

**CONNECTICUT
RESOURCES
RECOVERY
AUTHORITY**

PROJECT MANUAL

CONTRACT DOCUMENTS

FOR

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

**180 LEIBERT ROAD
HARTFORD, CONNECTICUT 06120**

**Connecticut Resources Recovery Authority
100 Constitution Plaza, 6th Floor
Hartford, Connecticut 06103-1722**

February 21, 2006

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**CONTRACT DOCUMENTS
FOR
OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

SECTION 1

NOTICE TO FIRMS – INVITATION TO BID

CONNECTICUT RESOURCES RECOVERY AUTHORITY

NOTICE TO FIRMS – INVITATION TO BID

The Connecticut Resources Recovery Authority (“CRRA”) is seeking bids from qualified environmental engineering consulting firms to furnish all tools, materials, labor, equipment and incidentals thereto to operate and maintain the groundwater flow control system of the Hartford Landfill. The Hartford Landfill is located at 180 Leibert Road (in the North Meadows, off of Exit 33 on Interstate 91), Hartford, Connecticut 06120.

Bid package documents may be obtained during normal working hours at the offices of CRRA, 100 Constitution Plaza, 6th Floor, Hartford, Connecticut 06103-1722, beginning **Tuesday, February 21, 2006**. The documents will also be available beginning on the same date on the world wide web at <http://www.crra.org> under the “Business Opportunities” page.

There will be a mandatory pre-bid conference and tour of the site for all prospective bidders. **The mandatory pre-bid conference and tour will be held at the Hartford Landfill at 10:00 a.m. on Thursday, March 2, 2006.** Any prospective bidder intending to participate in the tour must contact Christopher Shepard ((860) 757-7706) at least 24 hours in advance of the pre-bid conference and site tour (i.e., by 10:00 a.m., Eastern Time, Wednesday, March 1, 2006).

Sealed bids will be received at the offices of CRRA, 100 Constitution Plaza, 6th Floor, Hartford, Connecticut 06103-1722 no later than 3:00 p.m., Eastern Time, on Wednesday, March 22, 2006. Bids received after the time and date set forth above shall be rejected. All bids shall remain open for ninety (90) days after the bid due date.

Bids will be opened privately at CRRA’s convenience on or after the bid due date. CRRA reserves the right to waive any informality or informalities in any bid or the bidding process and to reject any or all of the bids, or any part(s) thereof. Note that all information submitted by a bidder is subject to the Freedom of Information Act.

All questions regarding terms of the bid documents must be received **in writing** no later than **3:00 p.m. on Friday, March 10, 2006** at the offices of CRRA, 100 Constitution Plaza, 6th Floor, Hartford, Connecticut 06103-1722, Attn: Christopher Shepard (Fax Number (860) 757-7742; Email cshepard@crra.org).

**CONTRACT DOCUMENTS
FOR
OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

**SECTION 2
INSTRUCTIONS TO BIDDERS**

INSTRUCTIONS TO BIDDERS

OPERATION AND MAINTENANCE OF THE HARTFORD LANDFILL GROUNDWATER FLOW CONTROL SYSTEM

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1. INTRODUCTION

The Connecticut Resources Recovery Authority (CRRA) has issued this Request For Bids (RFB) to obtain bids from qualified environmental engineering consulting firms to operate and maintain the groundwater flow control system (GFCS) of the Hartford Landfill for a three-year two-month period (38 months) beginning May 1, 2006 with the option, at CRRA's sole and absolute discretion, for two one-year extensions.

The purpose of the GFCS is to prevent the off-site migration of landfill leachate from the Hartford Landfill. The GFCS extracts leachate-impacted groundwater from the site and discharges the groundwater into the City of Hartford sanitary sewer system for treatment at the MDC-Hartford Sewage Treatment Facility.

The Services to be performed consist of the following four Tasks:

- (a) Task 1: Personnel training and remote set-up;
- (b) Task 2: GFCS operation and reporting;
- (c) Task 3: Zone of influence monitoring and reporting; and
- (d) Task 4: GFCS repairs.

The Services will be reimbursed on a time and materials basis up to a not-to-exceed contract amount. Bidders must provide to CRRA prices for Tasks 1 through 3. CRRA has established an amount for Task 4. Specific Task 4 Services will be performed only as requested by CRRA through a specific Request For Services.

2. DEFINITIONS

As used in this Instructions To Bidders and in other Contract Documents (as defined herein), the following terms shall have the meanings as set forth below:

- (a) **Addenda:** Written or graphic documents issued prior to the bid due date that clarify, correct or change any or all of the Contract Documents.
- (b) **Contract Documents:**
 - (1) The Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System Agreement (the "Agreement");
 - (2) Notice To Firms – Invitation To Bid;
 - (3) Instructions To Bidders;
 - (4) Bid Form;
 - (5) Not-To-Exceed Bid Price And Payment Rate Schedule Form;
 - (6) Issues And Questions To Be Addressed;
 - (7) Questions Concerning Affirmative Action, Small Business Contractors And Occupational Health And Safety;
 - (8) Affidavit Of Third Party Fees;
 - (9) Waiver Of Damages Form;
 - (10) Non-Collusion Certificate;
 - (11) Bidder's Background Questionnaire
 - (12) Certification Concerning Bid Forms;
 - (13) Addenda;
 - (14) Contractor's Bid (including all documentation attached to or accompanying such Bid, all other documentation submitted in connection with such Bid, and all post-bid documentation submitted prior to the Notice Of Award);

- (15) Notice Of Award; and,
- (16) Any written amendments to the Agreement issued pursuant to Section 2.9 and/or Section 8.6 of the Agreement.

- (c) **Laws And Regulations:** Any and all applicable laws, rules, regulations, ordinances, codes, orders and permits of any and all federal, state and local governmental and quasi-governmental bodies, agencies, authorities and courts having jurisdiction.
- (d) **Notice Of Award:** Written notification from CRRA to the apparent successful bidder that states that CRRA has accepted such bidder's bid and sets forth the remaining conditions that must be fulfilled by such bidder before CRRA executes the Agreement.
- (e) **Project:** The Services the successful bidder must provide for the operation and maintenance of the groundwater flow control system at the Hartford Landfill in accordance with the Agreement.
- (f) **Property:** The certain parcel of real property located at 180 Leibert Road in Hartford, Connecticut 06120, upon which property CRRA operates the Hartford Landfill.
- (g) **Site:** Those areas of the Property upon which the Services are to be performed, furnished and completed by the successful bidder in accordance with the Contract Documents.

Terms that are not defined and used in this Instructions To Bidders shall have the same respective meanings assigned to such terms in the Agreement.

3. COMMUNICATIONS WITH CRRA STAFF AND BOARD MEMBERS

Except as otherwise authorized by this Instructions To Bidders, during the pendency of the RFB submission process, firms contemplating or preparing bids are prohibited from contacting CRRA staff or CRRA Board of Directors members in an ex parte manner to discuss the RFB submission process. A firm's RFB submission shall be rejected if any of the foregoing ex parte communications take place.

4. SCOPE OF SERVICES

CRRA is seeking bids from qualified environmental engineering consulting firms to furnish all tools, materials, labor, equipment and incidentals thereto to operate and maintain the groundwater flow control system (GFCS) of the Hartford Landfill (the "Services"). The term of the Agreement is for a three-year two-month period (38 months) from May 1, 2006 through June 30, 2009. There are two divisible one-year option extensions of the Agreement exercisable by CRRA at CRRA's sole and absolute discretion.

The Services to be performed consist of the following four Tasks:

- (a) Task 1: Personnel training and remote set-up;

- (b) Task 2: GFCS operation and reporting;
- (c) Task 3: Zone of influence monitoring and reporting; and
- (d) Task 4: GFCS repairs.

The above Services to be performed under the Agreement are more particularly described in **Exhibit A** ("Scope Of Services") of the Agreement attached hereto and made a part hereof. Specific instructions about how the Services are to be performed are included in the Agreement.

5. BIDS PACKAGE DOCUMENTS

This bid package consists of the following documents:

- (a) Notice To Firms – Invitation To Bid;
- (b) Instructions To Bidders;
- (c) Bid Form;
- (d) Not-To-Exceed Bid Price And Payment Rate Schedule Form;
- (e) Issues And Questions To Be Addressed;
- (f) Questions Concerning Affirmative Action, Small Business Contractors And Occupational Health And Safety;
- (g) Affidavit Of Third Party Fees;
- (h) Waiver Of Damages Form;
- (i) Non-Collusion Certificate;
- (j) Bidder's Background Questionnaire;
- (k) Certification Concerning Bid Forms;
- (l) Notice Of Award;
- (m) Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System Agreement, including:
 - (1) Scope of Services
 - (2) Standard Form – Request For Services
 - (3) Not-To-Exceed Bid Price And Payment Rate Schedule
 - (4) CRRA's Travel And Expense Reporting Document
 - (5) Monthly Bill Format
 - (6) Performance Bond
 - (7) Letter Of Credit

Complete sets of the above documents may be obtained during normal business hours at CRRA's Offices, 100 Constitution Plaza, 6th Floor, Hartford, Connecticut 06103-1722, beginning Tuesday, February 21, 2006.

