EXHIBIT A.3

To

ENVIRONMENTAL MONITORING, LABORATORY ANALYSIS AND REPORTING SERVICES FOR CRRA LANDFILLS AGREEMENT

SCOPE OF SERVICES – SHELTON LANDFILL

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SCOPE OF SERVICES

Environmental Monitoring, Laboratory Analysis and Reporting - Shelton Landfill

Fiscal Years 2008, 2009, and 2010

BACKGROUND

The 86-acre Shelton Landfill parcel is located east of Route 110, bounded to the south by the Far Mill River, the Housatonic Lagoon and Housatonic River to the east and property used by Family Golf to the north.

A general location plan showing the CRRA Shelton landfill site is included as **Figure 1**. A detailed site plan showing sampling locations is included as **Figure 2**. The landfill consists of the following waste management units, all of which have been closed:

(a) MSW/Interim Ash Disposal Area: This area consists of a 36-acre footprint of municipal solid waste (MSW), the disposal of which began under private/town operations circa 1950. There is a 22-acre parcel consisting solely of ash residue from MSW combustion that is situated on top of the MSW disposal area.

(b) Metal Hydroxide Cell: This cell, which is located in the northeast corner of the site on top of the MSW disposal area, covers an area of approximately 2 acres.

(c) Northeast and Southeast Expansion Areas (NEEA and SEEA): The NEEA and SEEA are double-lined landfill units for the disposal of ash residue from MSW combustion. The NEEA is approximately 3.1 acres in area, while the SEEA is approximately 6.5 acres in area.

The site is equipped with various environmental control systems, including

(a) A landfill gas extraction, collection and flaring system (for the MSW/Interim Ash area),

(b) A leachate collection system (for the NEEA and SEEA),

(c) A leachate pre-treatment system (pH adjustment) for the discharge of collected leachate to the City of Stratford POTW, and

(d) A stormwater collection, detention and discharge system (overall site).

There is also an active MSW transfer station located at the Shelton Landfill. The Shelton Transfer Station is operated by the City of Shelton, however, CRRA is the registered permittee under the Industrial Stormwater General Permit.

The landfill has various environmental permits, with specific sampling programs and reporting requirements associated with the various control systems and permits. Copies of all site-specific permits applicable to the environmental monitoring program are included in **Appendix A**.

SCOPE OF SERVICES

Consultant's work shall be inclusive of all environmental monitoring and reporting required at the Shelton Landfill, unless otherwise indicated. Monitoring and reporting will be required for a three (3) year period starting July 1, 2007 and ending June 30, 2010.

Costs for monitoring work shall also include but are not limited to sample bottle preparation and delivery, sample collection, laboratory analysis, and reporting as further described in this Scope of Services. The environmental media to be sampled under this Scope of Services include ground water, surface water, ash leachate, and stormwater. All sampling will be performed to meet the requirements of all applicable permits issued to the Shelton Landfill/CRRA by the federal, state, and local permitting authorities, as applicable. Refer to **Appendix A** for site-specific permit information. Specific environmental monitoring procedures will be performed in accordance with the details of the "Compliance Monitoring Plan - Shelton Landfill" (revised June 12, 1996), as referenced in CTDEP Permit No. LF0000052. A copy of the "Compliance Monitoring Plan – Shelton Landfill" is available for review at CRRA's main office, and will be provided to the selected Consultant at the beginning of the contract period. All sample analyses shall be conducted by an analytical testing laboratory certified to perform such analyses by the State of Connecticut. The analytical testing laboratory will be subcontracted directly by the Consultant and approved by CRRA.

All work will be conducted pursuant to all applicable state and federal regulations and guidelines concerning groundwater, surface water, stormwater and sanitary discharge sampling, monitoring and analysis. Consultant is to be familiar with and have reviewed all applicable landfill permits and requirements for site monitoring issued by CTDEP (and EPA, where applicable). Consultant shall be familiar with representative past monitoring reports prepared for the Shelton Landfill and shall prepare monitoring reports consistent in format with past monitoring reports. Consultant shall provide summary tables of data results, and reference drinking water standards and Connecticut Remediation Standards for monitoring wells, and surface water Numerical Criteria contained in the Connecticut Water Quality Standards. Consultant shall also be responsible for the timely submittal of sanitary discharge and stormwater discharge data to CRRA so that CRRA can meet its regulatory reporting obligations.

In accordance with the environmental permits for the Shelton Landfill, Consultant shall conduct the monitoring program for the sampling points and parameters as summarized in **Tables 1 through 4**, on a quarterly basis except as otherwise indicated. In some instances, monitoring points may be inaccessible for regularly scheduled quarterly monitoring, such that arrangements should be made to sample the location(s) at other times. If it is not possible to sample in a timely manner within the quarterly monitoring event timeframe, CRRA will not be charged for sample collection and laboratory analysis for those portions of work <u>not</u> completed.

The environmental monitoring will include but not necessarily be limited to the following elements:

- Preparation for sampling, including bottle preparation, field measured parameter equipment, sample collection equipment, and means of access to sampling points.

- Completion of field (RCRA) data sheets for each sample point; modified as applicable for each type of sample point.

- Measuring of field parameters, and collection of samples in bottles for laboratory analysis and appropriate field and laboratory QA/QC in accordance with CTDEP's Solid Waste Management Program and EPA's Subtitle "D" regulations.

- Preservation and transport of samples to the laboratory.

- Analytical laboratory analyses of collected samples.

- Entering analytical results and other pertinent sample and/or laboratory test data into a database. Provide an electronic copy of the database to CRRA at the end of each calendar year to accompany the annual report, and after the completion of the April 2010 sampling event (i.e., the final sampling event under this Scope of Work).

- Data review and verification, cursory check for outliers, extreme exceedances and notification to CRRA of unusual results or "Significant Environmental Hazard" conditions under Public Act 98-134.

- Preparation of graphs and tables of data results, maps of sampling locations, groundwater elevation contours and isopleths of monitoring results as appropriate.

- Preparation of summary reports on status of each sample point and site environmental conditions.

- Preparation of draft quarterly and annual reports for CRRA review and comment prior to report finalization.

- Finalization of reports to incorporate CRRA comments, duplication and distribution.

The Consultant is responsible for maintaining clear access to all wells (i.e., by cutting back brush and trimming weeds and grass). Consultant is also responsible for maintaining well markers (i.e., stakes, flagging and labels) to assist field personnel in locating and identifying the wells.

The environmental monitoring program is outlined by task below for the Shelton Landfill with a description of the series of tasks to be completed. The format of the Not-To-Exceed Bid Price Form is consistent with the task listing that follows.

TASK 1: QUARTERLY ENVIRONMENTAL MONITORING, ANALYSIS, REPORTING AND ANNUAL REPORTING

Environmental permits issued to cover operations at the Shelton Landfill require that quarterly monitoring of the ground water, surface water, and untreated leachate be completed.

The activities under Task 1 of this Scope of Services describe the quarterly monitoring activities.

Task 1.1: Sampling and Documentation of Field Activities

Sampling Schedule

Quarterly environmental sampling of site ground water, surface water, and untreated leachate is to be performed in the following months:

- January
- April
- July
- October

Ground water sampling can begin on the 1st day of the quarterly sampling month. Sampling of the surface waters and of untreated leachate is to be performed between the 15th and the 30th days of the quarterly sampling month.

Monitoring of Ground Water Wells

There are thirty (30) ground water monitoring wells at the Shelton Landfill that are monitored on a quarterly basis. **Table 1** summarizes the characteristics of each well. Consultant is responsible for supplying all equipment to the site as required for each quarterly monitoring event and its storage at a safe off-site location by Consultant's arrangement.

Due to the presence of the closed RCRA cell at the Shelton Landfill, the Consultant shall develop and maintain a site-specific safety and health plan in accordance with 29 CFR 1910.120(b)(4). Additionally, the Consultant shall ensure that all sampling personnel "receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor," as required by 29 CFR 1910.120(e)(3)(ii). The Consultant shall also ensure that on-site supervisory personnel are trained in accordance with 29 CFR 1910.120(e)(4), and that all personnel (sampling personnel and supervisory personnel) are provided with annual refresher training under 29 CFR 1910.120(e)(8).

The following items are also highlighted for each quarterly sampling event:

- Keyed-alike well locks will be provided for all wells by CRRA. Access to buildings will have to be coordinated on a case-by-case basis.

- Permission to access off-site monitoring wells will be coordinated through CRRA at the initiation of the monitoring contract. Access to some wells is by foot only, because of location and/or restrictions of vehicle use.

- Consultant shall complete a "Monitoring Well Field Data Sheet"

which summarizes well elevation data, well condition, purge data, observed water yield and quality comments, sampling data, and results of measured field parameters. An example of the proposed "Monitoring Well Field Data Sheet" is to be submitted for approval by CRRA before the first sampling event, at the initiation of the monitoring contract.

- Measure well's water elevation data using decontaminated equipment (depth to water, depth to bottom, depth of sample) referenced to top of PVC (or casing) and record on the data sheet.

- Provide an in-line meter (or equivalent methodology which mitigates exposure to the atmosphere) to concurrently measure pH, temperature, specific conductivity, dissolved oxygen (DO), and redox potential (RP), as applicable, during purging. Also, provide a device to measure turbidity. A minimum of four (4) readings of each parameter shall be taken and recorded during purging.

- Perform purging using dedicated bladder pump equipment at low flow rates, not taking the first reading until at least one pump volume plus one discharge tubing volume have passed. The purged groundwater may be discarded to the ground at the landfill. Sampling personnel are to monitor the drawdown in the wells and ensure that the drawdown is maintained at less than or equal to 0.3 feet during the entire purging and sampling process. Wells shall be purged at a rate of less than or equal to 300 ml/minute. Field parameter readings shall be recorded at a minimum of three minute intervals, until turbidity is stabilized such that three consecutive reading are within 10% of each other for readings >10 NTU, or readings are within 2 NTU of each other for readings <10 NTU. Per EPA's SOP, if the turbidity has not stabilized after four hours of purging, collect samples and provide full explanation of attempt to achieve stabilization. Provide a summary of periodic readings and time of reading for all parameters.

- Sample collection should proceed from high parameter volatility to low parameter volatility at a low flow rate. Samples for volatile parameters should be transferred slowly to the sample container to eliminate creation of air bubbles. Samples are to be collected in proper containers and properly preserved in the field.

- No filtering of samples is to occur, <u>except</u> where analysis of dissolved metals is specified. Where analysis of dissolved metals is specified, sample filtration is to be performed <u>in the field</u> during sample collection with an in-line 0.45-micron filter.

- Record all observations relating to the well sampling and any devia-

tions from the sampling plan.

Surface Water Sampling

A total of twelve (12) surface water samples need to be collected and analyzed on a quarterly basis. The samples are to be collected at "ebb flow" conditions (between one-half hour and two hours after low tide for Bridgeport) after at least 72 hours of no precipitation. Consultant is responsible for providing a Masterflex variable speed peristaltic pump or equivalent for collection of surface water samples. Surface water sampling shall proceed from downstream locations to upstream locations. For those surface water locations where a boat is required for sampling, samples shall be taken upstream of the boat's engine. A weighted tape measure shall be attached to the tubing so that depth of sample collection (and bottom depth) can be determined. Clean tubing shall be used at each sample location. The pump shall be operated at 300-500 ml/min and allow at least one (1) pump and tubing volume to pass through prior to sample collection. No filtering of samples is to occur, except where analysis of dissolved metals is specified. Where analysis of dissolved metals is specified, sample filtration is to be performed in the field during sample collection with an in-line 0.45-micron filter. A field data sheet shall be completed for each sample location. Field measurements of water temperature, air temperature, pH, specific conductance, salinity and dissolved oxygen shall be recorded. Gauging river flows, time of sample collection and other field data to be measured and recorded are to follow the permit requirements.

Ash Leachate Sampling

Consultant is responsible for collecting grab samples of untreated ash leachate from each of the two (2) leachate lift stations associated with the NEEA and the SEEA. The Consultant shall use decontaminated bailers and clean rope to collect the leachate samples. Field measurements of pH, specific conductance, dissolved oxygen, turbidity, and leachate temperature shall be recorded. A field data sheet shall be completed for each sample location.

Preparation for Sampling

This task includes coordination between field monitoring personnel and the analytical laboratory for the bottle order, bottle delivery, sample preservation and chain of custody to complete the required sampling. In addition, the Consultant is responsible for mid-quarter monitoring if there is an exceedance of any of the four compliance parameters (hardness, total dissolved solids, total potassium, and total sodium) at any of the six (6) Compliance Monitoring Wells (see Columns 2 and 6 of Table 2).

Sample collection scheduling shall allow enough time for completion of the sample analyses by the laboratory so that the quarterly reports can be assem-

bled, reviewed, finalized and submitted in a timely manner according to permit requirements as further discussed below.

Consultant is responsible for coordinating equipment blanks, field blanks, trip blanks and duplicate samples as part of the sampling quality assurance program. In addition to any other approved USEPA or CTDEP protocols, equipment blanks and field blanks are required for each day of sampling where non-dedicated equipment is used, with laboratory-supplied reagent water poured over the sampling equipment at the beginning of the sampling day and at the end of the sampling day and collected for analysis. Trip blanks, as supplied by the laboratory, are to be carried on each day that samples for analysis of VOC's are collected and returned with the other samples for analysis of USEPA's Appendix I VOC's. Duplicate samples are to be collected at one of the Surface Water Protection Well locations for each quarterly sampling event and analyzed for all the parameters applicable to the Surface Water Protection Wells.

Each monitoring well is equipped with a dedicated 2-inch diameter bladder pump (either Timco or Marschalk brand SS/Teflon bladder pumps). The pumps are owned by CRRA. The Consultant shall supply all equipment necessary to operate the bladder pumps. Such equipment may include but not necessarily be limited to bladder pump controllers, oil-less air compressors, inert gas packs to drive the pump bladders, pneumatic hoses and fittings. It is the Consultant's responsibility to maintain the CRRA-owned pumps in good working order. This Scope of Services does not include costs associated with repairs to CRRA-owned pumps that may be necessary due to normal wear and tear. It shall be the Consultant's responsibility to provide pump controllers and other necessary field equipment/power source(s) (i.e., air compressor, generator, 12-volt battery, etc.) to conduct the field sampling activities.

Consultant shall provide all required equipment, besides that which CRRA owns and has supplied to the Consultant, for collection of samples to fill laboratory-supplied bottles. The Consultant shall also supply equipment required for measurement of field parameters. Field equipment calibration and decontamination shall be the responsibility of the Consultant. The Consultant shall supply any other equipment necessary to adequately and properly complete the work.

Field Measurements and Collection of Samples

This task includes measuring selected parameters in the field and collecting samples in laboratory-supplied bottles, varying with the sampling point's parameter matrix. Refer to **Table 2** for a summary of field and laboratory parameter requirements for each sampling point at the Shelton Landfill. **Table 1** provides summaries of monitoring well completion details with total well depth and screened interval depth of each monitoring well.

Consultant shall follow the "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846" (latest edition) and "RCRA Groundwater Monitoring" Draft Technical Guidance (latest edition) as well as all applicable CTDEP and USEPA regulations. Procedures described herein are not intended to be comprehensive, but to provide a clarification or to supplement the referenced regulations as they might pertain to certain site conditions. The various subsections below describe particulars for sampling at various types of sample locations.

Sampling methods described herein are to be utilized by Consultant during water quality monitoring events including monitoring of groundwater, surface water, and ash leachate discharges to the sanitary sewer. Specific items that shall be performed during all water quality monitoring events and summarized in the quarterly reports include the following:

- Documentation of Field Activities
- Sample Handling
- Decontamination Procedures
- Monitoring and Sampling Techniques
- Field Quality Control Checks

Documentation of Field Activities shall include listing the procedures used to record data about the sampling event, the sampling locations, the samples themselves, and the handling and transport of the samples.

Sample Handling shall detail the source of the sample containers, sample preservation methods, and the chain-of-custody protocol that is followed from time of sample collection until sample acceptance by the laboratory performing the analysis.

