by the corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
_____
[Print name and title of attesting witness]
Signed and sworn before me on
, 19

_____
_____, Notary Public
[Print name and title]

[If Owner is a partnership]
STATE OF [State where document is executed]
SS.:
COUNTY OF [County where document is executed]

I certify that on , 19 [Name of person executing document on behalf of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that this person:

(a) is a general partner of [Owner], the partnership named in this document;

(b) signed, sealed and delivered this document as his or her act and deed in his capacity as a general partner of [owner]; and

(c) this document was signed and delivered by such partnership as its voluntary act, duly authorized.

_____
_____, Notary Public
[Print name and title]

EXHIBIT A

Metes and Bounds Description of Property

(Attach a tax map of the site which shows the metes and bounds and the block and lot numbers of the site)

EXHIBIT B

Description of Affected Areas

(Attach maps, prepared by an engineer or surveyor, showing the location, depth and concentration of all contaminants exceeding applicable remediation standards, showing any institutional or engineering controls implemented or to be implemented at the site)

Contaminant	Concentration	Location
[List contaminants]	[List concentrations]	[Describe location of contaminants by reference to exhibits A and B]

EXHIBIT C

Include narratives describing institutional and engineering controls and the monitoring and maintenance activities for the institutional and engineering controls.

EXHIBIT D

Include maps and diagrams of as-built engineering controls. These maps and diagrams must show the location of the engineering controls. Maps shall be compatible with the Department's Geographic Information System. For requirements on electronic data submission, see N.J.A.C. 7:1 Appendix A. For additional guidance, see the version of the Department's Guidance for the Submission and Use of Data in GIS Compatible Format most recent to the time of submission. This guidance document can be found at www.state.nj.us/dep/srp/regs/techrule/techgis2.htm. The following shall be included as part of this Exhibit:

1. A clean legible copy of that section of the United States Geological Survey Quadrangle map where the site is located with the site clearly identified on this map. The scale of this map should include enough of the surrounding community and road system so the site can be easily identified from air photography;

2. A clean legible copy of a map that identifies by name, roads in the vicinity of the site, for example Hagstrom County maps; and

3. A map of the site to scale that includes as-built diagrams of major surface topological features such as buildings, roads and parking lots. This map should also include as-built diagrams of engineering controls making sure that the engineering controls are clearly distinguishable. The engineering controls may be lightly shaded. If the engineering control is greater in size than one acre, the map/diagram should show the areas of highest contaminant concentrations.

New Rule, R.1997 d.499, effective November 17, 1997.
See: 29 N.J.R. 46(a), 29 N.J.R. 4957(a).
Recodified from N.J.A.C. 7:26–6 APPENDIX F and amended by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).
Rewrote the appendix.

APPENDIX F

(RESERVED)

Recodified to N.J.A.C. 7:26–6 APPENDIX E by R.1999 d.241, effective August 2, 1999.
See: 30 N.J.R. 2373(a), 31 N.J.R. 2167(a).