All of the Bid Package Documents are also available in PDF format beginning on the same date on the world wide web at:

<http://www.crra.org> under the "Business Opportunities" page.

All of the forms included in the documents are available for downloading in Microsoft Word format. All bidders must complete the Certification Concerning Bid Forms.

6. MANDATORY PRE-BID CONFERENCE AND SITE TOUR

A mandatory pre-bid conference and tour of the Site for all prospective bidders will be conducted by CRRA staff on Thursday, March 2, 2006 at 10:00 a.m. Eastern Time. Bids submitted by a bidder that did not attend the mandatory pre-bid conference and site tour shall be rejected. Alternate times for visiting the Site will not be allowed. Bidders should park their vehicles on Leibert Road.

Prospective bidders should contact Christopher Shepard at (860) 757-7706 at least 24 hours prior to the mandatory pre-bid conference and tour to make arrangements for participating in the pre-bid conference and tour and for directions to the Site (i.e., by 10:00 a.m., Wednesday, March 1, 2006). Except as otherwise authorized by this Instructions To Bidders, bidders are expressly prohibited from contacting any CRRA personnel regarding this bid solicitation.

7. ADDENDA AND INTERPRETATIONS

CRRA may issue Addenda to this bid package that shall, upon issuance, become part of this package and binding upon all potential or actual bidders for the Services. Such Addenda may be issued in response to requests for interpretation or clarification received from potential bidders. Any request for interpretation or clarification of any documents included in this bid package or any other question shall be **submitted in writing to Christopher Shepard, CRRA, 100 Constitution Plaza, 6th Floor, Hartford, Connecticut 06103-1722 (Fax Number (860) 757-7742; e-mail address cshepard@crra.org).**

To be given consideration, any such written request must be received by CRRA by 3:00 p.m., on Friday, March 10, 2006.

Addenda issued prior to the mandatory pre-bid conference and site tour will be mailed and/or e-mailed to all persons who picked up or requested a printed copy from CRRA of the bid package documents or who otherwise notified CRRA of their interest in the RFB. Such addenda will also be posted on CRRA's web site (<http://www.crca.org>) on the "Business Opportunities" page under the "RFB: Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System" heading.

Addenda issued after the mandatory pre-bid conference and site tour will be mailed and/or e-mailed to all persons who attended the pre-bid conference and site tour and will be posted on CRRA's web site (<http://www.crca.org>) on the "Business Opportunities" page under the "RFB: Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System" heading. Such addenda will be mailed/e-mailed and posted on the web site no later than three (3) days before the submittal deadline.

Failure of any bidder to receive any such Addenda shall not relieve such bidder from any conditions stipulated in such Addenda. Only questions answered or issues addressed by

formal written Addenda will be binding. **All oral and other responses, statements, interpretations or clarifications shall be without legal effect and shall not be binding upon CRRA.**

8. BID SUBMITTAL

Sealed bids shall be submitted no later than 3:00 p.m., Eastern Time, Wednesday, March 22, 2006 at the offices of CRRA, 100 Constitution Plaza, 6th Floor, Hartford, Connecticut 06103-1722, Attn: Christopher Shepard. Bids received after the time and date set forth above shall be rejected.

Each bidder must submit one (1) original and two (2) copies of its bid. The original bid shall be stamped or otherwise marked as such.

Each bid (the original and two copies) shall be enclosed in a sealed envelope that shall be clearly marked "Bid For Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System."

No joint bids shall be accepted, but the use of subcontractors is acceptable.

Bids shall remain open and subject to acceptance for ninety (90) days after the bid due date.

Bidders must indicate in their bids that the terms and conditions of the Agreement (Section 13 of this Project Manual), as attached, are non-negotiable and that they are willing and able to execute the Agreement, as attached. (See Section 2 of the Bid Form.) However, CRRA reserves the right to negotiate with bidder over bidder's bid prices and rates for the Services submitted in its Not-To-Exceed Bid Price And Payment Rate Schedule Form. Any potential bidder who will be unable to execute the Agreement, as attached, should not submit a bid.

Submission of a bid will constitute an incontrovertible representation by bidder that:

- (a) Bidder has complied with every requirement of the Section of this Instructions To Bidders concerning Examination Of Contract Documents (Section 13) and Site Conditions (Section 15);
- (b) Without exception the bid is premised upon performing, furnishing and completing the Services required by the Contract Documents and applying the specific means, methods, techniques, sequences or procedures (if any) that may be shown, indicated or expressly required by the Contract Documents;
- (c) Bidder has given CRRA written notice of all conflicts, errors, ambiguities and discrepancies that bidder has discovered in the Contract Documents and the written resolutions thereof by CRRA are acceptable to bidder;
- (d) If bidder has failed to promptly notify CRRA of all conflicts, errors, ambiguities and discrepancies that bidder has discovered in the Contract

Documents, such failure shall be deemed by both bidder and CRRA to be a waiver to assert these issues and claims in the future; and

- (e) The Contract Documents are generally sufficient to indicate and convey understanding by bidder of all terms and conditions for performing, furnishing and completing the Services.

Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted at any time prior to the bid due date.

9. BID CONTENTS

Bids shall be submitted on forms provided by CRRA as part of this bid package, all of which forms must be completed with the appropriate information required and all blanks on such forms filled in.

A bid must consist of the following and be in the following order:

- (a) Title page;
- (b) Cover letter, which includes the Bidder's promise, if any, to set aside a portion of the contract for legitimate minority business enterprises (see Section 11 of this Instructions To Bidders);
- (c) Table Of Contents;
- (d) The Bid Form, with Addenda, if any, listed in the appropriate place (Page 3-2), the name and address of the contact for Notices listed in the appropriate place (Page 3-4) and the completed agreement page (Page 3-5);
- (e) The completed Not-To-Exceed Bid Price And Payment Rate Schedule Form (Page 4-1 through 4-6);
- (f) Answers to the Issues And Questions To Be Addressed (the answer to each question must begin on a new page) (Page 5-1 through 5-2);
- (g) The completed Questions Concerning Affirmative Action, Small Business Contractors And Occupational Health And Safety form (Page 6-1), with the Bidder's most recent EEO-1 data attached if the Bidder wishes such data to be considered in the evaluation of its Bid;
- (h) The completed Affidavit Of Third Party Fees (subscribed and sworn before a Notary Public or Commissioner of the Superior Court) (Pages 7-1 through 7-2);
- (i) The completed Waiver Of Damages Form (Page 8-1);
- (j) The completed Non-Collusion Certificate (subscribed and sworn before a Notary Public or Commissioner of the Superior Court) (Page 9-1);

- (k) The completed Bidder's Background Questionnaire (Page 10-1); and
- (l) The completed Certification Concerning Bid Forms (subscribed and sworn before a Notary Public or Commissioner of the Superior Court) (Page 11-1).

Bidders should not include in their bids any other portions of the Bid Package Documents (e.g., this Instructions To Bidders or the Agreement).

A bidder may include additional information as an addendum/appendix to its bid if the bidder thinks that the additional information will assist CRRA in evaluating the bidder's bid. A bidder should not include information that is not directly related to the subject matter of this solicitation.