Decontamination Procedures shall provide general data on field and in-house decontamination. Non-dedicated equipment used for purging, sampling, and filtering (to be completed only for analysis of dissolved metals) is to be decontaminated (unless replaced) between each sampling location. For the groundwater monitoring wells, each purging device is effectively "dedicated" to each sampling location. It is recommended in those instances where pumps are dedicated to individual wells, that they receive a thorough in-house decontamination as conditions warrant.

Monitoring and Sampling Techniques for groundwater, surface water, and sanitary discharges shall include a description of the fundamental procedures for collection of samples. Specific procedures to be addressed include water level measurement; purging calculations, sample collection equipment and

techniques utilized; and monitoring of field parameters (i.e., pH, temperature, specific conductivity, etc.) and their results. Surface water monitoring and sample techniques shall describe the order of sample collection, orientation of boat to sampling points, equipment purging, monitoring of field parameters, method of filtering for dissolved metals and sample collection techniques.

Field Quality Control Checks shall describe typical QA/QC samples and their use. Monitoring events will include trip blanks, equipment blanks, field blanks, and duplicate samples. The trip blank is only associated with days when groundwater well and untreated leachate monitoring is performed, because VOC's are not analyzed in surface waters. The equipment blank and field blank are only necessary when non-dedicated sampling equipment is utilized for well purging or sample collection. Duplicate samples will be collected at one (1) ground water monitoring well and at one (1) surface water monitoring location.

Except where sample analysis in accordance with methods in 40 CFR Part 136 is required by permits, the methodologies to be utilized should be consistent with 40 CFR Part 258, Subpart E, Section 258.53 through 258.56, and as further detailed in EPA 530-R-93-017, "Solid Waste Disposal Facility Criteria - Technical Manual," November 1993; CTDEP's "Solid Waste Management Program Description", July 1993; USEPA's "RCRA Ground Water Monitoring Technical Enforcement Guidance Document", September 1986; and US EPA Region I Standard Operating Procedure GW-0001 – "Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells" (July 30, 1996 – Revision 2).

Task 1.2: Quarterly Laboratory Analysis

All sample analyses required by this permit shall be performed by a laboratory certified for such analyses by the Connecticut Department of Public Health or, in advance of any use, a laboratory approved in writing by the CTDEP. The laboratory shall analyze all samples submitted from the same monitoring event, at one time, such that duplicate samples and blanks are analyzed under the same conditions. Note per **Table 2** that pesticides and herbicides have been eliminated from the parameter sampling list for the five (5) wells previously tested for those parameters.

Preservation and Transport of Samples to Laboratory

Samples shall be properly preserved and kept cool. They shall be transported to the laboratory the same day they are collected per coordination with the lab by the Consultant's field personnel. Container types, preservatives and maximum holding times shall be per SW-846, latest edition, or 40 CFR 136, as applicable. Consultant is to coordinate re-sampling, at no additional cost to CRRA, if re-sampling is necessary due to loss of sample in bottle transport or in laboratory handling, or if the maximum holding times are exceeded.

Analytical Methods and Detection Limits

Analytical results for each parameter shall be reported together with the analytical method, method detection limits, date of analysis, and initials of analyst. The latter two items are specifically required for the sanitary discharge permit reporting. The value of each parameter shall be reported to the maximum level of accuracy and precision possible. Failure to submit data in accordance with the procedures and protocols set forth in the applicable permits shall constitute a permit violation.

Analyses required under the groundwater, surface water and sanitary discharge monitoring programs shall be performed using the methods specified, unless an alternative method has been specifically approved in writing by the CTDEP for monitoring at the facility. Failure to use the analytical method specified or approved by the Commissioner of CTDEP shall constitute a permit violation.

Monitoring required of surface water and groundwater which specify the use of analytical methods as listed in the permits and summarized in **Table 2** must be conducted to achieve the minimum detection levels for each of the parameters, where identified, unless an alternative method that is capable of achieving the minimum detection levels has been specifically approved in writing by the CTDEP.

The minimum detection levels specified in **Table 2** represent the concentrations at which quantification must be achieved and verified during the chemical analyses for these compounds, as required by relevant permit(s). It is important to note that, for some parameters, the permit-required detection limits listed in **Table 2** may be higher than those parameters' Groundwater Protection Criteria and/or Surface Water Protection Criteria, as established in the CTDEP's Remediation Standard Regulations (RSR's). In this situation, the minimum detection level achieved by the laboratory must be at least as low as the lowest applicable RSR criterion. Analyses for these compounds must include calibration points at least as low as the specified minimum detection level. Check standard within ten percent of the specified minimum detection level may be used in lieu of a calibration point equal to the minimum detection level.

If any sample analysis indicates that quantification for a particular parameter can not be verified at or below the permit-specified minimum level, a second sample shall be collected and analyzed for that parameter according to the above specified methodology as soon as practicable but no later than thirty (30) days following collection of the sample for which the quantification at or below the minimum level was not verified. The results of the first and subsequent sample analyses shall be submitted to the CTDEP verifying that the appropriate methodology was employed, the minimum level was achieved for quality-control samples and that failure to quantify the parameter at or below the minimum level specified for the analysis was a result of matrix effects

which could not be compensated for as part of sample analysis allowed pursuant to 40 CFR Part 136.

If any three (3) samples collected in a twelve-month period indicate that the specified minimum level was not achieved for a particular parameter when using the specified test methodology, the Consultant shall, after consultation with and approval by CRRA, submit a report for the review and approval of the CTDEP which justifies and defines the matrix effect upon analyses for that parameter, identifies the level at which quantification can be verified and recommends modification(s) to the method or an alternative method that is sufficiently sensitive and free of the identified matrix effect.

Review of Lab Results, Quality Control Procedures and Invoices

Consultant is responsible for ensuring lab analyses are performed as required by the parameter list and that MDL limits are met. A summary of the lab's QA/QC procedures and results are to be reviewed and included in the quarterly report. The laboratory must also provide signed "Laboratory Analysis QA/QC Certification Forms" that certify that the all reported data meet the CTDEP's requirements for "reasonable confidence." Consultant is to review the laboratory invoices for consistency with actual sample parameter analyses requested and completed.

Task 1.3: Quarterly Reports - Water Quality Monitoring

The following deadlines apply to the submission of finalized quarterly reports to the appropriate regulatory agencies:

Sampling Event	Report Deadline
January	March 21
April	June 21
July	September 21
October	December 21

Sampling shall be arranged to allow for a reasonable laboratory turnaround time for analysis and compiling of lab results, writing draft report, reviewing draft report, finalizing report and distributing report to appropriate parties.

The quarterly report shall include the monitoring results of all groundwater, surface water, and untreated ash leachate samples that were analyzed. In the text of the report and in summary tables, the Consultant will also indicate which parameters exceed criteria appropriate to the sampling point of classification. This will include state and federal limits for maximum contaminant levels not to be exceeded in the aquifer(s) at the relevant point of compliance (per Subtitle D and permit requirements), groundwater and surface water protection criteria per CTDEP regulations in accordance with the classifications of the same, and aquatic life criteria for surface water locations.

Any mid-quarter re-sampling required because of exceedances of compliance parameters applicable to the RCRA cell or required by Permit No. LF0000052 shall be described in the current quarterly monitoring report if the results of the re-sampling are readily available at the time of report preparation.

These reports must include assessment of conditions of the groundwater monitoring wells and other sampling locations as applicable. The quarterly reports will also include a summary table of groundwater well construction details, and a site map which shows groundwater contours in both overburden and bedrock sampling locations on an AutoCAD drawing of the landfill site that includes site features and topography. CRRA will provide an AutoCAD disk of the landfill site for use by Consultant upon request.

During April and October, ground water elevation data will be collected at all available wells in the project vicinity as described in Task 1.4, regardless of whether or not the well is in the sampling program. The measured groundwater elevations at the additional well locations will be included on the groundwater contour maps. A Monitoring Well Field Data Sheet shall also be completed for each additional well.

Each quarterly report shall fully document the field activities and the laboratory work details, be formatted to support the annual report, and provide interim results and an update on impacts and exceedances. CRRA shall be notified immediately of any significant variation from past results or exceedances of compliance parameters with a recommendation on confirmation of the result.

A copy of the draft quarterly report, including sampling details and supporting analytical data, sample chains of custody, Monitoring Well Field Data Sheets, and a site map of groundwater elevations and possibly isopleths of results, is due to CRRA for review a minimum of ten (10) working days before the final report is due to the CTDEP. CRRA shall also be allowed sufficient time to review any other reports or forms prior to submittal to CTDEP.

Finalized quarterly reports are to be printed by the Consultant on double-sided pages. The report distribution and addresses will be provided. Nine (9) finalized copies of each report are required to be generated by the Consultant. Consultant is responsible for mailing reports directly.

Task 1.4: Non-Sampled Well Condition Survey and Water Elevations

There are twenty-nine (29) ground water monitoring wells at the Shelton Landfill that are not part of the quarterly sampling program as outlined in **Table 2** herein. During the April and October sampling events, the ground water elevation shall be measured at each of the non-sampled wells, and a Monitoring Well Field Data Sheet (as described in Task 1.1) shall be completed to document each well's condition. The groundwater elevations obtained at the non-sampled well locations should be used to supplement the groundwater contour maps developed as part of the applicable quar-

terly environmental monitoring report. Copies of the Monitoring Well Field Data Sheets shall be included in the applicable environmental monitoring report.

Task 1.5: Interim Quarterly Event Monitoring – Groundwater Zone of Compliance

If an exceedance of the previously-established maximum background levels for hardness, total potassium, total sodium, and/or total dissolved solids is found at any of the six (6) compliance monitoring wells (as defined in permit LF00000052), Consultant shall re-sample the well(s) of exceedance(s) for the parameter(s) exceeded within 45 days of the quarterly sampling event. If the exceedance is confirmed, Consultant shall explain the source and cause of exceedance and any extenuating circumstances in a letter for CRRA review and approval before forwarding to CTDEP.

Task 1.6: Annual Reports - Water Quality Monitoring

The annual report shall address the zone of influence of the discharge (defined as the area of soil and groundwater within which the treatment of the leachate by soils and mixing of leachate with groundwater occurs and could be reasonably expected to occur, and therefore within which some degradation of groundwater quality is anticipated to occur). The annual reports shall also provide an overall assessment of site conditions for the calendar year, including but not limited to the following:

(a) Map depicting all groundwater and surface water monitoring locations, groundwater withdrawal locations, and the locations of the collection, treatment, and conveyance of stormwater, leachate, and gas condensate as applicable;

(b) Evaluation of surface water and groundwater quality, and leachate quality and leachate quantity, including graphical representations of monitoring results for at least the past three (3) years;

(c) Condition of all monitoring wells and the need for repair or replacement of any wells;

(d) Evaluation of the extent and potential extent of the leachate discharge to groundwater, and whether any impact on the surface water quality to any surface waters bodies including wetlands was detected or could reasonably be expected to occur;

(e) Preparation of graphs depicting parameter history versus precipitation hydrograph for those parameters and locations specified in Section 5.B.ii.a of Permit No. LF0000052; and

(f) Written request for modification of the surface water and/or ground water monitoring program, as warranted by the data generated through the monitoring.

All annual reports are to be submitted as a draft to CRRA at least ten (10) working days prior to the submittal deadline of March 21st specified in the permit. CRRA shall be supplied with electronic copies of all information included in the final annual report as well as groundwater contour maps and other miscellaneous site plans in AutoCAD files.

Finalized annual reports are to be printed by the Consultant on double-sided pages. The report distribution and addresses will be provided. Nine (9) finalized copies of the annual report are required to be generated by the Consultant. Consultant is responsible for mailing reports directly.

TASK 2: SANITARY DISCHARGE MONITORING, LABORATORY ANALYSIS AND REPORTING

Sanitary sewer discharge permit number SP0001459 requires that quarterly monitoring of the treated (pH-adjusted) leachate be completed. The quarterly sampling of treated leachate is to be performed in the following months:

- January
- April
- July
- October

The "Special Permit to Discharge to the Sanitary Sewer" issued by the Town of Stratford on June 16, 2004 requires that treated leachate samples be collected on a monthly basis.

Task 2.1 Sanitary Discharge Sampling

Permit SP0001459 requires that both grab samples and a daily composite sample of the pH-adjusted leachate be collected on a quarterly basis. The composite sample is to be collected with use of an autosampler to be supplied by the Consultant. The autosampler is to be placed in an in-line downstream location in the leachate treatment facility, as specified by CRRA personnel. The composite is to be taken over the course of a full operating day, which is generally 6 hours +/-. The grab samples are also collected from a downstream location in the leachate treatment facility. The Consultant shall coordinate the schedule for sample collection with CRRA personnel at the site.

During the other 8 months of the year (the "off-months"), grab samples of the treated leachate shall be collected from the downstream location inside the treatment facility to meet the monitoring requirements of the "Special Permit" issued by the Town of Stratford.

Task 2.2: Laboratory Analysis

Samples shall be appropriately preserved and kept cool. They shall be transported to the laboratory the same day they are collected per coordination with the lab by Consultant. Container types, preservatives and maximum holding times per 40 CFR 136, latest revisions, shall be followed. Consultant is to coordinate re-sampling at no additional cost to CRRA, if re-sampling is necessary due to loss of sample in bottle

transport or in laboratory handling, or if the maximum holding time is exceeded. Samples shall be analyzed for the parameters listed in **Table 3**, varying for the quarterly versus off-quarterly month sampling event. Analytical methods shall be in accordance with the methods listed in **Table 3**, as required by Permit No. SP0001459.

Consultant is responsible for ensuring lab analyses are performed as required by the parameter list and that required methods are utilized. A summary of the lab's QA/QC procedures and results are to be reviewed. Consultant is to review the laboratory invoices for consistency with actual sample parameter analyses requested and completed.

Task 2.3: Reporting

CTDEP reporting requirements specify that CRRA is required to submit Discharge Monitoring Reports (DMR's) to the CTDEP on a quarterly basis. The DMR's must be submitted by CRRA by the last day of the month following the month that the samples were collected. Therefore, the Consultant is required to provide complete, finalized laboratory reports, sample chains of custody, and sample collection data sheets for the treated leachate monitoring to CRRA by the following deadlines:

Sampling Event	Deadline to Provide Final Lab Reports to CRRA
January	February 20
April	May 20
July	August 20
October	November 20

CRRA is required to submit the results of the "off-month" sampling events to the City of Stratford on a timely basis. In order to maintain consistency with the CTDEP reporting deadlines, the Consultant shall provide finalized laboratory reports and sample chains of custody for "off-month" sampling events to CRRA at least ten (10) calendar days prior to the last day of the month following the month that the samples were collected.

TASK 3: STORMWATER DISCHARGE SAMPLING, ANALYSIS AND REPORTING

Both the Shelton Landfill and the Shelton Transfer Station are registered under the "General Permit for the Discharge of Stormwater Associated with Industrial Activity", issued October 1, 2002 and modified on July 15, 2003. The permit registration numbers are GSI000512 (Shelton Landfill) and GSI000596 (Shelton Transfer Station).

In accordance with the General Permit, stormwater samples are to be collected and analyzed on an annual basis. Annual sampling is to be completed by June 30th of each year. There are a total of five (5) locations that must be sampled annually: four (4) locations are

associated with the landfill, while the fifth location is associated with the transfer station. Refer to Figure 2 for a map depicting the sampling locations.

Task 3.1: Stormwater Sampling

The General Permit requires that grab samples of stormwater be collected for analysis. The Consultant will also be required to collect a sample of uncontaminated rainfall, as required by the General Permit. The grab samples are to be collected from the sampling locations specified in the Stormwater Pollution Prevention Plans (SPPP's) that have been prepared for the landfill and transfer station (refer to Figure 2). The Consultant is responsible for following proper sampling protocols to ensure that all collected samples are representative of the discharges and that contaminants are not artificially introduced into the samples.

Task 3.2: Laboratory Analysis

Samples shall be appropriately preserved and kept cool. They shall be transported to the laboratory the same day they are collected per coordination with the lab by Consultant. Container types, preservatives and maximum holding times per 40 CFR 136, latest revisions, shall be followed.