10. BID OPENING

Bids will be opened privately at CRRA's convenience at the above referenced CRRA offices after the time and date that bids are due. **CRRA reserves the right to reject any or all of the bids, or any part(s) thereof, and/or to waive any informality or informalities in any bid or the Invitation To Bid process for this Project.**

11. BID EVALUATION

CRRA will base its evaluation of the bids on price, qualifications, demonstrated skill, ability and integrity of each bidder to perform the Services required by the Contract Documents and any other factor or criterion that CRRA, in its sole discretion, deems or may deem relevant or pertinent for such evaluation. The award of the contract for the Services will be made, if at all, to the bidder whose evaluation by CRRA results in CRRA determining that such award to such bidder is in the best interests of CRRA. **However, the selection of a bidder and the award of such contract, while anticipated, are not guaranteed.**

Bids will also be rated on the bidder's demonstrated commitment to affirmative action. Sections 46a-68-1 to 46a-68-17 of the *Regulations of Connecticut State Agencies* require CRRA to consider the following factors when awarding a contract that is subject to contract compliance requirements:

- (a) The bidder's success in implementing an affirmative action plan (see Question 4 of the Questionnaire Concerning Affirmative Action, Small Business Contractors And Occupational Health And Safety (Section 6 of this Project Manual));
- (b) The bidder's success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the *Regulations of Connecticut State Agencies*, inclusive (see Question 5 of the Questionnaire Concerning Affirmative Action, Small Business Contractors And Occupational Health And Safety (Section 6 of this Project Manual));

- (c) The bidder's promise to develop and implement a successful affirmative action plan (see Question 4B of the Questionnaire Concerning Affirmative Action, Small Business Contractors And Occupational Health And Safety (Section 6 of this Project Manual));
- (d) The bidder's submission of EEO-1 data indicating that the composition of its work force is at or near parity when compared to the racial and sexual composition of the work force in the relevant labor market area (See Section 9(g) of this Instructions To Bidders); and
- (e) The bidder's promise to set aside a portion of the contract for legitimate minority business enterprises (see Section 9(b) of this Instructions To Bidders).

Neither CRRA nor any of its directors, officers, employees or authorized agents shall be liable for any claims or damages resulting from the evaluation, selection, non-selection or rejection of any bid submitted for the Services.

12. CONTRACT AWARD

If the contract is to be awarded, CRRA will issue to the successful bidder a Notice Of Award within ninety (90) days after the bid due date.

13. EXAMINATION OF CONTRACT DOCUMENTS

It is the responsibility of each bidder before submitting a bid to:

- (a) Examine thoroughly the Contract Documents and other related data identified in the bid package documents;
- (b) Visit the Hartford Landfill to become familiar with and satisfy bidder as to the general, local and site conditions that may affect cost, progress, performance or completion of the Services;
- (c) Consider and review any and all Laws And Regulations that may affect cost, progress, performance, furnishing or completion of the Services;
- (d) Study and carefully correlate bidder's knowledge and observations with the Contract Documents and such other related data; and,
- (e) Promptly notify CRRA of all conflicts, errors, ambiguities or discrepancies which bidder has discovered in the Contract Documents.

14. REQUESTS FOR SERVICES

Following the execution of an Agreement and the satisfaction of all other conditions by the successful bidder for the Services, and in the event that CRRA identifies additional work to be performed at the Site, including, but not limited to, Services under Task 4 of the Scope Of Services (**Exhibit A** to the Agreement), the successful bidder may be required on an as-needed basis to provide a detailed scope of services and an estimate of the costs and time

to perform the additional work during the term of the Agreement. If CRRA decides to have the successful bidder perform such additional work, such bidder will execute a Request For Services ("RFS") in the form outlined in **Exhibit B** of the Agreement. Specific Task 4 Services shall be performed only as requested by CRRA in a specific RFS.

If CRRA requests a successful bidder to provide a detailed scope of services and an estimate of the costs and time to perform additional work, successful bidder shall be solely responsible for all costs and expenses associated with the preparation and/or submission of such detailed scope of services and estimate of costs and time or incurred in connection with any negotiations with CRRA regarding such scope and estimate, and CRRA shall have no responsibility or liability whatsoever for any such costs and expenses.

15. SITE CONDITIONS

All information and data included in this bid package relating to the surface, subsurface and other conditions of the Site are from presently available sources and are being provided only for the information and convenience of the bidders. CRRA does not assume any responsibility for the accuracy or completeness of such information and data. Each bidder is solely responsible for investigating and satisfying itself as to all actual and existing Site conditions, including surface conditions, subsurface conditions and underground facilities. (See Section 2.8 of the Agreement.)

It is understood and agreed that any successful bidder shall not use any information made available to it or obtained in any examination made by it in any manner as a basis or grounds for a claim or demand of any nature against CRRA arising from or by reason of any variance which may exist between information offered or so obtained and the actual materials, conditions, or structures encountered during performance of any of the Services. By submitting a bid for the Services, each bidder expressly waives each and every such claim and demand.

16. ADDITIONAL INFORMATION

CRRA may make available for review, at CRRA's offices at 100 Constitution Plaza, 6th Floor, Hartford, Connecticut, 06103, copies of past reports, permits and other documents related to the Connecticut Department of Environmental Protection (CTDEP) permits for the Site and certain other data, reports and specific information, as selected by CRRA, pertinent to the operation and maintenance of the GFCS at the Site, for review by prospective bidders. For the sole purpose of making an appointment to review the above documentation, bidders may call Christopher Shepard at (860) 757-7706. Except as otherwise authorized by this Instructions To Bidders, bidders are expressly prohibited from contacting any CRRA personnel regarding this bid solicitation.

17. NOT-TO-EXCEED BID PRICE AND PAYMENT RATE SCHEDULE

Each bidder shall submit a Not-To-Exceed Bid Price And Payment Rate Schedule Form as part of its bid. Bidders should carefully review the Scope Of Services for the work

(Exhibit A to the Agreement) prior to preparing the Not-To-Exceed Bid Price And Payment Rate Schedule Form. The Form covers both the three-year two-month base period of the Agreement (May 1, 2006 through June 30, 2009) and each of the two potential one-year extensions (July 1, 2009 through June 30, 2010 and July 1, 2010 through June 30, 2011).

The bidder selected to perform the Services, if any, will be reimbursed for work performed at the rates specified in the Payment Rate Schedule up to the amount specified in the Not-To-Exceed Bid Price (the total of fiscal years 2006, 2007, 2008 and 2009 for the base period of the Agreement and the individual amounts for fiscal years 2010 and 2011 for each of the potential one-year extensions of the Agreement). Such rates will remain in effect for the contract period. The bidder will not be paid for costs or expenses that exceed the figures provided in the Not-To Exceed Bid Price And Payment Rate Schedule. CRRA does not guarantee that the Not-To-Exceed Bid Price or any amount of monies will be paid to bidder during the term of the Agreement.

17.1 Not-To-Exceed Bid Price

Each bidder shall submit a Not-To-Exceed Bid Price for Tasks 1 through 3 of the Scope Of Services on the form provided. Prices shall be submitted for each year of the three-year two-month base period of the Agreement as well as for each year of the potential two one-year extensions of the Agreement. Prices submitted shall be inclusive of any and all costs associated with performing the Services specified for Tasks 1 through 3 in the Scope Of Services, including, but not limited to, the costs of labor, supervision, materials, equipment, tools, transportation, licenses and permits, insurance, and any other items, services or activities that will be required to complete Tasks 1 through 3 of the Scope Of Services.

Based on past experience, CRRA will establish a not-to-exceed annual estimate for Services that may be provided under Task 4 of the Scope Of Services. Specific Task 4 Services will be performed only as requested by CRRA pursuant to a specific RFS and such Services.

17.2 Payment Rate Schedule

Each bidder shall submit a Payment Rate Schedule for the Services on the form provided. Rates shall be submitted for each year of the three-year base period of the Agreement as was as for each year of the potential two one-year extensions of the Agreement. The payment rate schedule shall set forth bidder's:

- (a) Hourly employee rate charges (both regular time and overtime) for all employees that will provide Services to CRRA under this Agreement;
- (b) Hourly or standard rate charges for other services supplied by bidder, including but not limited to, subcontracted services (if known), computer time, drafting and reproduction, outside services, etc.; and,

- (c) Expenses and other charges anticipated as needed to complete the Services, such as equipment rentals or purchases, special equipment needs, insurance costs (if applicable), testing services, etc.

18. BIDDER'S QUALIFICATIONS

CRRA may make any investigation deemed necessary to determine the ability of any bidder to perform the Services required. Each bidder shall furnish CRRA with all such information as may be required for this purpose.

19. AFFIDAVIT OF THIRD PARTY FEES

All bidders must complete and properly execute the Affidavit Of Third Party Fees. If a bidder has neither paid to any third party nor agreed to pay to any third party any fees attributable to this Agreement, the bidder shall write "None" in the first box in the table and properly execute the Affidavit (subscribe and swear before a Notary Public or Commissioner of the Superior Court). For purposes of the Affidavit, a bidder's subcontractors, if any, are not considered third parties.