Both chemical analyses and acute toxicity biomonitoring shall be completed at each sampled outfall per the General Permit requirements. It is important to note that the samples from the four landfill outfalls must also be analyzed for the parameters specified in 40 CFR 445 (Landfill Point Source Category). The monitoring parameters are specified in **Table 4**.

Consultant is responsible for ensuring lab analyses are performed as required by the parameter list and that required methods are utilized. A summary of the lab's QA/QC procedures and results are to be reviewed. Consultant is to coordinate re-sampling if necessary due to loss of sample in bottle transport or in laboratory handling. Consultant is to review the laboratory invoices for consistency with actual sample parameter analyses requested and completed.

Task 3.3: Reporting

CRRA is required to submit Stormwater Monitoring Reports (SMR's) to the CTDEP within ninety (90) days of the sampling event. In order to meet this reporting requirement, the Consultant shall provide to CRRA finalized laboratory reports, laboratory QA/QC results, sample chains of custody, and stormwater event data (i.e., sample date and time, sampler's name, magnitude of storm event, date and magnitude of previous storm event, etc.) within forty-five (45) days after the sampling event.

TASK 4: HABITAT MAPPING

In 1996, a habitat map of the Shelton Landfill and nearby areas was prepared to meet habitat characterization requirements under groundwater discharge permit LF0000052. Section

4(H)(i) of the permit requires that the habitat map be updated on an annual basis and submitted to CTDEP as part of the annual environmental monitoring report.

In order to meet the requirement to update the habitat maps, an on-site inspection must be conducted annually between July 1 and August 31. The purposes of the on-site inspection are to document wildlife observed at the site, to determine if there have been any changes in wetland or upland cover types, to determine if there have been any new habitat units established, to determine if any existing habitat units have been lost, and to determine if there have been changes in the size and/or classification of any existing habitat units.

The annual update to the habitat maps is to include a written summary report discussing the observations made during the on-site inspection and revisions made to the habitat maps, as well as copies of the revised habitat maps themselves. The annual update is to be submitted to the CTDEP as an appendix to the annual environmental monitoring report.

TABLE 1
Summary of Monitoring Well Construction – Sampled Monitoring Wells
Shelton Landfill
Shelton, Connecticut

Well No.	Screen Interval	Hydraulic Conductivity (Year of Test), K, in ft/day	Measuring Point (Top of PVC) Elevation, ft.	Top of Screen Elevation, ft.	Screen Length, ft.	Depth to Bottom, ft.
GP-4	S	---	56.72	42.52	20	36.12
BR-4	B	1.10 (1988)	55.32	-4.45	10	70.62
E	S	6.01 (1988)	9.47	-7.34	10	27.45
Ed	D	37.49 (1988)	8.97	-52.66	10	71.34
BR-6	B	---	9.06	-66.46	10	84.2
Qb	B	0.72 (1996)	71.48	2.16	10	74.43
Rs	S	18.33 (1996)	17.17	7.1	10	20.04
Rd	B	14.18 (1996)	16.22	-17.3	5	37.82
BR-12	B	---	16.75	-19.63	10	46
BR-9	B	---	72.38	Open Borehole	Open Borehole	49.18
D2d	D	17.89 (1988)	21.61	-9.81	10	42.49
BR-7	B	---	19.96	-34.3	20	103.85
S2s	S	33.08 (1996)	17.67	5.85	5	22.5
S2d	D	---	17.11	-6.73	15	35.93
Ts	S	35.69 (1996)	12.75	6.75	5	18.24
Td	D	---	12.68	-41.32	5	64.05
100	S	6.84 (1988)	14.08	-2.2	10	26.43
BR-1	B	---	13.26	-57.43	10	80.62
A	D	---	16.22	-6.6	10	32.59
Bs	S	---	11.30	4.32	10	16.8
Bd	D	---	11.50	-5.33	10	26.62
BR-2	B	---	10.26	-28.38	10	50.03
Cs	S	---	22.34	-3.78	15	40.88
C	D	---	22.37	-27.98	5	54.83
Cd	D	---	22.33	-54.08	10	85.83
I3s	S	---	9.98	0.96	10	21.43
BR-8	B	---	11.98	-99.02	10	123.88
D2	D	---	15.52	5.13	10	20.04
Hs	S	---	22.85	4.25	10	28.02
H2d	D	---	21.59	-14.41	10	45.68

S = Shallow Overburden
D = Deep Overburden
B = Bedrock
Depth to Bottom measurements were measured during pump installations in October 1996.

TABLE 2
MONITORING PARAMETERS
SHELTON LANDFILL - AMENDED GROUNDWATER DISCHARGE PERMIT NO. LF0000052

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Parameters		**Surface Water**		**Groundwater**				**Leachate**
Description: **Number of Sample Locations:**	**MDL**	**T/B** **9 ea + 1** **QA/QC**	**MID** **3 ea**	**Upgradient** **6 ea**	**Compliance** **6 ea**	**Plume Chrz** **13 ea**	**SW Protect** **5 ea + 1** **QA/QC**	**Untreated** **2 ea**
Field Measured								
Time of Collection		x	x	X	x	x	x	x
Sample Depth		x	x	X	x	x	x	x
Total Water Column Depth		x	x	X	x	x	x	x
Water Level Elevation				X	x	x	x	
Water Temp.		x	x	X	x	x	x	x
Air Temp.		x	x					x
PH		x	x	X	x	x	x	x
Spec. Cond.		x	x	X	x	x	x	x
Salinity		x	x					x
Dissolved Oxygen (D)		x	x					x
ORP				x	x	x	x	
Turbidity - (NTU)				x	x	x	x	
Water Clarity-Secchi Disk		x	x					x
Lab Measured								
Spec. Cond.		x	x	x	x	x	x	x
PH		x	x	x	x	x	x	x
TDS		x	x	x	x-compl	x	x	x
TSS		x	x	x	x	x	x	x
Chloride		x	x	x	x	x	x	x
Alkalinity		x	x	x	x	x	x	x
Hardness as CaCO3		x	x	x	x-compl	x	x	x
BOD - 5-day		x	x					x
COD		x	x	x	x	x	x	x
Ammonia - (T)		x	x	x	x	x	x	x
TKN (T)		x						x
Nitrate (T)		x		x	x	x	x	x
Nitrite (T)		x						x
Phosphorus (T)		x						x
Aluminum (T)	10 ug/L	x-L						x-L
Antimony (T)				x-1	x-1	x-1	x-1	
Arsenic (T)	5 ug/L	x-L		x-1	x-1	x-1	x-1-L	x-L
Barium (T)	10 ug/L	x-L		x-1	x-1	x-1	x-1-L	x-L
Beryilium				x-1	x-1	x-1	x-1	
Cadmium (T)	0.5 ug/L	x-L		x-1	x-1	x-1	x-1-L	x-L
Chromium (T)	5 ug/L	x-L		x-1	x-1	x-1	x-1-L	x-L
Cobalt (T)				x-1	x-1	x-1	x-1	
Copper (T)	5 ug/L	x-L		x-1	x-1	x-1	x-1-L	x-L
Copper (D)	5 ug/L	x-L						x-L
Iron (T)	5 ug/L	x-L		x	x	x	x-L	x-L
Iron (D)	5 ug/L	x-L						x-L
Lead (T)	5 ug/L	x-L		x-1	x-1	x-1	x-1-L	x-L
Lead (D)	5 ug/L	x-L						x-L
Manganese (T)	1 ug/L	x-L		x	x	x	x-L	x-L
Manganese (D)	1 ug/L	x-L						x-L
Mercury (T)	0.2 ug/L	x-L						x-L
Nickel (T)	5 ug/L	x-L		x-1	x-1	x-1	x-1-L	x-L
Potassium (T)				x	x-compl	x	x	
Selenium (T)				x-1	x-1	x-1	x-1	
Silver (T)	1 ug/L	x-L		x-1	x-1	x-1	x-1-L	x-L
Sodium (T)				x	x-compl	x	x	
Lab Measured Cont.								
Sulfate (T)				x	x	x	x	
Thallium (T)				x-1	x-1	x-1	x-1	
Vanadium (T)				x-1	x-1	x-1	x-1	
Zinc (T)	10 ug/L	x-L		x-1	x-1	x-1	x-1-L	x-L
Zinc (D)	10 ug/L	x-L						x-L
VOCS via EPA Method 8260				x	x	x	x	x

TABLE 2
MONITORING PARAMETERS
SHELTON LANDFILL - AMENDED GROUNDWATER DISCHARGE PERMIT NO. LF0000052

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Parameters		**Surface Water**		**Groundwater**				**Leachate**
Description: **Number of Sample Locations:**	**MDL**	**T/B** **9 ea + 1** **QA/QC**	**MID** **3 ea**	**Upgradient** **6 ea**	**Compliance** **6 ea**	**Plume Chrz** **13 ea**	**SW Protect** **5 ea + 1** **QA/QC**	**Untreated** **2 ea**
Additional Parameters to be monitored only at listed locations:								
Phenols				GP-4, Qb		BR-1	100,A	
Radium (Radium-226 and Radium-228 combined via EPA Method 9320 of SW-846)				GP-4, Qb		BR-1	100,A	
Gross Alpha				GP-4, Qb		BR-1	100,A	
Gross Beta				GP-4, Qb		BR-1	100,A	
Silica				GP-4, Qb		BR-1	100,A	
Calcium				GP-4, Qb		BR-1	100,A	
Cyanide (T)				GP-4, Qb		BR-1	100,A	
TOC				GP-4, Qb		BR-1	100,A	
TOX				GP-4, Qb		BR-1	100,A	
Chromium, Hexavalent				Qb	Rs, Rd, BR-12, D2d, BR-9	S2s, S2d, Td, I3s		Ts, Cs, D2,
PCB's via EPA Method 608								x-July
Dioxins and Furans via EPA Method 8280								x-July

NOTES:

Column 2

MDL to be used for lab analysis of surface water samples (columns 3 and 4) and surface water protection well samples (column 8). If a parameter's Groundwater Protection Criterion (GWPC) and/or Surface Water Protection Criterion (SWPC) is lower than the listed MDL, then the MDL must be at least as low as the lower of the GWPC and the SWPC.

Surface Water

Column 3 - T/B = Top and Bottom Surface Water Samples at the Following Locations, Plus Collection of a QA/QC Duplicate Sample from One of These Locations:
SW-1 SW-2T SW-2B SW-3T SW-3B
SW-4T SW-4B SW-5T SW-5B

Column 4 – MID = Mid-Depth Surface Water Samples at Locations:
SW-3M SW-4M SW-5M

Columns 5-9 - Notes: "x-1" = Inorganic listed in Appendix 1 of 40 CFR 258
"x-L" or "x-1-L" indicate analyses that must meet the MDL listed in column 2.
"x-compl" indicates compliance parameters that may require mid-quarter re-sampling.
"x-July" indicates that sampling for these parameters is only required on an annual basis between July 15 and July 30.

Ground Water

Column 5 – The following 6 wells are "Upgradient" Wells:
MW-GP-4 MW-E MW-BR-6 MW-BR4 MW-Ed MW-Qb

Column 6 – The following 6 wells are "Compliance" Wells:
MW-RS MW-BR-12 MW-D2d MW-Rd MW-BR-9 MW-BR7

Column 7 – The following 13 wells are "Plume Characterization" Wells:
MW-Td MW-C MW-Bs MW-BR-2 MW-Hs MW-BR-8 Sd (a.k.a. S2d)
MW-BR1 MW-Cd MW-Bd MW-H2d I2s (a.k.a. I3s) Ss (a.k.a. S2s

Column 8 – The following 5 wells are designated Surface Water Protection Wells, and a QA/QC Duplicate Sample Must Also be Collected from One of These Wells Quarterly:
MW-Ts MW-CS MW-D2 MW-100 MW-A

Untreated Leachate

Column 9 – The following 2 locations represent the sample locations for untreated ash residue leachate from the SEEA and the NEEA, respectively:
L-1S L-1N

TABLE 3
TREATED LEACHATE SAMPLING PARAMETERS
Shelton Landfill
Shelton, Connecticut

Parameter	Units	EPA Method Number	Sample Frequency	Sample Type
Barium, Total	mg/l	Per 40 CFR 136	Quarterly	Daily Composite
Chemical Oxygen Demand	mg/l	Per 40 CFR 136	Quarterly	Daily Composite
Copper, Total	mg/l	Per 40 CFR 136	Quarterly	Daily Composite
Lead, Total	mg/l	Per 40 CFR 136	Quarterly	Daily Composite
Nickel, Total	mg/l	Per 40 CFR 136	Quarterly	Daily Composite
Zinc, Total	mg/l	Per 40 CFR 136	Quarterly	Daily Composite
Total Volatile Hydrocarbons	µg/l	Via EPA Method 624	Quarterly	Grab
Aluminum, Total	mg/l	Per 40 CFR 136	Quarterly	Grab
Gold, Total	mg/l	Per 40 CFR 136	Quarterly	Grab
Iron, Total	mg/l	Per 40 CFR 136	Quarterly	Grab
Biochemical Oxygen Demand (5-Day)	mg/l	Per 40 CFR 136	Monthly	Grab
Total Suspended Solids	mg/l	Per 40 CFR 136	Monthly	Grab
Total Oil and Grease	mg/l	Per 40 CFR 136	Monthly	Grab
Total Nitrogen	mg/l	Per 40 CFR 136	Monthly	Grab

Notes:

1. Quarterly sampling is to be conducted in the months of January, April, July, and October.
2. All chemical analyses shall be performed by a laboratory certified for such analyses by the Connecticut Department of Public Health.

TABLE 4 STORMWATER SAMPLING PARAMETERS Shelton Landfill & Shelton Transfer Station Shelton, Connecticut				
Parameter	**Units**	**Transfer Station**	**Shelton Landfill Outfalls 001, 002, and 003**	**Shelton Landfill Outfall 004**
Total Oil and Grease	mg/L	✓	✓	✓
Chemical Oxygen Demand	mg/L	✓	✓	✓
Total Suspended Solids	mg/L	✓	✓	✓
Total Phosphorous	mg/L	✓	✓	✓
Total Kjeldahl Nitrogen	mg/L	✓	✓	✓
Nitrate as Nitrogen	mg/L	✓	✓	✓
Total Copper	mg/L	✓	✓	✓
Total Lead	mg/L	✓	✓	✓
Total Zinc	mg/L	✓	✓	✓
Aquatic Toxicity (LC_{50})	%	✓	✓	✓
pH	S.U.	✓	✓	✓
BOD_5	mg/L		✓	✓
Ammonia (as N)	mg/L		✓	✓
α-Terpineol	mg/L		✓	✓
Benzoic acid	mg/L		✓	✓
p-Cresol	mg/L		✓	✓
Phenol	mg/L		✓	✓
Analine	mg/L			✓
Naphthalene	mg/L			✓
Pyridine	mg/L			✓
Arsenic	mg/L			✓
Chromium	mg/L			✓
pH of Uncontaminated Rainfall	S.U.	✓	✓	✓

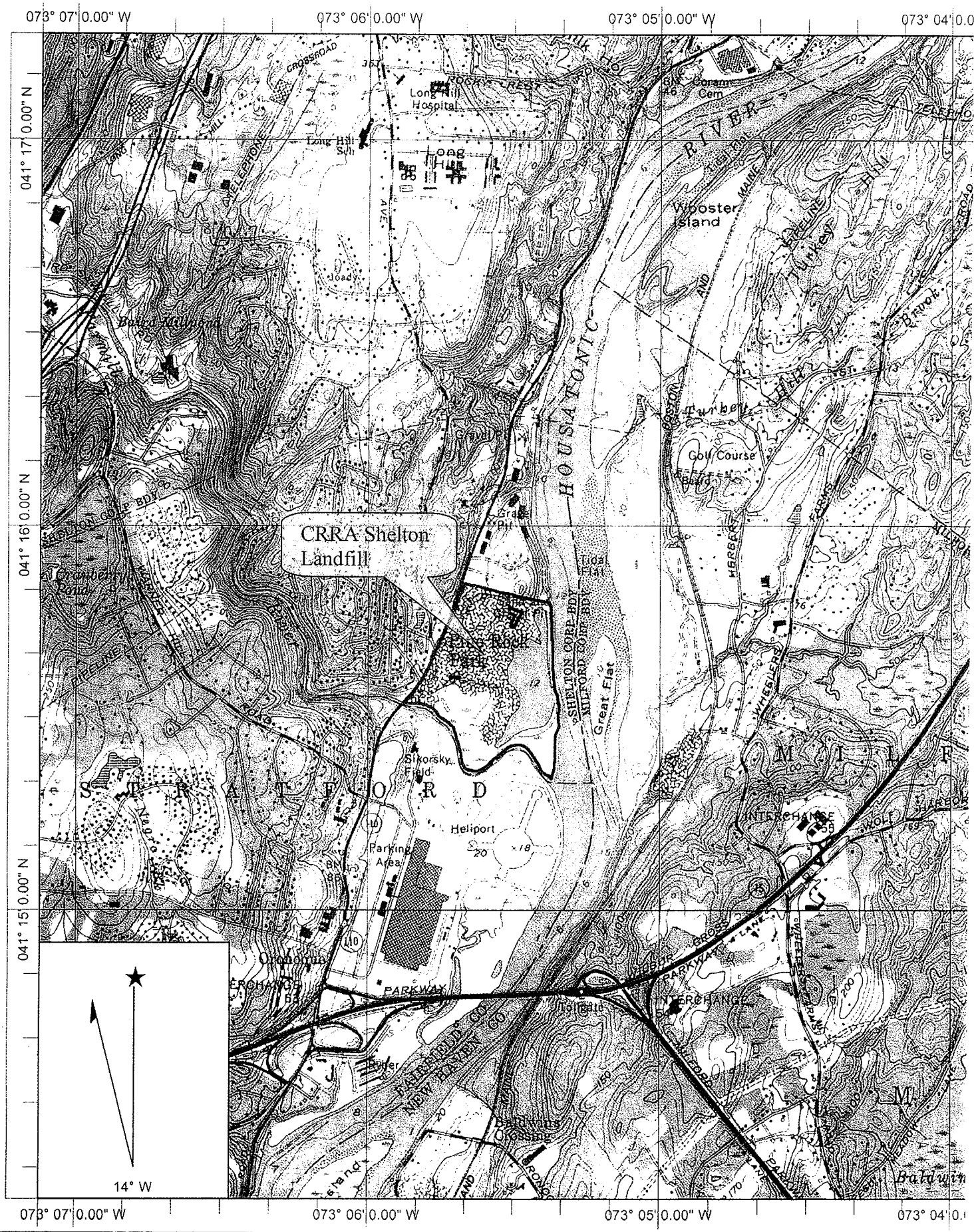
Notes:

1. One (1) stormwater sample from the Shelton Transfer Station is to be analyzed for the General Permit parameters only. Four (4) samples from the Shelton Landfill are to be analyzed for both the General Permit parameters and the parameters listed in 40 CFR 445.
2. All chemical analyses shall be performed using methods approved by the USEPA under 40 CFR 136.
3. All chemical analyses shall be performed by a laboratory certified for such analyses by the Connecticut Department of Public Health.

FIGURES

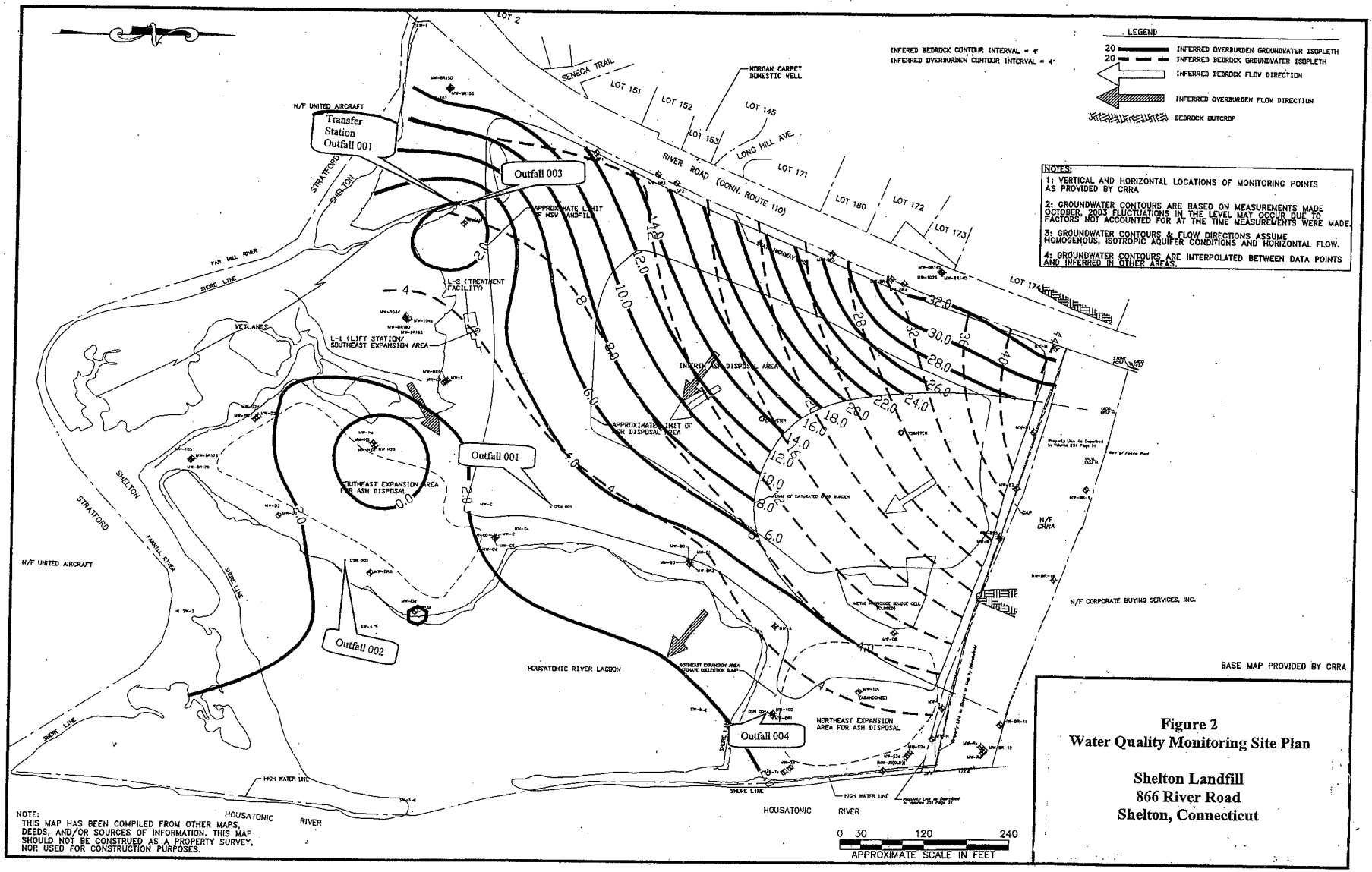
Figure 1: Site Location Plan

Figure 2: Water Quality Monitoring Site Plan



USGS Topo Quad Name: ANSONIA
Source: Maptech, Inc. (1997)

Figure 1 – Site Location
CRRA Shelton Landfill
866 River Road
Shelton, Connecticut
Scale: 1" = 2,000'±



NOTE:
THIS MAP HAS BEEN COMPILED FROM OTHER MAPS, DEEDS, AND/OR SOURCES OF INFORMATION. THIS MAP SHOULD NOT BE CONSTRUED AS A PROPERTY SURVEY, NOR USED FOR CONSTRUCTION PURPOSES.

Figure 2
Water Quality Monitoring Site Plan

Shelton Landfill
866 River Road
Shelton, Connecticut

APPENDIX A - Permits

LF0000023	**Discharge of Sanitary Landfill Leachate to Ground Water** **(Dated January 11, 1985)** **4 Pages**
LF0000052	**Discharge of Leachate from Municipal Solid Waste Ash Residue to Ground Water** **(Dated August 27, 1996, with Modification Dated September 5, 1997)** **30 Page Permit, plus 3 Page Modification**
No Number	**Monitoring Program for Hazardous Waste Cell** **(Dated February 1994)** **2 Pages**
SP0001459	**Pretreatment Permit for Discharge of Pre-Treated Leachate to the Sanitary Sewer** **(Dated June 27, 2001)** **6 Pages**
No Number	**Special Permit to Discharge to the Sanitary Sewer of the Town of Stratford** **(Dated June 16, 2004)** **1 Page**

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PERMIT

Connecticut Resources Recovery Authority
179 Allyn Street
Hartford, CT 06103

Attention: Mr. David Brown

Re: DEP/WPC-126-104
Town of Shelton
Housatonic River Watershed

Gentlemen:

This PERMIT is issued in accordance with Section 22a-430 of the Connecticut General Statutes, as amended. The Commissioner of Environmental Protection (hereinafter "the Commissioner") has found that the discharge from the operation and maintenance of the sanitary landfill will not cause pollution of the waters of the state. This action is further found to be consistent with the applicable policies of the Connecticut Coastal Management Act (Section 22a-92 of the Connecticut General Statutes as amended by Section 2 of P.A. 79-535).

The Commissioner, acting under Section 22a-430, hereby permits the Connecticut Resources Recovery Authority (CRRA) to operate and maintain a sanitary landfill with the resultant leachate discharged to the groundwaters of the state in accordance with the following conditions:

1) Discharge Serial No. 001
Description - Sanitary Landfill Leachate (code 305002C)
Discharge Location - Groundwaters in the watershed of the Housatonic River (basin code 6000)
Design Flow Rate - 74,000 gallons per day

2) The sanitary landfill shall be operated and maintained in accordance with the plans and specifications approved by the Director of Water Compliance on December 28, 1984. The sanitary landfill site consists of 110 acres of land located to the east of Route 110 in the Town of Shelton. The permitted area of refuse disposal is 37 acres as shown on the site grading plan prepared by Fuss & O'Neill and dated December 4, 1984.

3) The surface and groundwaters shall be monitored as follows:

A) Surface water quality monitoring shall be conducted at the following locations:

S-1: Lagoon inlet (downstream)
S-2: Lagoon mid-point (downstream)

Samples shall be obtained on the falling tide approximately midway between high and low tide and be taken at mid-depth in the lagoon.

Each quarterly sample shall be analyzed for the following leachate indicator parameters.

1. total dissolved solids (613)
2. total suspended solids (614)
3. alkalinity (602)
4. COD (303)
5. total iron (113)
6. total managanese (116)
7. ammonia (201)
8. nitrate (204)
9. chloride (502)
10. organic nitrogen (205)
11. T.O.C. (306)
12. pH (609)
13. conductivity (611)
14. BOD_{20} (302)
15. nitrite (203)
16. TKN (202)
17. copper (111)
18. zinc (127)
19. nickel (119)
20 cadmium(107)
21. lead (114)
22. chromium (109)

B) Groundwaters monitoring shall be conducted at the following locations:

W-1: F (up-gradient)
W-2: As
W-3: Ad
W-4: Bs
W-5: C
W-6: E
W-7:
W-9:
W-10:

Following measurement of the water level in the monitoring wells, the wells shall be pumped immediately prior to sampling until at least three (3) times the volume of water standing in the well is evacuated to insure that a representative sample of the groundwater is obtained. All ground water samples for metals, COD and volatile organics shall be filtered in the field to remove excess suspended solids. A silty water sample will give false results on the COD and metal analyses. The samples shall be analyzed by a laboratory certified by the State Health Department. All samples shall be placed in the appropriate container for the test to be conducted (i.e. BOD bottle, volatile organics bottle, one-half gallon plastic bottle, etc.).

Each quarterly ground water sample shall be analyzed for the previously listed leachate indicator parameters and the following:

water level (706)
volatile organics (annually)

C) The domestic water supply wells at the following addresses shall be sampled quarterly:

PW-1: Lot 5
PW-2: Lot 151
PW-3: Lot 152
PW-4: Lot 153
PW-5: Lot 172
PW-6: Lot 173

Each quarterly water sample shall be analyzed for specific conductance (611), chloride (502), total dissolved solids (613), alkalinity (602), ammonia (201), nitrate (204), iron (113), manganese (116) and pH (609).

Tap water should be run vigorously for five (5) minutes prior to sample collection and from a tap which bypasses holding tanks and water treatment systems. Samples shall be placed in the appropriate bottle.

D) This permit condition (C) is binding only if the property owners grant the applicant permission to collect the well water sample.

E) The sampling and testing performed according to subparagraphs A, B, and C shall be done according to this schedule:

Sampling Date	Reporting Date
January	March 1
April	June 1
July	September 1
October	December 1

The results shall be reported to the Solid Waste and Water Compliance Units of the Department of Environmental Protection at the State Office Building, Hartford, Connecticut 06106. A copy of the sampling results shall also be sent to the Health Officer of the town in which the disposal area is located and copies of the private well sampling results shall be sent to the residences of those properties.

F) Beginning on December 31, 1984 and annually on that date thereafter, a summary report of the monitoring program shall be submitted for the review and approval of the Commissioner. The report shall include an assessment of changing trends in leachate concentration or constituents, impact on adjacent surface waters, changes in plume location, changes in the ground water levels, and impact on nearby water supply wells.

4) The zone of influence of the discharge which is hereby permitted is restricted to the property owned by CRRA. The zone of influence is defined as the soil and groundwater area needed to allow the treatment of leachate by soils and mixing of leachate with groundwaters and in which the groundwaters could be in violation of pertinent Federal and State drinking water standards.

5) Within ninety (90) days of the date of this permit, verify to the Commissioner that notice has been placed by the CRRA on the land records of this area as shown in the engineering report dated Februrary 1982, which indicates that groundwaters beneath this parcel are not suitable for drinking without treatment due to the existence of the landfill.

6) Within ninety (90) days of the date of this permit, verify to the Commissioner that refuse monuments have been installed around the perimeter of the refuse disposal area. Refuse monuments shall be at least six (6) feet high, three (3) inches in diameter and permanently anchored to protect against accidental destruction or vandalism.

7) On or before six (6) months of when the metal hydroxide disposal cell will reach its permitted capacity of 10,000 cubic yards, the CRRA shall submit for the review and approval of the Commissioner, plans and specifications for the final disposition of the metal hydroxide sludge.

8) Within one (1) year of the date of issuance of this permit, verify to the Commissioner that a vegetated buffer zone fifty (50) feet wide has been established between the lagoon and the landfill.

9) The monitoring of this landfill shall continue for at least twenty-five (25) years after full and complete closure has occurred.

The PERMIT is issued under Section 22a-430 and shall expire on January 11, 1990.

The PERMIT shall be subject to all the Section 22a-430 General Conditions dated April 27, 1979 which are hereby incorporated into this PERMIT.

Entered as a PERMIT of the Commissioner on January 11, 1985.

Stanley J. Pac
Stanley J. Pac
COMMISSIONER

LF 0000023

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PERMIT

Connecticut Resources Recovery Authority
179 Allyn Street
Hartford, Connecticut 06103

Attention: Mr. William R. Darcy
President

Re: Facility ID: 126-104
City of Shelton
Housatonic River Watershed

I CERTIFY THAT THIS DOCUMENT IS A TRUE COPY OF THE ORIGINAL
Pamela D. Burney
NAME
Processing Technician
TITLE
DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF WATER MANAGEMENT

This permit is issued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes, and regulations adopted thereunder, as amended.

Your permit application (Application No. 199502403 received on June 28, 1995), supporting documents, addenda, letters and plates identified in Appendix A attached to this permit; and supplemental documents have been reviewed by the Connecticut Department of Environmental Protection.

The Commissioner of Environmental Protection (hereinafter "the Commissioner") has found that the proposed system to treat the discharge to ground water of leachate from an existing 6.3-acre lined ash residue disposal area (the southeast expansion area), if the liner and collection system fail, and a proposed 3.1-acre lined ash residue disposal area (the northeast expansion area), if the liner and collection system fail, both located at 866 River Road, Shelton, will protect the waters of the state from pollution. The proposed system includes the construction of a new, 3.1 acre, lined municipal solid waste ash residue disposal area.

The Commissioner, acting under Section 22a-430, hereby permits the Connecticut Resources Recovery Authority (CRRA) (hereinafter "the permittee") to discharge leachate from the southeast expansion area and the proposed northeast expansion area, both located at 866 River Road, Shelton, Connecticut, to the ground waters of the state in accordance with the following conditions.