20. SECURITY FOR FAITHFUL PERFORMANCE

As part of the Agreement to perform the Services, the successful bidder shall provide, within ten (10) days after CRRA issues the Notice Of Award, a performance bond or letter of credit in an amount equal to one hundred percent (100%) of the total Not-To-Exceed Bid Price. If a performance bond is used, it must be drawn and submitted on the form attached to the Agreement (**Exhibit F**) and must be issued by a surety company acceptable to CRRA. If a letter of credit is used, it must be issued by a Connecticut bank or a national banking association (**Exhibit G**)

21. STATE OF CONNECTICUT TAXES

CRRA is exempt from all State of Connecticut taxes and assessments as is any contractor performing services for CRRA for those services. Accordingly, the successful bidder shall not charge CRRA any State of Connecticut taxes or assessments at any time in connection with the successful bidder's performance of this Agreement, nor shall the successful bidder include any State of Connecticut taxes or assessments in any rates, costs, prices or other charges to CRRA hereunder. These obligations of the successful bidder are absolute and shall apply notwithstanding any payment by the successful bidder of any State of Connecticut taxes or assessments in connection with its performance of this Agreement. (See Section 3.5 of the Agreement.)

22. DISCLOSURE OF INFORMATION

Recognizing that CRRA is subject to the Freedom of Information provisions of the *Connecticut General Statutes*, bidders are hereby advised that any information contained in or submitted with or in connection with their respective bid is subject to disclosure if required

by law or otherwise. By submitting a bid, each bidder expressly waives any claim(s) that such bidder or any of its successors and/or assigns has or may have against CRRA or any of its directors, officers, employees or authorized agents as a result of any such disclosure.

23. BID PREPARATION AND OTHER COSTS

Each bidder shall be solely responsible for all costs and expenses associated with the preparation and/or submission of its bid, or incurred in connection with any interviews and negotiations with CRRA, and CRRA shall have no responsibility or liability whatsoever for any such costs and expenses. Neither CRRA nor any of its directors, officers, employees or authorized agents shall be liable for any claims or damages resulting from the solicitation or collection of bids. By submitting a bid, each bidder expressly waives:

- (a) Any claim(s) for such costs and expenses; and
- (b) Any such claims or damages.

24. SIGNING OF AGREEMENT

If CRRA issues a Notice Of Award to a successful bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other necessary Contract Documents attached.

Within ten (10) days after issuance of a Notice Of Award, the successful bidder shall:

- (a) Execute the required number of counterparts of the Agreement in the form presented in this RFB;
- (b) Deliver to CRRA such executed counterparts and attached Contract Documents along with the required Bond or letter of credit and any certificates of insurance required by the Contract Documents; and
- (c) Satisfy all other conditions of the Notice Of Award.

Once CRRA has received such counterparts, Contract Documents, Bond and certificates and all requisite approvals to execute the Agreement, and provided the successful bidder has satisfied all such conditions within the foregoing ten (10) day period, CRRA shall deliver one (1) fully signed counterpart of the Agreement to the successful bidder.

At the request of CRRA and if the successful bidder qualifies, the successful bidder shall apply to the State of Connecticut Department of Economic and Community Development, and do all that is necessary to make itself qualify, as a Small Contractor and/or Minority/Women/Disabled Person Business Enterprise in accordance with Section 32-9e of the *Connecticut General Statutes*.

**CONTRACT DOCUMENTS
FOR
OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

**SECTION 3
BID FORM**

BID FORM

PROJECT: Mid-Connecticut Project

CONTRACT NUMBER: _____ (To be filled in later by CRRA)

CONTRACT FOR: Operation And Maintenance Of The Hartford Landfill
Groundwater Flow Control System

BIDS SUBMITTED TO: Connecticut Resources Recovery Authority
100 Constitution Plaza, 6th Floor
Hartford, Connecticut 06103-1722

1. DEFINITIONS

Unless otherwise defined herein, all terms that are not defined and used in this Bid Form (a "Bid") shall have the same respective meanings assigned to such terms in the Contract Documents.

2. TERMS AND CONDITIONS

The undersigned (the "Bidder") accepts and agrees to all terms and conditions of the Request For Bids, Instructions To Bidders, the Agreement and any Addenda to any such documents. This Bid shall remain open and subject to acceptance for ninety (90) days after the bid due date.

If CRRA issues a Notice Of Award to Bidder, Bidder shall within ten (10) days after the date thereof:

- (a) Execute the required number of counterparts of the non-negotiable Agreement;
- (b) Deliver to CRRA such executed counterparts and all other Contract Documents attached to the Notice Of Award along with the Bond or letter of credit and other documents required by the Contract Documents; and
- (c) Satisfy all other conditions of the Notice Of Award.

3. BIDDER'S OBLIGATIONS

Bidder proposes and agrees, if this bid is accepted by CRRA and CRRA issues a Notice Of Award to Bidder, to the following:

- (a) To enter into and execute the non-negotiable Agreement included in the Contract Documents;

- (b) To perform, furnish and complete all the Services as specified or indicated in the Contract Documents and Agreement for the applicable prices, rates and/or costs set forth in this Bid and in accordance with the terms and conditions of the Contract Documents and Agreement; and
- (c) At the request of CRRA and if the successful Bidder qualifies, the successful Bidder shall apply with the State of Connecticut Department of Economic and Community Development, and do all that is necessary to make itself qualify, as a Small Contractor and/or Minority/Women/ Disabled Person Business Enterprise in accordance with Section 32-9e of the *Connecticut General Statutes*.

4. BIDDER'S REPRESENTATIONS

In submitting this Bid, Bidder represents that:

- (a) Bidder has examined and carefully studied the bid package documents and the following Addenda, receipt of which is hereby acknowledged (list Addenda by Addendum number and date):

| Addendum Number | Date Issued |
|-----------------|-------------|
| | |
| | |
| | |
| | |

- (b) Bidder has visited the Hartford Landfill (the "Site") and has become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress, performance, furnishing and completion of the Services;
- (c) Bidder is fully informed and is satisfied as to all Laws And Regulations that may affect cost, progress, performance, furnishing and/or completion of the Services;
- (d) Bidder has carefully examined the surface, subsurface and other conditions of the Site. Bidder acknowledges that CRRA does not assume responsibility for the accuracy or completeness of the information and data, if any, shown or indicated in the Contract Documents with respect to any surface, subsurface or other conditions of the Site. Bidder further acknowledges that such information and data may not be complete for Bidder's purposes. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, tests, studies, and

data concerning existing conditions of the Site or otherwise which may affect cost, progress, performance, furnishing or completion of the Services or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder and safety precautions and programs incident thereto. Bidder does not consider that any additional examinations, investigations, tests, studies or data are necessary for Bidder to conclusively determine that the Services can be performed, furnished and completed in accordance with the terms and conditions of the Contract Documents;

- (e) Bidder is aware of the general nature of work to be performed by CRRA and others at the Site that relates to the Services for which this Bid is submitted;
- (f) Bidder has given CRRA written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Contract Documents and the written resolution thereof by CRRA is acceptable to Bidder or, if Bidder has failed to promptly notify CRRA of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Contract Documents, such failure shall be deemed by both Bidder and CRRA to be a waiver to assert these issues and claims in the future;
- (g) The Contract Documents are generally sufficient to indicate and convey understanding by Bidder of all terms and conditions for performing, furnishing and completing the Services for which this Bid is submitted;
- (h) Bidder acknowledges and agrees that the terms and conditions of the Agreement (including all Exhibits thereto), as attached, are non-negotiable, and Bidder is willing to and shall, if CRRA accepts its Bid for the Services and issues a Notice Of Award to Bidder, execute such Agreement. However, CRRA reserves the right to negotiate with Bidder over Bidder's rates for the Services submitted on its Not-To-Exceed Bid Price And Payment Rate Schedule; and
- (i) Bidder agrees that CRRA is exempt from all State of Connecticut taxes and assessments, including sales and use taxes. Accordingly, Bidder shall not charge CRRA any State of Connecticut taxes or assessments at any time in connection with Bidder performance of this Agreement, nor shall Bidder include any State of Connecticut taxes or assessments in any rates, costs, prices or other charges to CRRA hereunder. Bidder represents and warrants that no State of Connecticut taxes or assessments were included in any rates, costs, prices or other charges presented to CRRA in any RFB, RFP or other submittal or proposal to CRRA in connection with this Agreement.

5. ATTACHMENTS

The following documents are attached hereto and made a part of this Bid:

- (a) The completed Not-To-Exceed Bid Price And Payment Rate Schedule Form;

- (b) Answers to the Issues And Questions To Be Addressed with a written answer provided to each question and each answer beginning on a new page;
- (c) Questions Concerning Affirmative Action, Small Business Contractors And Occupational Health And Safety, which has been completely filled out by Bidder;
- (d) Affidavit of Third Party Fees, which has been completely filled out by Bidder and signed before a Notary Public or Commissioner of the Superior Court;
- (e) Waiver Of Damages Form, which has been completely filled out by Bidder;
- (f) Non-Collusion Certificate, which has been completely filled out by Bidder and signed before a Notary Public or Commissioner of the Superior Court;
- (g) Bidder's Background Questionnaire, which has been completely filled out by Bidder; and
- (h) Certification Concerning Bid Forms, which has been completely filled out by Bidder and signed before a Notary Public or Commissioner of the Superior Court.