1) Permitted discharges:

(A) Discharge Serial No. 301 (southeast expansion area)
Description - Leachate from Municipal Solid Waste Ash Residue (Discharge code 305002d)

Discharge Location - Ground water in the watershed of the Housatonic River (Basin Code 6000) and the Farmill River (Basin Code 6025).
Disposal Area Design Size - 6.3 acres, lined, municipal solid waste ash residue

(B) Discharge Serial No. 302 (northeast expansion area)
Description - Leachate from Municipal Solid Waste Ash Residue (Discharge code 305002a)
Discharge Location - Ground water in the watershed of the Housatonic River (Basin Code 6000) and the Farmill River (Basin Code 6025).
Disposal Area Design Size - 3.1 acres, lined, municipal solid waste ash residue

2) The southeast expansion area shall be operated and maintained in accordance with the permit to construct a solid waste disposal area No. 1260181 issued on August 5, 1992, and in accordance with plans and specifications described in application No. 90-579, approved by the Commissioner on April 19, 1994. The northeast expansion area shall be operated and maintained in accordance with the permit to construct a solid waste disposal area No. 1260181 issued on August 5, 1992, and in accordance with plans and specifications described in the application, and the detailed plans and specifications identified in Appendix A.

3) The surface and groundwaters shall be monitored in accordance with the following submittals listed below and collectively identified as the "Groundwater and Surface Water Monitoring Program":

Groundwater and Surface Water Monitoring Program

Pages 1 to 39 from "Groundwater and Surface Water Quality Monitoring Program for the Northeast Expansion Area and Southeast Expansion Area in Support of an Amendment of the CTDEP Groundwater Discharge Permit No. LF0000052," prepared by CRRA, submitted to the Commissioner on September 18, 1995, as revised to June 12, 1996.

Tables No. 1 and 2 from submittal dated May 31, 1996 prepared by CRRA.

Table No. 3 from "Groundwater and Surface Water Quality Monitoring Program for the Northeast Expansion Area and Southeast Expansion Area in Support of an Amendment of the CTDEP Groundwater Discharge Permit No.

LF0000052," prepared by CRRA, submitted to the Commissioner on September 18, 1995, as revised to June 12, 1996.

Figures No. 1, 2, and 3 from "Groundwater and Surface Water Quality Monitoring Program for the Northeast Expansion Area, Southeast Expansion Area and MSW/Ash Area in Support of the CTDEP Groundwater Discharge Permit," submitted to the Commissioner on September 13, 1995, as revised to May 1996.

Appendices A, B, C, D, E, F, G, H, and I from submittal dated May 31, 1996 prepared by CRRA.

Appendix J from letter and attachments submitted by CRRA dated June 14, 1996 and facsimile submitted by CRRA dated June 17, 1996.

(A) Surface Water Quality Monitoring

(i) Locations - Surface water quality monitoring shall be conducted at the following locations as shown on Figure 2, entitled "Water Quality Monitroing Site Plan," (sic) contained in the "Groundwater and Surface Water Monitoring Program" identified in paragraph 3 above.

SW-1: Farmill River upstream of the CRRA Shelton Landfill. Samples to be collected from mid-stream and mid-depth.

SW-2: Farmill River downstream of the O&G expansion area, but upstream of the confluence of the Farmill and Housatonic Rivers.

SW-2T: Samples to be collected from mid-stream and within 0.5 meter of the water surface.

SW-2B: Samples to be collected from mid-stream and within 0.5 meter of the stream bed.

SW-3: Housatonic River Lagoon inlet. Station is located to the southern side of the inlet.

SW-3T: Samples to be collected within 0.5 meter of the water surface.

SW-3M: Samples to be collected from mid-depth.

SW-3B: Samples to be collected within 0.5 meter of the bottom of the lagoon.

SW-4: Housatonic River Lagoon mid-point. Station is located about 200 feet east of the shoreline opposite MW-BR8 and Sediment Pool No. 2.

SW-4T: Samples to be collected within 0.5 meter of the water surface. This location was formerly known as S-4.

SW-4M: Samples to be collected from mid-depth. This location was formerly known as S-5, and prior to that was known as S-2.

SW-4B: Samples to be collected within 0.5 meter of the bottom of the lagoon. This location was formerly known as S-6.

SW-5: Housatonic River Lagoon northeast. Station is located approximately 200 feet south of MW-100 and MW-BR1.

SW-5T: Samples to be collected within 0.5 meter of the water surface.

SW-5M: Samples to be collected from mid-depth.

SW-5B: Samples to be collected within 0.5 meter of the bottom of the lagoon.

(ii) Each surface water sample collected from the stations designated in paragraph 3(A)(i) shall be sampled quarterly between the 15th and 30th day of January, April, July, and October, except as provided by paragraph 3(A)(iv)(f).

(iii) Each surface water sample shall be analyzed for the following parameters:

(a) Surface water samples collected from SW-1, SW-2T and SW-2B, SW-3T and SW-3B, SW-4T and SW-4B, and SW-5T and SW-5B shall be analyzed for the parameters numbered 1-32.

(b) Surface water samples collected from SW-3M, SW-4M and SW-5M shall be analyzed for the parameters numbered 1-10.

	Parameter	Minimum Level	
1.	Specific Conductance		
2.	pH		
3.	Total Dissolved Solids		
4.	Total Suspended Solids		
5.	Chloride		
6.	Alkalinity		
7.	Hardness as $CaCO_3$		
8.	BOD, 5-day		
9.	COD		
10.	Ammonia-N, total		
11.	Kjeldahl-N, total		
12.	Nitrate-N, total		
13.	Nitrite-N, total		
14.	Phosphorus, total		
15.	Aluminum, total	10	µg/L
16.	Arsenic, total	5	µg/L
17.	Barium, total	10	µg/L
18.	Cadmium, total	0.5	µg/L
19.	Chromium, total	5	µg/L
20.	Copper, total	5	µg/L
21.	Copper, dissolved	5	µg/L
22.	Iron, total	5	µg/L
23.	Iron, dissolved	5	µg/L
24.	Lead, total	5	µg/L
25.	Lead, dissolved	5	µg/L
26.	Manganese, total	1	µg/L
27.	Manganese, dissolved	1	µg/L
28.	Mercury, total	0.2	µg/L
29.	Nickel, total	5	µg/L
30.	Silver, total	1	µg/L
31.	Zinc, total	10	µg/L
32.	Zinc, dissolved	10	µg/L

(iv) Sampling Conditions

(a) The Farmill River flows shall be gauged and reported for each day of sample collection.

(b) Surface water samples shall be collected only when no measurable precipitation has fallen on the site during the previous 72 hours.

(c) Sampling locations that are tidally influenced, (e.g. SW-2, SW-3, SW-4, and SW-5) shall be sampled at low ebb, defined here as between one-half hour and two hours after the published time of low tide for Bridgeport corrected to local mean time (NOAA Tide Tables).

(d) Except as provided by sub-paragraph (f) of this section, all samples to be collected from the monitoring locations identified in paragraph 3(A)(i) shall be collected on the same day.

(e) Time of collection, water clarity, sample depth, total water column depth (distance to river bottom), water and air temperature, pH, specific conductance, salinity and dissolved oxygen shall be measured in the surface water body for each sample collected in accordance with the requirements of paragraph 3(A). Results shall be reported together with the results of laboratory analyses, and for those parameters required to be measured in the field and in the laboratory, both values shall be reported.

(f) During periods when surface water conditions would be unsafe for field personnel (e.g. icing conditions in the lagoon), DEP shall be contacted to discuss whether a particular surface water sampling event may be rescheduled.

(B) Ground Water Quality Monitoring

(i) Locations - Ground water quality monitoring shall be conducted at the following locations as shown on Figure 2, entitled "Water Quality Monitroing Site Plan," (sic) contained in the monitoring plan contained in the "Groundwater and Surface Water Monitoring Program" identified in paragraph 3 above.

(a) Upgradient Monitoring Wells

U-1: MW-GP4
U-2: MW-BR4
U-3: MW-E
U-4: MW-ED
U-5: MW-BR6
U-6: MW-QB

(b) Compliance Monitoring Wells:

C-1: MW-RS
C-2: MW-RD
C-3: MW-BR12
C-4: MW-BR9
C-5: MW-D2D
C-6: MW-BR7

(c) Plume Characterization Wells:

W-1: MW-SD (formerly MW-Js old)
W-2: MW-SS
W-3: MW-TS
W-4: MW-TD
W-5: MW-100
W-6: MW-BR1
W-7: MW-C
W-8: MW-CD
W-9: MW-CS
W-10: MW-BS
W-11: MW-BD
W-12: MW-BR2
W-13: MW-D2
W-14: MW-I2S (formerly MW-Js new)
W-15: MW-BR8
W-16: MW-A
W-17: MW-HS
W-18: MW-H2D

(d) The following wells have also been designated as Surface Water Protection Wells:

W-3: MW-TS
W-5: MW-100
W-9: MW-CS
W-16: MW-A
W-13: MW-D2

(e) Water Supply Wells:

PW-1: 153 River Road

(ii) Parameter list

Parameter

1. Total Dissolved Solids
2. Total Suspended Solids
3. Alkalinity
4. COD
5. Iron (Total)
6. Manganese (Total)
7. Specific Conductance
8. Nitrate (as N)
9. Chloride
10. Hardness (as $CaCO_3$)
11. pH
12. Ammonia (as N)
13. Sodium (Total)
14. Potassium (Total)
15. Sulfate (Total)
16. All inorganics identified in Appendix I of 40 CFR Part 258 of the Federal Register, Vol. 56, No. 196, October 9, 1991, beginning page 51032 using EPA method 6010.
17. Volatile Organic Compounds identified in Appendix I of 40 CFR Part 258 of the Federal Register, Vol. 56, No. 196, October 9, 1991, beginning page 51032 using EPA method 8260
18. Beginning the first quarter after the Commissioner's approval of the report required under paragraph 3(C)(iv), any supplemental parameters identified in accordance with the requirements of paragraph 3(C).

(iii) Schedule - The ground water quality monitoring program shall begin 30 days after confirmation that all monitoring wells, sampling devices and associated appurtenances have been installed, but not later than 90 days after permit issuance. Thereafter, the ground water quality monitoring locations in paragraph 3(B)(i) shall be monitored four times per year in accordance with the following schedule:

Sampling Periods

January
April
July
October

(a) Each ground water sample collected from the monitoring wells designated in paragraph 3(B)(i)(a) as U-1, U-2, U-3, U-4, U-5, and U-6 shall be analyzed for the parameters listed in paragraph 3(B)(ii), items 1 through 17.

(b) Each ground water sample collected from the monitoring wells designated in paragraph 3(B)(i)(b) as C-1, C-2, C-3, C-4, C-5, and C-6 shall be analyzed for the parameters identified in paragraph 3(B)(ii), items 1 through 18.

(c) Each ground water sample collected from the monitoring wells designated in paragraphs 3(B)(i)(c) as W-1, W-2, W-4, W-6, W-7, W-8, W-10, W-11, W-12, W-14, W-15, W-17, and W-18 shall be analyzed for the parameters listed in paragraph 3(B)(ii), items 1 through 17.

(d) Each ground water sample collected from the monitoring wells designated in paragraphs 3(B)(i)(c) and 3(B)(i)(d) as W-3, W-5, W-9, W-13, and W-16 shall be analyzed for the parameters identified in paragraph 3(B)(ii), items 1 through 17, with the exception that for those parameters in item 16 for which a lower minimum level is specified in paragraph 3(A)(iii), laboratory analyses shall be performed using the lower minimum level.

(e) Each ground water sample collected from the water supply well designated in paragraph 3(B)(i)(e) as PW-1 shall be analyzed for the parameters listed in paragraph 3(B)(ii), items 1 through 17.

(iv) Sampling Conditions - Field measurement of pH, temperature, specific conductance, turbidity, and Oxidation Reduction Potential shall be performed at all ground water monitoring locations in paragraph 3(B)(i) prior to each sample collection. In addition, the water level elevation shall be measured at all ground water monitoring locations in paragraphs 3(B)(i)(a), 3(B)(i)(b), 3(B)(i)(c), and 3(B)(i)(d). These field measurements shall be reported together with the results of analyses of the samples in accordance with paragraph 5.

(v) Ground water monitoring shall be performed as described in the monitoring plan contained in the "Groundwater and Surface Water Monitoring Program" identified in paragraph 3 above, subject to the modifications listed below. Where the requirements of the permittee's monitoring plan conflict with those of this permit, the permit requirements shall be used.

Where specific sampling or redevelopment procedures are not specified in the monitoring plan or in the following paragraphs, the permittee shall follow applicable procedures identified in the following EPA guidance documents. "Handbook of Suggested Practices for the Design and Installation of Ground-Water Monitoring Wells", U.S. EPA, EPA/600/4-89/034, 1991; "RCRA Ground-Water Monitoring: Draft Technical Guidance", U.S. EPA, EPA/530-R-93-001, 1992; and the draft document "Low Flow (Minimum Stress) Purging and Sampling Procedure for the Collection of Ground Water Samples From Monitoring Wells", Revision Number 1 draft, U.S. EPA, dated August 3, 1995.

(a) Redevelop all monitoring wells identified in paragraph 3(B)(i) of this permit, with the exception of well MW-HS.

(1) Schedule - Redevelopment shall be completed within 60 days of issuance of this permit.

(2) Methods - Redevelopment shall be performed for each well, using the procedure described below.

Measure the static water level and total well depth.

Set a pump in the well, and begin pumping. The pump must be capable of removing all sediment from the well. Monitor turbidity of the pump discharge using a field turbidimeter, and continue pumping until the turbidity decreases to 5 Nephelometric Turbidity Units (NTU) or stabilizes (defined as less than 10 percent variance in 3 consecutive measurements, taken 3 to 5 minutes apart).

Surge the well using a properly designed surge block and proper surging technique. Perform surging throughout the screened or open interval. Record total well depth.

Continue alternating cycles of pumping and surging as described above until the initial turbidity during the second of two consecutive pumping cycles, separated by a sufficient period of well recharge (with the pump shut off and left in place), does not exceed 5 NTU. The recharge period shall be at least the period of time needed for the water level in the well to return to within 0.5 feet of the static level, as corrected for tidal fluctuations.

Record static water level, total well depth, starting and ending time of each pumping and each surging cycle, volume of water pumped during each pumping cycle, water level at the start of each pumping cycle, initial and final turbidity of pump discharge during each pumping cycle, the manufacturer's name and model number of all equipment and instruments used in well development, and the name and address of all contractors and / or consultants involved in the work.

(3) If, after redevelopment a well still yields water with turbidity exceeding 5 NTU, the permittee shall either abandon the well and replace it with a new well constructed in accordance with the "Handbook of Suggested Practices for the Design and Installation of Ground-Water Monitoring Wells", U.S. EPA, EPA/600/4-89/034, 1991, or demonstrate to the Commissioner's satisfaction that the well was properly completed and adequately developed, and that turbidity is an artifact of the geologic materials in which the well is installed. Information to be used in such a demonstration shall include, but be limited to, geologic logs, well construction diagrams, grain size analyses, calculations for sizing the sand pack and well screen to the geologic formation, and water quality data including turbidity and total suspended solids.

(4) Within 90 days of issuance of this permit, the permittee shall submit a report for the Commissioner's review and approval which (1) summarizes all well redevelopment efforts, (2) identifies wells which must be replaced in accordance with paragraph 3(B)(v)(a)(3), (3) proposes a schedule, methods, and materials for old well abandonment

and new well construction, and (4) presents any demonstrations of well adequacy vs. persistent turbidity as a geologic artifact..

(b) Within 90 days of issuance of this permit, the permittee shall install permanently dedicated, submersible sampling pumps in all monitoring wells identified in paragraph 3(B)(i) of this permit. All pumps and ancillary support cables, electrical wiring, and discharge tubing shall be new, clean material, constructed and installed such that all parts which may contact groundwater samples contain only stainless steel and / or fluoropolymers. The pumping rate shall be adjustable by means of a controller which controls the operating rate of the pump, and the pump / controller system shall be capable of a minimum flow rate no greater than 100 milliliters per minute with the discharge tubing unobstructed. Each pump shall be installed with the pump intake set at the midpoint of the saturated portion of the screened / open interval of the well.