6. NOTICES

Communications concerning this Bid should be addressed to Bidder at the address set forth below.

| | |
|-------------------|--|
| Bidder Name: | |
| Bidder Contact: | |
| Title: | |
| Address: | |
| | |
| | |
| Telephone Number: | |
| Fax Number: | |
| E-Mail Address: | |

7. ADDITIONAL REPRESENTATIONS

Bidder hereby represents that the undersigned is duly authorized to submit this Bid on behalf of the Bidder;

AGREED TO AND SUBMITTED ON _____, 2006

| | |
|-------------------------------------|--|
| Name of Bidder (Firm): | |
| Signature of Bidder Representative: | |
| Name and Title: | |
| Address: | |
| | |
| | |
| Telephone: | |
| Fax: | |
| E-Mail: | |

**CONTRACT DOCUMENTS
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GROUNDWATER FLOW CONTROL SYSTEM**

SECTION 4

**NOT-TO-EXCEED BID PRICE AND PAYMENT
RATE SCHEDULE FORM**

NOT-TO-EXCEED BID PRICE

| | |
|-----------------|--|
| Name of Bidder: | |
|-----------------|--|

INSTRUCTIONS: Fill in "Not-To-Exceed Bid Price" for Each Task for Each Year and the Totals. Fill in the "Not-To-Exceed Contract Price."

| TASK | NOT-TO-EXCEED BID PRICE | | | | | | |
|---|--|-------------------------------------|-------------------------------------|-------------------------------------|-----------|-------------------------------------|-------------------------------------|
| | BASE CONTRACT (May 1, 2006 through June 30, 2009) | | | | | OPTION YEAR 1 | OPTION YEAR 2 |
| | 05/01/06 – 06/30/06 | FY 2007 (07/01/06 – 06/30/07) | FY 2008 (07/01/07 – 06/30/08) | FY 2009 (07/01/08 – 06/30/09) | TOTAL | FY 2010 (07/01/09 – 06/30/10) | FY 2011 (07/01/10 – 06/30/11) |
| 1. Personnel Training & Remote Set-Up | \$ | N/A | N/A | N/A | \$ | N/A | N/A |
| 2. GFCS Operation & Reporting | \$ | \$ | \$ | \$ | \$ | \$ | \$ |
| 3. Zone of Influence Monitoring & Reporting | \$ | \$ | \$ | \$ | \$ | \$ | \$ |
| 4. GFCS Repairs ¹ | \$25,000 | \$25,000 | \$25,000 | \$25,000 | \$100,000 | \$25,000 | \$25,000 |
| TOTAL | \$ | \$ | \$ | \$ | \$ | \$ | \$ |

¹ CRRA has established the Not-To-Exceed Bid Price for Task 4 Services based on past experience.

NOT-TO-EXCEED CONTRACT PRICE (Total of Tasks 1 through 4 for the Base Contract period (05/01/06 – 06/30/09):

| | |
|--|--|
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| | |

Use Words

| | |
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Use Figures

PAYMENT RATE SCHEDULE

In addition to the form on the preceding page, each Bidder must submit the information requested on the forms on the following pages.

On the form on Page 4-3, Bidder must list the hourly billing rates for each staff level of personnel in its firm who will be assigned to work with CRRA. This Project does not fall under Connecticut's prevailing wage requirements.

On the form on Page 4-4, Bidder must fill in the percentage rate for overtime.

Bidder must provide on the form on Page 4-5 the rate at which applicable ancillary services are billed, including, but not limited to:

- Drafting;
- Surveying;
- Word processing;
- Copying (per page);
- Computer time; and
- Any other services (excluding telephones) for which Bidder routinely bills.

On the form on Page 4-6, Bidder must provide the percentage markup for the items identified.

BILLING RATES
(Provide Billing Rates Below)
 (Use Additional Sheets If Necessary)

| Labor Category | Over-time ¹ | Title | Hourly Rate | | | | Option Year 1 | Option Year 2 |
|----------------|------------------------|-------|-------------------------------------|---------|---------|--|---------------|---------------|
| | | | FY 2006-07 (05/01/06 - 06/30/07) | FY 2008 | FY 2009 | Base Contract (May 1, 2006 through June 30, 2009) | | |
| | | | | | | | FY 2010 | FY 2011 |
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¹ Indicate with an "X" if the hourly rate is subject to overtime markup.

OVERTIME RATES

For employees who are eligible for and are paid a higher hourly rate for overtime than the hourly rate listed on the preceding page, the successful Bidder will be entitled to reimbursement for such employee overtime when such overtime is a result of more than 8 hours in one day and/or more than 40 hours in one week worked on this Project by such an employee.

Below, specify the proposed rate for overtime (i.e., the percentage by which the hourly rates specified on the preceding page would be multiplied to arrive at the overtime rate).

% (fill in the percentage rate for overtime)

ANCILLARY SERVICE RATES
(Provide Rates Below)

(Use Additional Sheets If Necessary)

| Ancillary Service | Rate | | | |
|---|--|--------------------|------------------|------------------|
| | Base Contract (May 1, 2006 through June 30, 2009) | | Option Year 1 | Option Year 2 |
| | FY 2006-07 (05/01/06 – 06/30/07) | FY 2008 FY 2009 | FY 2010 | FY 2011 |
| Drafting (Per Hour) | | | | |
| Surveying Crew (Per Hour) | | | | |
| Word Processing (Per Hour) | | | | |
| Copying (Per Page) | | | | |
| Travel in Firm-Owned Vehicle (Per Mile) | | | | |
| Any Other Services For Which You Routinely Bill (List Below) | | | | |
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MARK-UP RATES

Equipment and Materials

The proposed mark-up for overhead expenses associated with the purchase of equipment and materials is

% (fill in the percentage mark-up)

The Contractor will have to provide to CRRA copies of all applicable invoices in order to receive payment for equipment and materials purchased specifically for installation in association with the Project.

Sub-Contractors

The proposed mark-up for overhead expenses associated with sub-contractor work on the Project is

% (fill in the percentage mark-up)

The Contractor will provide to CRRA copies of all applicable invoices in order to receive payment for sub-contractor work performed on the Project.

**CONTRACT DOCUMENTS
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SECTION 5

ISSUES AND QUESTIONS TO BE ADDRESSED

ISSUES AND QUESTIONS TO BE ADDRESSED

INSTRUCTIONS: Complete, written answers must be provided to each of these questions and each answer must begin on a new page. For firms proposing the use of sub-contractors to complete required Services, Issues And Questions Numbers 1 through 9, inclusive, must also be addressed for each sub-contractor. Note that there is a page limit for answers to some of the issues and questions.

1. Provide a summary description of your firm including, but not limited to, a brief history of the firm, an indication of the number of employees of the firm, a list of the number and locations of the firm's offices and an overview of the firm's principal lines of work. [**Answer Page Limit – 2 Pages**]
2. Provide a statement setting forth your firm's knowledge, capability and experience in performing services similar to the Services in Tasks 1 through 3 of the Scope Of Services. Specifically describe work regarding services at landfills and, more specifically, any work related to the operation and maintenance of a groundwater flow control system. [**Answer Page Limit – 4 Pages**]
3. Provide a statement setting forth your firm's knowledge, capability and experience in performing services similar to the Services in Task 4 of the Scope Of Services. Specifically describe work regarding the re-development of pumping wells to increase well yield.
4. Describe your firm's experience in performing work for CRRA. Include a listing of CRRA personnel that have overseen the work performed by the firm.
5. Describe your firm's experience in performing work for any party other than CRRA pertaining to any of CRRA's Landfills (Ellington, Hartford, Shelton, Wallingford and Waterbury).
6. List the names of at least three (3) non-CRRA references who can attest to the quality of work performed by your firm. Include the job title, affiliation, address and phone number for each such reference and a brief description of the work performed for the reference.
7. Provide an organizational chart and brief resumes (**no more than two pages per person**) of the project managers, engineers, scientists, chemists and field technicians who would be assigned to work with CRRA, including each of the employees who would be designated as the primary operator and backup operator of the Hartford Landfill groundwater flow control system. Indicate their probable areas of responsibility.
8. Of the total amount of time bidder will spend on the project, indicate the percentage of time that would be spent by each of the individuals identified in your response to Question 7 above. [**Answer Page Limit – 1 Page**]
9. Describe your firm's training and oversight regarding field work associated with groundwater flow control systems. [**Answer Page Limit – 2 Pages**]

10. For firms proposing the use of sub-contractors to complete required Services, provide a short description of the division of services between contractors and the timing of tasks to meet deadlines for the Services. [**Answer Page Limit – 1 Page**]
11. Provide a copy of your firm's up-to-date certificate of insurance showing all current insurance coverage.