(c) The maximum pumping rate during purging and sampling shall not exceed 300 milliliters per minute.

(d) During well purging and sample collection, the drawdown induced by pumping shall not exceed a depth of 0.3 feet below the static water level in the well. The following procedure shall be used to maintain a drawdown of less than 0.3 feet:

(1) Using a water level indicator, measure the static depth to water in the well, and set the indicator probe to a depth 0.3 feet below the static water level.

(2) During purging and sampling, verify that the water level indicator produces a continuous audible signal.

(3) If the signal from the water level indicator is interrupted, adjust the pumping rate downward as necessary until the signal returns.

(4) If, at the lowest possible pumping rate, the drawdown still exceeds 0.3 feet, modify the purging and / or sampling procedure by stopping the pump, waiting for the well to recharge, and then operating the pump intermittently such

that drawdown does not exceed 0.3 feet, until purging and / or sampling are completed.

(e) Monitoring of field parameters shall not begin until a minimum volume equivalent to one pump volume plus one discharge tubing volume has been purged from the well. Successive field parameter measurements shall be conducted at time intervals no less than three minutes apart. Purging shall continue until turbidity stabilizes (defined as ten percent variance or, if less than ten NTU, differences of no greater than two NTU) for three successive measurements.

(C) Supplemental Ground Water Quality Monitoring

(i) Location - Supplemental ground water quality monitoring shall be conducted at the following locations identified in paragraph 3(B)(i)

W-1: MW-SD (formerly MW-Js old)
W-2: MW-SS
W-3: MW-TS
W-4: MW-TD
W-5: MW-100
W-6: MW-BR1
W-7: MW-C
W-8: MW-CD
W-9: MW-CS
W-10: MW-BS
W-11: MW-BD
W-12: MW-BR2
W-13: MW-D2
W-14: MW-JS (formerly MW-Js new)
W-15: MW-BR8
W-16: MW-A
W-17: MW-HS
W-18: MW-H2D

(ii) Schedule - Supplemental ground water quality monitoring shall be conducted for two consecutive quarterly sampling periods beginning the first scheduled quarterly sampling period after permit issuance.

(iii) Parameters - Samples collected for supplemental monitoring shall be analyzed for the compounds identified in Appendix II of 40 CFR Part 258 of the Federal Register, Vol. 56, No. 196, October 9, 1991, beginning page 51033.

(iv) Subsequent supplemental monitoring - On or before sixty (60) days after the second supplemental ground water quality monitoring event, the permittee shall submit for the review and approval of the Commissioner a report describing the results of the Appendix II monitoring required by this paragraph, and a plan for amending the ground water quality monitoring parameters at the compliance monitoring wells C-1, C-2, C-3, C-4, C-5, and C-6 identified in paragraph 3(B)(i)(b), and schedule listed in paragraph 3(B)(iii)(b) to include Appendix II compounds detected.

(v) The samples shall be collected from each ground water monitoring location in accordance with the monitoring plan contained in the "Groundwater and Surface Water Monitoring Program" identified in paragraph 3 above.

(D) Precipitation Monitoring

(i) Precipitation data to be used in preparing precipitation hydrographs shall be obtained from the Department of Environmental Protection's Flood Alert Center, for monitoring location No. 510, located along the Merritt Parkway in Orange.

(ii) Reporting - The first reporting period shall be the period from the date of permit issuance to the following October 30. Thereafter, the reporting period shall be the period from November first to October 30 of the following year. The data to be reported shall be a precipitation hydrograph (in inches of precipitation per hour) for the station identified in paragraph 3(D)(i) above, for the reporting period. Precipitation hydrographs are to be prepared as follows: First, the instantaneous precipitation rate R_t (inches per hour) shall be calculated for each increment I (in inches) of precipitation measured during the reporting period using the formula

$$R_t = \frac{I}{T_t - T_{t-1}}$$

where T_t and T_{t-1} are the time values at which two consecutive increments are recorded. Second, the instantaneous rates shall be plotted using

straight lines joining the data points, but no symbol for the data points themselves. Third, each storm event on the hydrograph shall be labeled with the total precipitation (in inches of water) for that event. The x-axis of the precipitation hydrograph shall be referenced to the date (November first) and year of the start of the monitoring period, and scaled in months. The Y-axis shall be scaled and labeled in inches per hour. The data shall be reported in accordance with paragraph 5(B)(ii) of this permit.

(E) Ground Water Zone of Influence Compliance Monitoring

(i) For ground water, the ground water zone of influence of the discharges for the southeast and northeast expansion areas, as identified in paragraphs 1(A) and 1(B) of this permit, which is hereby permitted shall not extend beyond property owned by the permittee. The ground water zone of influence of the discharge is defined as the soil and ground water area within which the treatment of leachate by soils and mixing of leachate with ground waters occurs and could reasonably be expected to occur and, therefore, within which some degradation of ground water quality has occurred or is anticipated to occur.

(ii) The following requirements of this section will be used to determine whether the discharge of leachate has exceeded the boundaries of the permitted ground water zone of influence. All sampling shall be conducted in accordance with the monitoring plan contained in the "Groundwater and Surface Water Monitoring Program" identified in paragraph 3 above.

(a) Background Data Base - The compliance ground water quality monitoring wells identified in paragraph 3(B)(i)(b) of this permit shall be sampled monthly for twelve months, beginning with the first ground water quality monitoring event required in paragraph 3(B) of this permit. Sampling shall be conducted in accordance with the sampling conditions in paragraph 3(B)(iv) of this permit. Samples shall be analyzed for alkalinity, ammonia, chemical oxygen demand, chloride, hardness, total iron, potassium, sodium, specific conductance, and total dissolved solids. The results of all sampling and analyses during this twelve month period shall be reported in accordance with paragraph 5 of this permit. No later than 45 days after the collection of the final sample, a report shall be submitted for the review and approval of the Commissioner which describes the results of all sampling and analyses conducted

pursuant to this paragraph, proposes maximum background levels for all ten parameters, and recommends selection of at least four parameters for the ground water zone of influence compliance monitoring program. These parameters will be designated as compliance parameters. The maximum background level is defined for each parameter at each well as the maximum concentration measured during the twelve month monitoring period.

(b) Exceedance - Any analytical result from any sample obtained from the compliance wells for each of the four compliance parameters which exceeds the maximum background level for that parameter as defined in paragraph 3(E)(ii)(a), shall constitute an exceedance.

(c) Confirmed Exceedance - Any well for which an exceedance occurs shall be resampled within forty-five (45) days of the sampling event which established the exceedance and shall be analyzed for the parameter(s) causing the exceedance. If the second result is found to exceed the maximum background level for the same parameter(s), such result will constitute a confirmed exceedance. If the second result for the parameter(s) causing an exceedance does not exceed the maximum background level for that parameter, the ground water zone of influence compliance monitoring program shall resume its normal quarterly schedule. If the next quarterly sampling result is found to exceed the maximum background level for the same parameter(s) at the same compliance well, such result will constitute a confirmed exceedance. The permittee shall assure that the results of all sampling necessary to confirm an exceedance is received from the laboratory no more than 30 days from the date of sample collection.

(d) Within 7 days of becoming aware of an occurrence of a confirmed exceedance as defined in paragraph 3(E)(ii)(c), the permittee shall notify the Commissioner in writing and within 60 days shall submit a report for the Commissioner's review and approval which explains the source and cause of the confirmed exceedance and provides a description of any extenuating circumstances.

(F) Leachate Monitoring

(i) Leachate quality monitoring shall be conducted at the following locations as shown on Figure 2, entitled "Water Quality Monitroing Site Plan," (sic) contained in the monitoring plan contained in the "Groundwater and Surface Water Monitoring Program" identified in paragraph 3 above.

L-1S: Leachate collected in the liner system of the Southeast Expansion Area prior to the equalization tank.

L-1N: Leachate collected in the liner system of the Northeast Expansion Area prior to the equalization tank.

(ii) Samples of leachate shall be analyzed for the parameters listed in paragraph 3(A)(iii), and with the addition of the following parameters:

33. Volatile organics by EPA Method 8260
34. Polychlorinated Biphenyls (PCBs) by EPA Method 608
35. dioxins and furans by EPA Method 8280

(iii) Leachate samples shall be analyzed for parameters listed in paragraphs 3(A)(iii) and 3(F)(ii) numbered 1-33 between the 15th and 30th day of January, April, and October, and for the parameters numbered 1-35 between the 15th and 30th day of July.

(G) Sediment Monitoring

(i) Two rounds of physical and chemical characterization of sediment quality and chemical analysis of the overlying water column shall be conducted; the first one in July 1997 and the second one in July 1999. Samples shall be collected at the following locations as shown on Figure 2, entitled "Water Quality Monitroing Site Plan," (sic) contained in the monitoring plan contained in the "Groundwater and Surface Water Monitoring Program" identified in paragraph 3 above.

S-1: Monitoring location is in the depositional area immediately upstream of the dam at River Road (Connecticut Route 110).

S-2: Monitoring Location is a transect across the Farmill River downstream of the O&G expansion area, but upstream of the confluence of the Farmill and Housatonic Rivers. The transect is comprised of three stations.

S-2S: Sample to be collected mid-way between the southern waterline and S-2M.

S-2M: Sample to be collected at the mid-point of the transect across the Farmill River, and coincides with the surface water monitoring location SW-2. .

S-2N: Sample to be collected mid-way between the northern waterline and S-2M.

S-3: Monitoring location is in the Housatonic River Lagoon inlet. Station is located in the southern side of the inlet and coincides with the surface water monitoring location SW-3.

S-4: Monitoring location is in the Housatonic River Lagoon and coincides with the surface water monitoring location SW-4.

S-5: Monitoring location is in the Housatonic River Lagoon and coincides with the surface water monitoring location SW-5.

S-6: Monitoring location is mid-stream in the Farmill River south of the Leachate Treatment Facility and the discharge from Sediment Pool No.3.

(ii) Sediment samples from each of the six sampling locations identified in (C)(i) shall be analyzed (on a dry weight basis) for the following parameters:

(a) Samples from S-1, S-3, S-4, S-5, and S-6 shall be analyzed for the parameters 1s - 12s.

(b) Samples from S-2S, S-2M and S-2N shall be analyzed separately for parameters 1s - 9s, but may be composited for parameters 10s - 12s.

1s. Percent Moisture
2s. Grain Size Fractionation (including fines)
3s. Depth to Redox Potential Discontinuity (RPD)
4s. Total Carbon
5s. Total Inorganic Carbon
6s. Total Organic Matter
7s. Copper, total

8s. Lead, total
9s. Zinc, total
10s. Acid Volatile Sulfides, and SEMs by trace-ICP
11s. Polynuclear Aromatic Hydrocarbons
12s. Polychlorinated Biphenyls

(c) Analyses for total copper (7s) and total lead (8s) may be by Graphite Furnace Atomic Absorption Spectroscopy (GFAA) or Inductively Coupled Plasm analysis/Mass Spectroscopy (IAP/MS). Analyses for total zinc (s) may be by Inductively Coupled Plasm analysis (IAP) or IAP/MS. Results of analyses for 7s, 8s and s shall be reported together with the SEM results for these same metals (10s).

(iii) Water samples shall be collected from above each sediment sampling location in accordance with the conditions specified in 3(A)(iv) and the following conditions.

(a) Water samples shall be collected within 0.5m of the sediment/water interface.

(b) Water samples from above each sediment sampling station shall be collected when the sediment samples are collected.

(c) Water samples from above each sediment sampling station shall be analyzed, at a minimum, for the parameters numbered 1 - 10, 20, 21, 24, 25, 31 and 32 in paragraph 3(A)(iii).

(H) Habitat Characterization

(i) A detailed site map of the area in which the Shelton landfill is situated, at a scale of 1 inch equals 100 feet, shall be prepared to depict and identify the Farmill and Housatonic Rivers, flood boundaries, wetlands, anthropogenic structures (e.g. roads, dams, bridges, rail lines, sewer crossings), existing and potential pollutant sources (e.g. sewage treatment plants, gravel mining operations, existing and abandoned or closed landfills, highway garages, storm drainage, etc.). The map shall also depict all current and historical surface water, sediment, and biological monitoring locations, habitat characterization locations, and shall plot submerged aquatic vegetation and sediment type in the Farmill River. Permittee may refer to, and incorporate aerial photographs, local wetlands maps, sewer and

highway department plans, Coastal Area Management maps, etc. This map shall be included in the first annual report, and shall be updated for inclusion in each subsequent annual report, as required in paragraph 5(A).

(ii) Two qualitative habitat characterizations of the area in which the Shelton landfill is situated shall be conducted; the first one in August 1997 and the second one in August 1999. The qualitative habitat characterization shall describe, in particular, the entire area in the vicinity of the Farmill River from River Road (Connecticut Route 110) east to its confluence with the Housatonic River, the shoreline along the Housatonic River Lagoon, and wetland areas in or near the landfill. A descriptive report of upland areas as they contribute to the ecology of the surface water system, and a description of nearby influences shall be included.

(iii) The first annual report shall include the results of a bathymetric survey of the Housatonic River Lagoon. Results shall be presented in the form of a site map, prepared at a scale of one inch equal to one hundred feet, depicting depth contours within the lagoon at a minimum contour interval of five feet.

(iv) Two quantitative habitat evaluations of the area within the statistical mean annual floodplain of the Farmill River shall be conducted; the first one in August 1997 and the second one in August 1999. The habitat characterizations shall be conducted using standardized and reproducible protocols that follow those recommended by Platts et al. (DA GTR INT-138) and incorporate the metrics required by the RBP III described by Plafkin, et al. (EPA/444/4-89-001), and shall include, at a minimum, Stream width; Stream depth and shore water depth; Location and extent of pool, riffle, run, and glide areas; Stream velocity; General channel morphology, elevation, gradient, and sinuosity; Stream bank, stability, vegetation; Stream bottom; Canopy; Submerged and emergent aquatic vegetation (%-cover, type).

(v) Two benthic macro invertebrate community assessments of the Farmill River shall be conducted; the first one during August and October 1997, and the second in August and October 1999. The benthos shall be evaluated using U.S. EPA's Rapid Bioassessment Protocol, Level 3 (RBP III) as described by Plafkin, *et al.*, 1989. At least one kicknet and rock basket sampling location in riffle/run habitat shall be established. Rock baskets shall be deployed during the middle of August, and shall be retrieved during the first week of October. Concurrent with retrieval, kicknet and CPOM samples shall be collected from streambed locations

representative of the channel cross-section at each station. Samples shall be identified to species as required by RBP III and analysis of community structure. The permittee shall consult with DEP prior to initiating the first of the benthic macro invertebrate community assessments to establish the appropriate reference site and conditions.

(vi) Results of the analyses of community structure, and of each habitat evaluation, including field and laboratory data sheets and updating of the map required by paragraph 3(H)(i) shall be submitted for the review and approval of the commissioner by inclusion in the annual reports in accordance with the requirements of paragraph 5(B)(i)(c)

4. Sample Analysis

(A) All sample analyses required by this permit shall be performed by a laboratory certified for such analyses by the Connecticut Department of Public Health or approved in writing for monitoring at this facility by the Connecticut Department of Environmental Protection.

(B) Analytical results for each parameter shall be reported together with the actual method detection limits achieved during the analysis. The value of each parameter shall be reported to the maximum level of accuracy and precision possible. Failure to submit data in accordance with the procedures and protocols set forth in this permit shall constitute a permit violation.

(C) Chemical analyses for surface water, ground water, and leachate shall be performed using methods approved pursuant to the Code of Federal Regulations, Part 136 of Title 40, except where otherwise specified in paragraphs 3(B)(ii), 3(C)(iii), and 3(F)(ii), or unless an alternative method has been specifically approved in writing by the Commissioner for monitoring at this facility. Failure to use approved methods shall constitute a permit violation.

(D) Analyses required by paragraphs 3(A), 3(B), and 3(F) shall be conducted to achieve the minimum levels for each of those parameters for which minimum levels are identified in 3(A)(iii), unless an alternative method that is capable of achieving the minimum levels has been specifically approved in writing by the Commissioner.