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SECTION 6

**QUESTIONS CONCERNING AFFIRMATIVE
ACTION, SMALL BUSINESS CONTRACTORS
AND OCCUPATIONAL HEALTH AND SAFETY**



**QUESTIONNAIRE CONCERNING AFFIRMATIVE
ACTION, SMALL BUSINESS CONTRACTORS AND
OCCUPATIONAL HEALTH AND SAFETY**

Because CRRA is a political subdivision of the State of Connecticut, it is required by various statutes and regulations to obtain background information on prospective contractors prior to entering into a contract. The questions below are designed to assist CRRA in procuring this information. Many of the questions are required to be asked by RCSA 46a-68j-31. For the purposes of this form, "Contractor" means Bidder or Proposer, as appropriate.

| | Yes | No |
|--|--------------------------|--------------------------|
| 1. Is the Contractor an Individual? <i>If you answered "Yes" to Question 1, skip to Question 2. If you answered "No" to Question 1, proceed to Question 1A and then to Question 2.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1A. How many Connecticut-based employees does the Contractor have? <input type="text"/> | | |
| 2. Is the Contractor a Small Contractor based on the criteria in Schedule A? <i>If you answered "Yes" to Question 2, proceed to Question 2A and then to Question 3. If you answered "No" to Question 2, skip to Question 3.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2A. Is the Contractor registered with the DECD as a Certified Small Business? <i>If you answered "Yes" to Question 2A, please provide a copy of your Set-Aside Certificate.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Is the Contractor a MWDP Business Enterprise based on the criteria in Schedule B? <i>If you answered "Yes" to Question 3, proceed to Question 3A and then to Question 4. If you answered "No" to Question 3, skip to Question 4.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3A. Is the Contractor registered with DECD as a MWDP Small Business? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Does the Contractor have an Affirmative Action Plan? <i>If you answered "Yes" to Question 4, proceed to Question 4A and then to Question 5. If you answered "No" to Question 4, skip to Question 4B and then to Question 5.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4A. Has the Affirmative Action Plan been approved by the CHRO? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4B. Will the Contractor develop and implement an Affirmative Action Plan? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Does the Contractor have an apprenticeship program complying with RCSA 46a-68-1 through 46a-68-17? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Has the Contractor been cited for three or more willful or serious violations of any occupational safety and health act? | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Has the Contractor received one or more criminal convictions related to the injury or death of any employee in the three-year period preceding the Request For Bids? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Has the Contractor been the recipient of one or more ethical violations from the State of Connecticut Ethics Commission during the three-year period preceding the issuance of this solicitation? | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Will subcontractors be involved? <i>If you answered "Yes" to Question 9, proceed to Question 9A. If you answered "No" to Question 9, you are finished with the questionnaire.</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9A. How many subcontractors will be involved? <input type="text"/> | | |

LIST OF ACRONYMS

| | | |
|------|---|---|
| RCSA | - | Regulations of Connecticut State Agencies |
| CHRO | - | State of Connecticut Commission on Human Rights and Opportunities |
| DECD | - | State of Connecticut Department of Economic and Community Development |
| MWDP | - | Minority/Women/Disabled Person |

FOOTNOTE

- ¹ If the Contract is a "public works contract" (as defined in Section 46a-68b of the Connecticut General Statutes), the dollar amount exceeds \$50,000.00 in any fiscal year, and the Contractor has 50 or more employees, the Contractor, in accordance with the provisions of Section 46a-68c of the Connecticut General Statutes, shall develop and file an affirmative action plan with the Connecticut Commission on Human Rights and Opportunities.

SCHEDULE A CRITERIA FOR A SMALL CONTRACTOR

Contractor must meet all of the following criteria to qualify as a Small Contractor:

1. Has been doing business and has maintained its principal place of business in the State for a period of at least one year immediately preceding the Request For Bids;
2. Has had gross revenues not exceeding ten million dollars in the most recently completed fiscal year;
3. Is headquartered in Connecticut; and,
4. At least 51% of the ownership of the Contractor is held by a person or persons who are active in the daily affairs of the business and have the power to direct the management and policies of the business.

SCHEDULE B CRITERIA FOR A MINORITY/WOMAN/DISABLED PERSON BUSINESS ENTERPRISE

Contractor must meet all of the following criteria to qualify as a Minority/Woman/Disabled Person Business Enterprise:

1. Satisfies all of the criteria in Schedule A for a Small Contractor;
2. 51% or more of the business and/or its assets must be owned by a person or persons who are minorities as defined in Connecticut General Statutes Section 32-9n (please see below) or is an individual with a disability;
3. The Minority/Woman/Disabled Person must have the power to change policy and management of the business; and,
4. The Minority/Woman/Disabled Person must be active in the day-to-day affairs of the business.

CONNECTICUT GENERAL STATUTES SECTION 32-9n

Sec. 32-9n. Office of Small Business Affairs. (a) There is established within the Department of Economic and Community Development an Office of Small Business Affairs. Such office shall aid and encourage small business enterprises, particularly those owned and operated by minorities and other socially or economically disadvantaged individuals in Connecticut. As used in this section, minority means: (1) Black Americans, including all persons having origins in any of the Black African racial groups not of Hispanic origin; (2) Hispanic Americans, including all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race; (3) all persons having origins in the Iberian Peninsula, including Portugal, regardless of race; (4) women; (5) Asian Pacific Americans and Pacific islanders; or (6) American Indians and persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification.

**CONTRACT DOCUMENTS
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**SECTION 7
AFFIDAVIT OF THIRD PARTY FEES**



AFFIDAVIT OF THIRD PARTY FEES (Form A2)

All Bidders must complete and properly execute this Affidavit of Third Party Fees. The purpose of this Affidavit is to ascertain if the Bidder has made or promised any payment to a third party attributable to this Agreement. If no such payment has been made or promised, Bidder should write "None" in the first box in the table and execute this Affidavit. For purposes of the Affidavit, Bidder's subcontractors, if any, are not considered third parties.

I, _____, a duly authorized officer and/or representative of _____ (firm name), being duly sworn, hereby depose and say that:

1. I am over eighteen (18) years of age and believe in the obligations of an oath;
2. _____ (firm name) seeks to enter into the Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System Agreement (the "Agreement") with the Connecticut Resources Recovery Authority;
3. All third party fees and agreements to pay third party fees attributable to the "Agreement" are as follows:

| Name Of Payee | Dollar Amount Paid Or Value Of Non-Cash Compensation <u>AND</u> Date | Fee Arrangement | Specific Services Performed Or To Be Performed By Payee ¹ |
|---------------|--|-----------------|--|
| | | | |
| | | | |
| | | | |

(Attach additional copies of this page as necessary.)

NOTE: For each third party fee arrangement described above (if any), complete the attached Form A2a.

4. The information set forth herein is true, complete and accurate to the best of my knowledge and belief under penalty of perjury.

Signed: _____
 Name (Print): _____
 Title: _____

Sworn to before me this _____ day of _____ 200 _____

 Notary Public/Commissioner of the Superior Court

¹ Please attach documents evidencing the terms of the fee arrangement and services.



**ADDENDUM TO
AFFIDAVIT OF THIRD PARTY FEES
(Form A2a)**

For each third party fee arrangement disclosed in the attached Affidavit, please explain whether and how each such payment falls within one or more of the following categories of compensation:

- (1) Compensation earned for the rendering of legal services when provided by an attorney while engaged in the ongoing practice of law;
- (2) Compensation earned for the rendering of investment services, other than legal services, when provided by an investment professional while engaged in the ongoing business of providing investment services;
- (3) Compensation for placement agent, due diligence or comparable tangible marketing services when paid to a person who is an investment professional (i) engaged in the ongoing business of representing providers of investment services, or (ii) in connection with the issuance of bonds, notes or other evidence of indebtedness by a public agency;
- (4) Compensation earned by a licensed real estate broker or real estate salesperson while engaging in the real estate business on an ongoing basis; or
- (5) Payments for client solicitation activities meeting the requirements of Rule 206(4)-3 under the Investment Advisers Act of 1940.

Attach additional pages as necessary.

**CONTRACT DOCUMENTS
FOR
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**SECTION 8
WAIVER OF DAMAGES FORM**



WAIVER OF DAMAGES FORM

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

The Bidder and all its affiliates and subsidiaries understand that by submitting a Bid, the Bidder is acting at its and their own risk and the Bidder does for itself and all its affiliates and subsidiaries hereby waive any rights any of them may have to receive any damages for any liability, claim, loss or injury resulting from:

- (1) Any action or inaction on the part of the Connecticut Resources Recovery Authority (CRRA) or any of its directors, officers, employees or authorized agents concerning the evaluation and selection of bids by CRRA or any of its directors, officers, employees or authorized agents;
- (2) Any agreement entered into for the services described in the Request For Bids; and/or
- (3) Any award or non-award of a contract, pursuant to such Request For Bids.

| | |
|-----------------------------------|--|
| Name of Bidder: | |
| Signature of Authorized Official: | |
| Typed Name of Official: | |
| Title: | |
| Date: | |

**CONTRACT DOCUMENTS
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GROUNDWATER FLOW CONTROL SYSTEM**

**SECTION 9
NON-COLLUSION CERTIFICATE**



NON-COLLUSION CERTIFICATE

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

(This CERTIFICATION is to be signed by an authorized officer of the Bidder or the Bidder's managing general partner.)

By submission of this bid, the Bidder identified below, together with any affiliates or related persons, the guarantor and any joint ventures, hereby certifies under penalty of perjury and risk of termination of the Agreement, if awarded, that to the best of its knowledge and belief:

1. The prices in the bid have been arrived at as the result of an independent business judgment without collusion, consultation, communication, agreement or otherwise for the purpose of restricting competition, as to any matter relating to such prices and any other person or company;
2. Unless otherwise required by law, the prices that have been quoted in this bid have not, directly or indirectly, been knowingly disclosed by the Bidder prior to "opening" to any other person or company;
3. No attempt has been made or will be made by the Bidder to induce any other person, partnership or corporation to submit, or not to submit, a bid for the purpose of restricting competition;
4. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham bid;
5. Bidder has not sought by collusion to obtain for itself any advantage for the Services over any other Bidder for the Services or over CRRA; and
6. The person signing this proposal certifies that he has fully informed himself/herself regarding the accuracy of the statements contained in this certification and, under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the Bidder as well as to the person signing on its behalf.

Signature: _____

Name (print/type): _____

Title: _____

State Of: _____

County Of: _____

_____, being fully sworn, deposes and says that he/she is the _____ (Title) of _____ (Firm Name), the Bidder herein, that he/she has read the foregoing statement of non-collusion, and, under the penalty of perjury, certifies that each and every part of said statement is true.

Sworn to before me this _____ day of _____ 200_____

Notary Public/Commissioner of the Superior Court

**CONTRACT DOCUMENTS
FOR
OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

**SECTION 10
BIDDER'S BACKGROUND QUESTIONNAIRE**



BIDDER'S BACKGROUND QUESTIONNAIRE

Please answer the following questions by placing an "X" in the appropriate box.

| | Yes | No |
|---|--------------------------|--------------------------|
| <p>1. Has the Bidder or any of its principals, owners, officers, partners, directors or stockholders holding more than 50% of the stock of the Bidder ever been the subject of a criminal investigation?</p> <p><i>If you answered "Yes" to Question 1, proceed to Question 1A and, on a separate sheet of paper, state the following: the court in which the investigation is taking or took place; the approximate date the investigation commenced and, if applicable, concluded; the subject matter of the investigation; and the identity of the person or entity involved.</i></p> <p><i>If you answered "No" to Question 1, proceed to Question 2.</i></p> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>1A. Has any indictment arisen out of any such investigation?</p> <p><i>If you answered "Yes" to Question 1A, proceed to Question 2 and, on a separate sheet of paper, state the following: the name of the person or entity indicted; and the status of any such indictment.</i></p> <p><i>If you answered "No" to Question 1A, proceed to Question 2.</i></p> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>2. Has the Bidder or any of its principals, owners, officers, partners, directors or stockholders holding more than 50% of the stock of the Bidder ever been the subject of a civil investigation?</p> <p><i>If you answered "Yes" to Question 2, proceed to Question 3 and, on a separate sheet of paper, state the following: the court or other forum in which the investigation took or is taking place; the approximate date the investigation commenced and, if applicable, concluded; the subject matter of the investigation; the identity of the person or entity involved; and the status of the investigation.</i></p> <p><i>If you answered "No" to Question 2, proceed to Question 3.</i></p> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>3. Has any entity (e.g., corporation, partnership, etc.) in which a principal, owner, officer, partner, director or stockholder of the Bidder has an ownership interest in excess of 50% in such entity ever been the subject of a criminal investigation?</p> <p><i>If you answered "Yes" to Question 3, proceed to Question 3A and, on a separate sheet of paper, state the following: the court in which the investigation is taking or took place; the approximate date the investigation commenced and, if applicable, concluded; the subject matter of the investigation; and the identity of the person or entity involved.</i></p> <p><i>If you answered "No" to Question 3, proceed to Question 4.</i></p> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>3A. Has any indictment arisen out of any such investigation?</p> <p><i>If you answered "Yes" to Question 3A, proceed to Question 4 and, on a separate sheet of paper, state the following: the name of the person or entity indicted; and the status of any such indictment.</i></p> <p><i>If you answered "No" to question 3A, proceed to Question 4.</i></p> | <input type="checkbox"/> | <input type="checkbox"/> |
| <p>4. Has any entity (e.g., corporation, partnership, etc.) in which a principal, owner, officer, partner, director or stockholder of the Bidder has an ownership interest in excess of 50% in such entity ever been the subject of a civil investigation?</p> <p><i>If you answered "Yes" to Question 4, on a separate sheet of paper state the following: the court in which the investigation is taking or took place; the approximate date the investigation commenced and, if applicable, concluded; the subject matter of the investigation; the identity of the person or entity involved; and the status of the investigation.</i></p> | <input type="checkbox"/> | <input type="checkbox"/> |

**CONTRACT DOCUMENTS
FOR
OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

**SECTION 11
CERTIFICATION CONCERNING BID FORMS**



CERTIFICATION CONCERNING BID FORMS

OPERATION AND MAINTENANCE OF THE HARTFORD LANDFILL GROUNDWATER FLOW CONTROL SYSTEM

(This CERTIFICATION is to be signed by an authorized officer of the Bidder or the Bidder's managing general partner.)

By submission of this Bid, the Bidder identified below, together with any affiliates or related business entities or persons, the guarantor and any joint ventures, hereby certifies under penalty of perjury and risk of termination of the Agreement, if awarded, that all of the forms included in this Request For Bids that are submitted to the Connecticut Resources Recovery Authority as part of its Bid in response to this Request For Bids are identical in form and content to the preprinted forms in this Request For Bids except that information requested by the forms has been inserted in the spaces on the forms provided for the insertion of such requested information.

Signature: _____
Name (type/print): _____
Title: _____
State Of: _____
County Of: _____

_____, being fully sworn, deposes and says that he/she is the _____ (Title) of _____ (Firm Name), the Bidder herein, that he/she has read the foregoing statement concerning bid forms, and, under the penalty of perjury, certifies that each and every part of said statement is true.

Sworn to before me this _____ day of _____ 200__

Notary Public/Commissioner of the Superior Court

**CONTRACT DOCUMENTS
FOR
OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

**SECTION 12
NOTICE OF AWARD**

NOTICE OF AWARD

TO:

PROJECT: Mid-Connecticut Project

CONTRACT NUMBER: _____

CONTRACT FOR: Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System

The Connecticut Resources Recovery Authority ("CRRA") has considered the Bid submitted by you dated _____, 200_ in response to CRRA's Notice To Firms – Invitation To Bid for the above-referenced Services, which Services are more particularly described in the Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System Agreement (the "Services").

You are hereby notified that your Bid has been accepted for the Services for the period May 1, 2006 through June 30, 2009, with, at CRRA's sole and absolute discretion, the option for two divisible one-year extensions for fiscal years 2010 and 2011. The amount of the award for the Services for the period May 1, 2006 through June 30, 2009 is not to exceed \$ _____ over the term of the Agreement.

Within ten (10) days from the date of this Notice Of Award you are required to:

- (a) Execute the required number of the attached counterparts of the non-negotiable Agreement;
- (b) Deliver to CRRA such executed counterparts and all other attached Contract Documents along with the requisite certificates of insurance and performance bond; and
- (c) Satisfy all other conditions set forth herein.

As you have agreed, the terms and conditions of the Agreement, as attached, are non-negotiable.