(E) The minimum levels specified in paragraph 3(A)(iii) represent the concentration at which quantification must be achieved and verified during the chemical analyses for these compounds. Analyses for these compounds must include calibration points at least as low as the specified minimum level. Check standards within ten percent of the specified minimum level may be used in lieu of a calibration point equal to the minimum level.

(F) If any sample analysis indicates that quantification for a particular parameter can not be verified at or below the specified minimum level, a second sample shall be collected and analyzed for that parameter according to the above specified methodology as soon as practicable. The results of the first and subsequent sample analyses shall be submitted to the Commissioner verifying that the appropriate methodology was employed, the minimum level was achieved for quality-control samples and that failure to quantify the parameter at or below the minimum level specified for the analysis was a result of matrix effects which could not be compensated for as part of sample analysis allowed pursuant to 40 CFR Part 136.

(G) If any three (3) samples collected in a twelve-month period indicate that the specified minimum level was not achieved for a particular parameter when using the specified test methodology, the permittee shall submit a report for the review and approval of the Commissioner which justifies and defines the matrix effect upon analyses for that parameter, identifies the level at which quantification can be verified for those specific test conditions, and recommends modification to the method or an alternative method that is sufficiently sensitive and free of the identified matrix effect.

5. Reporting

(A) Schedule

The results of all sampling and analyses required by this permit, unless otherwise specified in writing by the Commissioner, shall be reported in accordance with the following schedule:

Sampling periods	Reporting Dates
January	March 21

April	June 21
July	September 21
October	December 21

(B) Annual Reports

(i) Beginning on the first March 21 following permit issuance, and annually on or before that date thereafter, a summary report for the preceding one year period of the monitoring and inspection programs required by this permit shall be submitted for the review and written approval of the Commissioner.

(a) The report shall include but not be limited to a) an evaluation of leachate quality and quantity, including graphical representation of monitoring results, b) the condition of all monitoring wells and the need for repair or replacement of any wells, c) an evaluation of the extent and potential extent of the ground water zone of influence and whether any impact on the surface water quality of the Housatonic River or Far Mill River, or any other surface waters was detected or could reasonably be expected to occur, and d) a detailed site map of the area in which the Shelton landfill is situated, at a scale of 1 inch equals 100 feet.

(b) For the first annual report only, additional reporting of work required under paragraph 3(H)(iii) shall include a map showing the Housatonic River Lagoon bathymetry with a minimum contour interval of five feet, at a scale of one inch equal to one hundred feet.

(c) For the second and fourth annual reports, the following additional reporting of work required under paragraphs 3(G)(i), 3(H)(ii), 3(H)(iv), and 3(H)(v) shall be included: 1) results of the physical and chemical sediment analyses and accompanying water quality analyses; 2) a qualitative habitat characterization, 3) a quantitative habitat evaluation; and 4) benthic macro invertebrate community assessments.

(d) The second annual report and subsequent annual reports may propose modifications to the monitoring program for the Commissioner's review and written approval.

(ii) For the parameters and monitoring locations identified in this paragraph, additional annual reporting shall be required. The additional reporting shall consist of preparing graphs of parameter history versus precipitation hydrograph.

(a) Parameters and Locations -

One graph shall be prepared for each of the four compliance parameters identified in paragraph 3(E)(ii)(a) of this permit, for each of the following five pairs of wells: MW-TS and MW-TD; MW-BS and MW-BD; MW-CS and MW-CD; MW-D2D and MW-BR7; MW-E and MW-ED. In addition, one graph shall be prepared for ground water elevation measurements for each of the five well pairs listed above.

(b) Graph construction -

The graphs shall be constructed by plotting all values for a specific parameter at a specified pair of monitoring locations along the Y - axis, time along the X - axis, and the precipitation hydrograph along a second Y - axis. Data to be used for constructing the precipitation hydrograph shall be that required in paragraph 3(D). The following units shall be used: Parameters shall be plotted using the appropriate units, time shall be plotted as calendar months and years, and precipitation hydrograph shall be plotted in inches per hour. Beside each precipitation event, the graph shall be labeled with the total precipitation (in inches) for that event.

(C) The results of all analyses and measurements required by this permit shall, unless otherwise specified in writing by the Commissioner, be reported to the following three divisions of the Connecticut Department of Environmental Protection at 79 Elm Street, Hartford, Connecticut 06106-5127: 1) the Bureau of Waste Management, Waste Engineering and Enforcement Division; 2) the Bureau of Water Management, Permitting, Enforcement, and Remediation Division, State Remediation Program; and 3) the Bureau of Water Management, Planning and Standards Division, Aquatic Toxicity Program.

(D) The results of all analyses and measurements required by this permit shall also be reported to the Naugatuck Valley Health Department.

The permittee shall pay the annual compliance determination fee as set forth in the Regulations of Connecticut State Agencies including but not limited to Section 22a-430-7.

This permit is issued under Section 22a-430 of the Connecticut General Statutes and shall expire on August 27, 2001.

The Commissioner reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under federal or state law. This permit as modified or reissued under this paragraph may also contain any other requirements of federal or state law then applicable.

This permit shall be subject to the following sections of the Regulations of Connecticut State Agencies which are hereby incorporated into this permit:

Section 22a-430-3 General Conditions

(a) Definitions
(b) General
(c) Inspection and Entry
(d) Effect of a Permit
(e) Duty
(f) Proper Operation and Maintenance
(g) Sludge Disposal
(h) Duty to Mitigate
(i) Facility Modifications; Notification
(j) Monitoring, Records and Reporting Requirements
(k) Bypass
(l) Conditions Applicable to POTWs
(m) Effluent Limitation Violations (Upsets)
(n) Enforcement
(o) Resource Conservation
(p) Spill Prevention and Control
(q) Instrumentation, Alarms, Flow Recorders
(r) Equalization

22a-430-4 Procedures and Criteria

(a) Duty to Apply
(b) Duty to Reapply
(c) Application Requirements

(d) Preliminary Review
(e) Tentative Determination
(f) Draft Permits, Fact Sheets
(g) Public Notice, Notice of Hearing
(h) Public Comments
(i) Final Determination
(j) Public Hearings
(j) Public Hearings
(k) Submission of Plans and Specifications. Approval.
(l) Establishing Effluent Limitations and Conditions
(m) Case by Case Determinations
(n) Permit issuance or renewal
(o) Permit Transfer
(p) Permit revocation, denial or modification
(q) Variances
(r) Secondary Treatment Requirements
(s) Treatment Requirements for Metals and Cyanide
(t) Discharges to POTWs - Prohibitions

Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(6), (j)(9)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of Section 22a-430-3.

Entered as a Permit of the Commissioner of the Department of Environmental Protection on 27 Aug 96.

Sidney J. Holbrook, Commissioner

Application No. 199502403

Permit No. LF0000052

APPENDIX A

LIST OF APPLICATION SUBMITTALS

CRRA Shelton Landfill Northeast Expansion Area Permit No. LF0000052

"Shelton Landfill Groundwater Assessment, Shelton, Connecticut," August 1988, Fuss & O'Neill, Inc. (APP-11)

"Connecticut Resources Recovery Authority, Shelton, Connecticut, Discharge Permit Reapplication, DEP/WCU 126-104," July 1989, Fuss & O'Neill, Inc. (APP-12)

"Connecticut Resources Recovery, Shelton Landfill, 1990 Annual Summary Report," January 1991, Fuss & O'Neill, Inc. (APP-13)

"Connecticut Resources Recovery Authority, Shelton Landfill, Hazardous Waste Disposal Area, 1990 Annual Summary," February 1991, Fuss & O'Neill, Inc. (APP-14)

"Shelton Landfill Horizontal Expansion Development/Design Report Ash Monocells, 866 River Road (Route 110), Shelton, Connecticut, Volume I, Book I of II," July 1990, revised to January 1992, Fuss & O'Neill, Inc. (APP-3A)

"Shelton Landfill Horizontal Expansion Development/Design Report Ash Monocells, 866 River Road (Route 110), Shelton Connecticut, Volume I, Book II of II," June 1990, Revised to January 1992, Fuss & O'Neill, Inc. (APP-3B)

"Certificate of Need Information and Documentation," July 1990, revised to June 1992. (APP-4)

"Shelton Landfill Horizontal Expansion State Discharge Permit Application (SPDES) Pretreated Ash Leachate, 866 River Road (Route 110), Shelton, Connecticut, Volume III," June 1990, Revised to January 1992, Fuss & O'Neill, Inc. (APP-5)

"State Discharge Permit Application (SPDES) Groundwater Discharge, Volume IV," June 1990, Revised to January 1992, Fuss & O'Neill, Inc. (APP-6)

"Shelton Landfill Horizontal Expansion, 866 River Road (Route 110), Shelton, Connecticut, National Pollutant Discharge Elimination System Permit Application (NPDES) Storm Water Discharge, Volume V," January 1991, Revised to January 1992, Fuss & O'Neill, Inc. (APP-7)

"State Structure and Dredging Permit Application, Volume VI," July 1990, Revised to January 1992, Fuss & O'Neill, Inc. (APP-8)

"Future Public Use and Recreation Plan, Volume VII," July 1990, Revised to January 1992, Fuss &O'Neill, Inc. (APP-9)

"Quality Assurance/Quality Control Documentation, Geomembrane Liner Installation, Volume VIII," February 1991, Revised to January 1992, Fuss & O'Neill, Inc. (APP-10)

"Technical Review for Landfill Permit Application for the Shelton Landfill Horizontal Expansion, Shelton, Connecticut," prepared by Roy F. Weston, Inc., January 1992. (APP-15)

Letter from Chris Recchia, CRRA, to Mike Harder, CTDEP, dated September 15, 1995.

Letter from Natural Resources Center, CTDEP, to Chris Recchia, CRRA, dated September 25, 1995.

Letter and attachments to Jim Fitting, CTDEP, from Debbie Denfeld, CRRA, dated September 29, 1995.

"Permit Application for Wastewater Discharge," September 1995, CRRA.

"Groundwater and Surface Water Monitoring Program for the Northeast Expansion Area," September 1995, CRRA.

"Leachate Prevention Plan for the Shelton Landfill," September 1995, CRRA.

"Compilation of Historical Analytical Monitoring Results," September 1995, CRRA.

"Hydrogeologic Investigation in the Northeast Expansion Area of the Shelton Landfill and Two Contiguous Properties to the North, Shelton Landfill, " October 1995, Environmental Risk Limited.

"Precipitation Hydrographs, Northeast Expansion Area Shelton Landfill," October 1995, CRRA.

"Supplemental Information, Northeast Area Horizontal Expansion, CRRA Shelton Landfill Modification to Permit LF0000052," January 1996, CRRA.

"Groundwater and Surface Water Quality Monitoring Program for the Northeast Expansion Area, Southeast Expansion Area and MSW/Ash Area in Support of the CTDEP Groundwater Discharge Permit," September 1995, Revised May 1996, CRRA.

Table No. 1 and No. 2, and Appendices A, B, C, D, E, F, G, H, and I of "Groundwater and Surface Water Quality Monitoring Program for the Northeast Expansion Area, Southeast Expansion Area and MSW/Ash Area in Support of the CTDEP Groundwater Discharge Permit," submitted September 1995, revised to May 1996, May 31, 1996, CRRA.

"Groundwater and Surface Water Quality Monitoring Program for the Northeast Expansion Area and Southeast Expansion Are in Support of an Amendment of the CTDEP Groundwater Discharge Permit No. LF0000052," September 1995, revised June 12, 1996, CRRA.

Letter and attachments to Jim Fitting, CTDEP, from Debbie Denfeld, CRRA, dated June 14, 1996.

Facsimile to Jim Fitting, CTDEP, from Debbie Denfeld, CRRA, dated June 17, 1996.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SEPTEMBER 5, 1997

BUREAU OF WATER MANAGEMENT

MINOR PERMIT MODIFICATION

cc: MT
P.O.
Bob Koch, HRP

Ms. Deborah Denfeld
Connecticut Resources Recovery Authority
179 Allyn Street
Hartford, CT 06103

Re: Shelton Landfill
Permit ID: LF0000052
Facility ID: 126-104
App. No.: 199502403

Dear Ms. Denfeld:

The Connecticut Resources Recovery Authority was issued a permit for the discharge of leachate from a municipal solid waste ash residue to the ground water in watershed of the Housatonic and Farmill Rivers. It has been requested by my staff that the permit be modified to reflect changes in the benthic monitoring program as described in paragraph 3(H)(v) of the permit. The changes to the permit will not result in a permit which is less stringent than the existing permit.

In accordance with the Regulations of Connecticut State Agencies Section 22a-430-4(p)(5)(B)(vi) of the Water Discharge Permit Regulations, I hereby modify the benthic monitoring program as described on pages 20 and 21 paragraph 3(H)(v) of permit LF0000052 and as shown on the attached modified pages of the permit.

If you have any questions regarding this matter, please call Oswald Inglese at (860)424-3725.

Sincerely,

Sidney J. Holbrook
Commissioner

SJH/rel

attachment

highway department plans, Coastal Area Management maps, etc. This map shall be included in the first annual report, and shall be updated for inclusion in each subsequent annual report, as required in paragraph 5(A).

(ii) Two qualitative habitat characterizations of the area in which the Shelton landfill is situated shall be conducted; the first one in August 1997 and the second one in August 1999. The qualitative habitat characterization shall describe, in particular, the entire area in the vicinity of the Farmill River from River Road (Connecticut Route 110) east to its confluence with the Housatonic River, the shoreline along the Housatonic River Lagoon, and wetland areas in or near the landfill. A descriptive report of upland areas as they contribute to the ecology of the surface water system, and a description of nearby influences shall be included.

(iii) The first annual report shall include the results of a bathymetric survey of the Housatonic River Lagoon. Results shall be presented in the form of a site map, prepared at a scale of one inch equal to one hundred feet, depicting depth contours within the lagoon at a minimum contour interval of five feet.

(iv) Two quantitative habitat evaluations of the area within the statistical mean annual floodplain of the Farmill River shall be conducted; the first one in August 1997 and the second one in August 1999. The habitat characterizations shall be conducted using standardized and reproducible protocols that follow those recommended by Platts et al. (DA GTR INT-138) and incorporate the metrics required by the RBP III described by Plafkin, et al. (EPA/444/4-89-001), and shall include, at a minimum, Stream width; Stream depth and shore water depth; Location and extent of pool, riffle, run, and glide areas; Stream velocity; General channel morphology, elevation, gradient, and sinuosity; Stream bank, stability, vegetation; Stream bottom; Canopy; Submerged and emergent aquatic vegetation (%-cover, type).

(v) Two benthic macroinvertebrate community assessments of the Farmill River shall be conducted; the first one during October 1997 and the second in October 1999. The benthos shall be evaluated using U.S.EPA's Rapid Bioassessment Protocol (RBP), Level 3 as described by Plafkin, et al., 1989. At least one kick net sampling location in a riffle/run habitat in the Farmill River shall be established. An ecoregional reference or an upstream reference site shall also be established and sampled concurrently with the other site(s). Kick net and CPOM samples shall be collected from streambed locations representative of the channel cross-section at

each station. Subsampling the material collected, following procedures in RBP, is acceptable as long as a minimum 200 organism subsample is obtained. The number of organisms in the subsample should not be less than 10% of the target subsample value. Samples shall be identified to the lowest taxonomic level possible, preferably to the species level. The permittee shall consult with DEP prior to iniating the first of the benthic macroinvertebrate community assessments to establish the appropriate reference site, and discuss field and laboratory procedures.

(vi) Results of the analyses of community structure, and of each habitat evaluation, including field and laboratory data sheets and updating of the map required by paragraph 3(H)(i) shall be submitted for the review and approval of the commissioner by inclusion in the annual reports in accordance with the requirements of paragraph 5(B)(i)(c)

4. Sample Analysis

(A) All sample analyses required by this permit shall be performed by a laboratory certified for such analyses by the Connecticut Department of Public Health or approved in writing for monitoring at this facility by the Connecticut Department of Environmental Protection.

(B) Analytical results for each parameter shall be reported together with the actual method detection limits achieved during the analysis. The value of each parameter shall be reported to the maximum level of accuracy and precision possible. Failure to submit data in accordance with the procedures and protocols set forth in this permit shall constitute a permit violation.

(C) Chemical analyses for surface water, ground water, and leachate shall be performed using methods approved pursuant to the Code of Federal Regulations, Part 136 of Title 40, except where otherwise specified in paragraphs 3(B)(ii), 3(C)(iii), and 3(F)(ii), or unless an alternative method has been specifically approved in writing by the Commissioner for monitoring at this facility. Failure to use approved methods shall constitute a permit violation.

(D) Analyses required by paragraphs 3(A), 3(B), and 3(F) shall be conducted to achieve the minimum levels for each of those parameters for which minimum levels are identified in 3(A)(iii), unless an alternative method that is capable of achieving the minimum levels has been specifically approved in writing by the Commissioner.

2/94

5.0 GROUNDWATER MONITORING PROGRAM

During 1993, the monitoring at the closed hazardous waste cell was conducted in accordance with recommendations included in the Fuss & O'Neill Groundwater Assessment Report August 1988 and Addenda dated May 1989 and October 1989 which have been submitted to CTDEP and USEPA. The program includes monitoring groundwater quality on a quarterly basis at five wells MW-GP4, MW-A, MW-BR1, MW-100 and MW-101. The designated upgradient well for this program is monitoring well MW-GP4; all other wells are located immediately downgradient of the closed hazardous waste cell. Monitoring well MW-BR1 is screened in fractured bedrock; wells MW-GP4, MW-A, MW-100 and MW-101 are screened in the unconsolidated sediments.

Groundwater samples collected each quarter are analyzed for parameters listed in Table 1. Because the monitoring program is conducted as a detection program, four replicate samples for the analyses of the indicator parameters are collected from all wells each quarter in accordance with 40CFR265.92(c)(2).

The program also includes measuring depth to groundwater and calculating groundwater surface elevations at all monitoring wells on the property during each quarterly sampling event. The location of all wells are shown on Plate 1. Pertinent data for existing monitoring wells are listed in Table 2.

Finally, the program includes an annual analysis for volatile organic compounds (VOCs) in all five wells. This analysis is performed in July of each year.

A separate groundwater monitoring program is also conducted at the landfill property in accordance with CTDEP Discharge Permit DEP/WPC-126-1 for the MSW-AR landfill and Southeast Ash Horizontal Expansion Area. Results of the monitoring for that program are submitted separately.

TABLE 1

LABORATORY PARAMETERS
HAZARDOUS WASTE AREA GROUNDWATER MONITORING PROGRAM

LANDFILL

Groundwater Quality Parameters

- Chloride
- Iron
- Manganese
- Phenols
- Sodium
- Sulfate

Appendix III Parameters (40CFR Part 265)

- Arsenic
- Barium
- Cadmium
- Chromium
- Lead
- Mercury
- Selenium
- Silver
- ~~Fluoride~~
- Nitrate
- ~~Endrin~~
- ~~Lindane~~
- ~~Methoxychlor~~
- ~~2,4-D~~
- ~~2,4,5-TP Silvex~~
- Radium
- Gross alpha
- Gross beta
- Coliform bacteria

Volatile Organic Compounds[2]

EPA Method 8010 and 8020 compounds

Contamination Indicator Parameters

- pH[3,4]
- Specific Conductance[3,4]
- Total Organic Carbon[3]
- Total Organic Halogens[3]

Site Specific Parameters

- Copper
- Nickel
- Potassium
- Silica
- Vanadium
- Zinc
- ~~Chlordane~~
- ~~Heptachlor~~
- ~~Toxaphene~~
- Total Cyanide
- Calcium

- removed from parameter list - eff. July 1999 based on 'no detects' historically in all events.

Notes:

1. Unless otherwise noted, parameters are analyzed quarterly.
2. Parameters analyzed annually.
3. Four replicate samples of each parameter.
4. Measured in the field.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
PRETREATMENT PERMIT

issued to

Connecticut Resources Recovery Authority
100 Constitution Plaza, 17th Floor
Hartford, CT 06103-1722

Location Address:

Shelton Landfill
866 River Road
Shelton, CT

Facility ID: 126-104 **Permit ID:** SP0001459 **Permit Expires:** June 27, 2011

SECTION 1: GENERAL PROVISIONS

(A) This permit is reissued in accordance with section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and a modified Memorandum of Agreement (MOA) dated June 3, 1981, by the Administrator of the United States Environmental Protection Agency which authorizes the State of Connecticut to administer a Pretreatment Program pursuant to 40 CFR Part 403.

(B) Connecticut Resources Recovery Authority, ("Permittee"), shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to section 22a-430 of the CGS and are hereby incorporated into this permit. Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of section 22a-430-3.

section 22a-430-3 General Conditions

(a)Definitions
(b)General
(c)Inspection and Entry
(d)Effect of a Permit
(e)Duty
(f)Proper Operation and Maintenance
(g)Sludge Disposal
(h)Duty to Mitigate
(i)Facility Modifications; Notification
(j)Monitoring, Records and Reporting Requirements
(k)Bypass
(l)Conditions Applicable to POTWs
(m)Effluent Limitation Violations (Upsets)
(n)Enforcement
(o)Resource Conservation
(p)Spill Prevention and Control
(q)Instrumentation, Alarms, Flow Recorders
(r)Equalization

section 22a-430-4 Procedures and Criteria

(a)Duty to Apply
(b)Duty to Reapply
(c)Application Requirements
(d)Preliminary Review
(e)Tentative Determination
(f)Draft Permits, Fact Sheets
(g)Public Notice, Notice of Hearing
(h)Public Comments
(i)Final Determination
(j)Public Hearings

I CERTIFY THAT THIS DOCUMENT
IS A TRUE COPY OF THE ORIGINAL.
Pamela D. Burney
NAME
Processing Technician
TITLE
DEPARTMENT OF ENVIRONMENTAL
PROTECTION, BUREAU OF WATER
MANAGEMENT

(k)Submission of Plans and Specifications. Approval.
(l)Establishing Effluent Limitations and Conditions
(m)Case by Case Determinations
(n)Permit issuance or renewal
(o)Permit Transfer
(p)Permit revocation, denial or modification
(q)Variances
(r)Secondary Treatment Requirements
(s)Treatment Requirements for Metals and Cyanide
(t)Discharges to POTWs - Prohibitions

(C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the permittee to enforcement action, including but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.

(D) Any false statement in any information submitted pursuant to this permit may be punishable as a criminal offense under section 22a-438 or 22a-131a of the CGS or in accordance with section 22a-6, under section 53a-157b of the CGS.

(E) The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner. To request such approval, the permittee and proposed transferee shall register such proposed transfer with the Commissioner at least 30 days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure by the transferee to obtain the Commissioner's approval prior to commencing such discharge(s) may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the CGS and RCSA.

(F) Nothing in this permit shall relieve the permittee of other obligations under applicable federal, state and local law.

(G) An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the Regulations of Connecticut State Agencies.

(H) This permitted discharge is consistent with the applicable goals and policies of the Connecticut Coastal Management Act (section 22a-92 of the Connecticut General Statutes).

SECTION 2: DEFINITIONS

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the CGS and section 22a-430-3(a) and 22a-430-6 of the RCSA.

(B) In addition to the above the following definitions shall apply to this permit:

"----" in the limits column on the monitoring table means a limit is not specified but a value must be reported on the DMR.

"Average Monthly Limit" means the maximum allowable "Average Monthly Concentration" as defined in section 22a-430-3(a) of the RCSA when expressed as a concentration (e.g. mg/l); otherwise, it means "Average Monthly Discharge Limitation" as defined in section 22a-430-3(a) of the RCSA.

"Daily Concentration" means the concentration of a substance as measured in a daily composite sample, or the arithmetic average of all grab sample results defining a grab sample average.

"Daily Quantity " means the quantity of waste generated during an operating day.

"Instantaneous Limit" means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

"Maximum Daily Limit" means the maximum allowable "Daily Concentration" (defined above) when expressed as a concentration (e.g. mg/l); otherwise, it means the maximum allowable "Daily Quantity" as defined above unless it is expressed as a flow quantity. If expressed as a flow quantity it means "Maximum Daily Flow" as defined in section 22a-430-3(a) of the RCSA.

"NA" as a Monitoring Table abbreviation means "not applicable".

"NR" as a Monitoring Table abbreviation means "not required".

"Quarterly", in the context of a sampling frequency, means sampling is required in the months of January, April, July, and October.

"Range During Sampling" or "RDS", as a sample type, means the maximum and minimum of all values recorded as a result of analyzing each grab sample of; 1) a Composite Sample, or 2) a Grab Sample Average. For those permittees with continuous monitoring and recording pH meters, Range During Sampling shall mean the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample collection.

"Range During Month" or "RDM" , as a sample type, means the lowest and the highest values of all of the monitoring data for the reporting month.

"ug/l" means micrograms per liter.

SECTION 3: COMMISSIONER'S DECISION

(A) The Commissioner of Environmental Protection ("the Commissioner") has made a final determination and found that the continuance of the existing system to treat the discharge will protect the waters of the state from pollution. The Commissioner's decision is based on application #199805177 for permit reissuance received on December 16, 1998 and the administrative record established in the processing of that application.

(B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or his authorized agent for the discharges and/or activities authorized by, or associated with, this permit.

(C) The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the Connecticut General Statutes or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or Connecticut General Statutes or regulations adopted thereunder which are then applicable.

SECTION 4: EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(A) The discharge shall not exceed and shall otherwise conform to specific terms and conditions listed below. The discharge is restricted by, and shall be monitored in accordance with, the table below.

Table A

Discharge Serial Number: 001-1 | **Monitoring Location:** 1

Wastewater Description: Closed landfill leachate collection wastewater

Monitoring Location Description: After the pH adjustment tank

Discharge is to: The Town of Stratford Water Pollution Control Facility via its conveyance system

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency [1]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency	Sample Type or measurement to be reported	
Barium, Total	mg/l	NA	-----	Quarterly	Daily Composite	NA	NR	NA	NA
Chemical Oxygen Demand	mg/l	NA	-----	Quarterly	Daily Composite	NA	NR	NA	NA
Copper, Total	mg/l	NA	-----	Quarterly	Daily Composite	NA	NR	NA	NA
Flow, Average and Maximum [1]	gpd	------	55,000	Quarterly	Total Flow	NA	NR	NA	NA
Flow, Total	gpd	NA	55,000	Quarterly	Daily Flow	NA	NR	NA	NA
Lead, Total	mg/l	NA	-----	Quarterly	Daily Composite	NA	NR	NA	NA
Nickel, Total	mg/l	NA	-----	Quarterly	Daily Composite	NA	NR	NA	NA
pH	S.U.	NA	NA	NR	NA	6.0 - 10.0	Quarterly	RDS	NA
pH, Continuous	S.U.	NA	NA	NR	NA	6.0 - 10.0	Continuous	RDM	NA
Total Volatile Hydrocarbons	ug/l	NA	NA	NR	NA	-----	Quarterly	Grab	NA
Zinc, Total	mg/l	NA	-----	Quarterly	Daily Composite	NA	NR	NA	NA

Table Footnotes and Remarks:

Footnotes:

[1] For this parameter the permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and the Maximum Daily Flow for each sampling month. (January, April, July and October)

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'

(B) All samples shall be comprised of only those wastewaters described in this schedule, therefore, samples shall be taken prior to combination with wastewaters of any other type and after all approved treatment units, if applicable. All samples taken shall be representative of the discharge during standard operating conditions.

(C) In cases where limits and sample type are specified but sampling is not required, the limits specified shall apply to all samples which may be collected and analyzed by, the Department of Environmental Protection personnel, the permittee, or other parties.

(D) The limits imposed on the discharges listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedance of permit limits will be considered non-compliance.

The monitoring requirements of this permit begin on the date of issuance of this permit if the issuance date is on or before the 12th day of a month. For permits issued on or after the 13th day of a month, monitoring requirements begin the 1st day of the following month.

SECTION 5: SAMPLE COLLECTION, HANDLING and ANALYTICAL TECHNIQUES AND REPORTING REQUIREMENTS

(A) Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall employ methods approved by the Environmental Protection Agency pursuant to 40 CFR 136 unless an alternative method has been approved in writing in accordance with 40CFR 136.4.

(B) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40CFR136 unless otherwise specified.

(C) The results of chemical analysis required above shall be entered on the Discharge Monitoring Report (DMR), provided by this office, and reported to the Bureau of Water Management at the following address. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR shall be received at this address by the last day of the month following the month in which samples are taken.

Bureau of Water Management (Attn: DMR Processing)
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

(D) If this permit requires monitoring of a discharge on a calendar basis (e.g. Monthly, quarterly, etc.) but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR as scheduled, indicating "NO DISCHARGE". For those permittees whose required monitoring is discharge dependent (e.g. per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.

(E) Copies of all DMRs shall be submitted concurrently to the local Water Pollution Control Authority ("WPCA") involved in the treatment and collection of the permitted discharge.

SECTION 6: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS

(A) If any sample analysis indicates that an effluent limitation specified in Section 4 of this permit has been exceeded, a second sample of the effluent shall be collected and analyzed for the parameter(s) in question and the results reported to the Bureau of Water Management (Attn: DMR Processing) within 30 days of the exceedance.

(B) The Permittee shall immediately notify the Bureau of Water Management (Attn: Permits, Enforcement and Remediation Division) and the local WPCA of all discharges that could cause problems to the Publicly Owned Treatment Works ("POTW"), including but not limited to slug loadings of pollutants which may cause a violation of the POTW's NPDES permit, or which may inhibit or disrupt the POTW, its treatment processes or operations, or its sludge processes, use or disposal.

This permit is hereby issued on the 27th day of June, 2001.

Arthur J. Rocque, Jr.
Commissioner

AJR/cn

cc: Town of Stratford, POTW

Town of Stratford
WATER POLLUTION CONTROL

105 Beacon Point Road
Stratford, CT 06615
(203) 385-4065
Fax: (203) 381-2043

A Town For All Seasons

SPECIAL PERMIT TO DISCHARGE TO THE SANITARY SEWER

Permit Date: June 16, 2004
Permit Expires: June 16, 2009

Discharge Location: Connecticut Resources Recovery Authority (C.R.R.A.)
Shelton Landfill Ash Leachate Project
866 River Road, Shelton, CT 06484

Permit Issued To: Connecticut Resources Recovery Authority (C.R.R.A.)
100 Constitution Plaza – 17th Floor, Hartford, CT 06103-1722

1) It shall be required that the discharge be sampled and tested monthly for Biochemical Oxygen Demand (5-day), Total Suspended Solids and Total Nitrogen, with copies of these test results supplied to the Town.
2) C.R.R.A. shall utilize a certified laboratory approved by the Town for all sampling required. Copies of any and all testing done at this site for the D.E.P. or the E.P.A. shall be supplied to the Town.
3) C.R.R.A. shall pay all fees associated with the required sampling. The Town reserves the right to change the sampling parameters as needed.
4) Stratford Water Pollution Control shall be notified immediately as to any system malfunctions, system changes or problems which could impact or adversely affect the discharge to the sanitary sewer line.
5) If for any reason the City of Shelton, the D.E.P. or the E.P.A. disapprove C.R.R.A.'s application/permit, this permit shall also be disapproved/revoked.
6) A control manhole shall be maintained on this discharge line for sampling at a location approved by the Town. This installation shall be per Town Code Chapter 172-23.
7) The volume of wastewater discharged shall be recorded by a non-resettable meter. The meter to be used must be approved by the Town and designed for the intended purpose.
8) It shall be the responsibility of the applicant to obtain all permits necessary. It shall also be the applicant's responsibility to pay all costs associated to this.
9) The Town reserves the right to make revisions to this permit at any time and to discontinue this connection into the sanitary sewer line if it is found to affect the operation or discharge permit of the Town's Water Pollution Control Facility or limit the Town's expansion. This right is stated in the Town Code Chapter 172-50.
10) This permit shall expire on June 16, 2009. The Town shall be notified sixty days in advance of this expiration dater if renewal is required.