If you fail within ten (10) days from the date of this Notice Of Award to perform and complete any of your obligations set forth in items (a) through (c) above, CRRA will be entitled to consider all your rights arising out of CRRA's acceptance of your Bid as abandoned and terminated. CRRA will also be entitled to such other rights and remedies as may be granted at law or in equity.

You are required to acknowledge your receipt of this Notice Of Award by signing below and returning the same to CRRA.

Dated this _____ day of _____, 2006.

Connecticut Resources Recovery Authority

By: _____

Title:

ACCEPTANCE OF NOTICE

Receipt of this NOTICE OF AWARD is hereby acknowledged this _____ day of _____, 2006.

By: _____ (Signature)

_____ (Typed/Printed Name)

Title: _____

**CONTRACT DOCUMENTS
FOR
OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM**

**SECTION 13
OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM
AGREEMENT**

OPERATION AND MAINTENANCE OF THE HARTFORD LANDFILL GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT

This OPERATION AND MAINTENANCE OF THE HARTFORD LANDFILL GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT (“Agreement”) is made as of this First day of May, 2006 (“Effective Date”) by and between the **CONNECTICUT RESOURCES RECOVERY AUTHORITY**, a body politic and corporate, constituting a public instrumentality and political subdivision of the State of Connecticut, having its principal offices at 100 Constitution Plaza, 6th Floor, Hartford, Connecticut 06103 (hereinafter “CRRA”) and _____, a _____, having its principal offices at _____, _____, _____ (hereinafter “Contractor”).

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PRELIMINARY STATEMENT

CRRA leases a certain parcel of real property located at 180 Leibert Road in Hartford, Connecticut (the "Property"), upon which property CRRA operates a solid waste landfill known as the Hartford Landfill (the "Landfill"). CRRA now desires to enter into this Agreement with Contractor in order to have Contractor render certain operation and maintenance services for the groundwater flow control system at the Landfill from time to time in accordance with this Agreement (the "Project").

NOW, THEREFORE, in consideration of the mutual covenants, promises, and representations contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows.

1. DEFINITIONS, CONSTRUCTION AND INTERPRETATION

1.1 Definitions

As used in this Agreement and in other Contract Documents (as defined herein) the following terms shall have the meanings as set forth below:

- (a) **"Addenda"** means written or graphic documents issued prior to the bid due date, which clarify, correct or change any or all of the Contract Documents.
- (b) **"Contract Documents"** means this Agreement (including all exhibits attached hereto), Notice To Firms - Invitation To Bid, Instructions To Bidders, Addenda, Contractor's bid (including all documentation accompanying such bid, all other documentation submitted in connection with such bid, and all post-bid documentation submitted prior to the Notice Of Award), Notice Of Award, any written amendments to any of the Contract Documents, any Request issued pursuant to Section 2.8 hereof and any change order issued pursuant to Section 2.9 and/or Section 8.6 hereof.
- (c) **"Effective Date"** means the date set forth above in this Agreement.
- (d) **"Laws And Regulations"** means any and all applicable current or future laws, rules, regulations, ordinances, codes, orders and permits of any and all federal, state and local governmental and quasi-governmental bodies, agencies, authorities and courts having jurisdiction.
- (e) **"Notice Of Award"** means written notification from CRRA to the apparent successful bidder which states that CRRA has accepted such bidder's bid and sets forth the remaining conditions that must be fulfilled by such bidder before CRRA executes the Agreement.
- (f) **"Site"** means those areas of the Property upon which the Services are to be performed, furnished and completed by Contractor in accordance with the Contract Documents.

1.2 Construction And Interpretation

For purposes of this Agreement:

- (a) Capitalized terms used herein shall have the meanings set forth herein;
- (b) Whenever nouns or pronouns are used in this Agreement, the singular shall mean the plural, the plural shall mean the singular, and any gender shall mean all genders or any other gender, as the context may require;
- (c) Words that have well-known technical or trade meanings are used herein in accordance with such recognized meanings unless otherwise specifically provided;
- (d) All accounting terms not otherwise defined herein have the meanings assigned to them in accordance with “generally accepted accounting principles,” and the term “generally accepted accounting principles” with respect to any computation required or permitted hereunder shall mean such accounting principles that are generally accepted as of the Effective Date of this Agreement;
- (e) The words “herein”, “hereof” and “hereunder” and words of similar import refer to this Agreement as a whole and not to any particular Section or Subsection;
- (f) Reference to any particular party shall include that party’s employees and the authorized agents of that party;
- (g) All references to agreements are references to the agreements as the provisions thereof that may be amended, modified or waived from time to time; and,
- (h) The captions contained in this Agreement have been inserted for convenience only and shall not affect or be effective to interpret, change or restrict the terms of provisions of this Agreement.

2. SCOPE OF SERVICES

2.1 Contractor’s Responsibilities

Contractor shall be responsible for furnishing all labor, tools, materials, equipment, and incidentals thereto to render operation and maintenance services for the groundwater flow control system at the Landfill, including, but not limited to, the operation and maintenance services described on Exhibit A attached hereto and made a part hereof (collectively, the “Services”), as such Services may be requested from time to time by an Authorized Representative of CRRRA on the terms specified in this Agreement.

2.2 Performance And Completion Of The Services

All Services shall be performed and completed by Contractor as an independent contractor and in a good workmanlike manner consistent and in accordance with:

- (a) Any and all instructions, guidance and directions provided by CRRA to Contractor;
- (b) The Contract Documents;
- (c) Sound environmental practices;
- (d) The highest prevailing industry standards applicable to Contractor and its performance of the Services hereunder; and
- (e) All Laws And Regulations.

Items (a) through (e) above are hereinafter collectively referred to as the "Standards."

Contractor shall identify and obtain any permits required for Contractor to perform the Services.

2.3 CRRA's Responsibilities

CRRA shall be responsible for administering this Agreement, accepting the Services that are performed and completed by Contractor in accordance with the Contract Documents, and receiving and paying invoices for such Services.

2.4 Authorized Representative Of CRRA

Contractor will only perform Services upon request from an Authorized Representative of CRRA. For purposes of this Agreement, the terms "Authorized Representative of CRRA" or "Authorized Representative" shall mean CRRA's President (the "President") and any person designated in writing to Contractor by the President. Any Services performed at the request of anyone who is not an Authorized Representative shall not be paid for by CRRA.

2.5 Direction Of Services

CRRA and/or its Authorized Representative may, where necessary or desired, provide Contractor with instructions, guidance and directions in connection with Contractor's performance of the Services hereunder. CRRA reserves the right to determine whether Contractor will, upon completion of any phase of the Services, proceed to any or all remaining phases of the Services. If CRRA determines that Contractor shall not proceed with the remaining Services, CRRA shall terminate this Agreement in accordance with Section 4.3 hereof.

2.6 CRRA's Inspection Rights

Contractor's performance of the Services hereunder, as well as Contractor's work products resulting from such performance, are subject to inspection by CRRA. Inspections may be conducted at any time by CRRA. In the event of an inspection, Contractor shall provide to CRRA any documents or other materials that may be necessary in order for CRRA to conduct the inspection. If after any such inspection CRRA is unsatisfied with Contractor's performance of the Services hereunder or any of the work products resulting therefrom, Contractor shall, at the direction of CRRA, render such performance or work products satisfactory to CRRA at no additional cost or expense to CRRA and without any extension of or addition to any item in the schedule for the Project for the remaining Services. For purpose of this Section 2.6, CRRA shall mean CRRA and/or its Authorized Representative.

2.7 Access

CRRA hereby grants to Contractor access to only those areas of the Landfill or Property necessary for Contractor to perform the Services hereunder, provided that:

- (a) Contractor shall not interfere with any other operations or activities being conducted on the Property by either CRRA or any other person or entity;
- (b) Contractor directly coordinates with CRRA on such access and Contractor's storage of any equipment or materials on the Property; and
- (c) Contractor is in compliance with all of the terms and conditions of this Agreement.

CRRA reserves the right to revoke the access granted to Contractor herein if Contractor fails to comply with any of the foregoing conditions of access.

2.8 Specific Services Request

At its discretion, CRRA, through an Authorized Representative, may require that prior to undertaking work on a specific task, Contractor and an Authorized Representative mutually define and agree in writing upon a detailed scope of services required for such task, together with an estimate of the time, cost and expenses for such services. In such cases, CRRA will request performance of such services by means of a written request in accordance with **Exhibit B** attached hereto and made a part hereof (a "Request"). Accordingly, upon receipt and acceptance of a written Request, Contractor shall perform such services described in such Request in accordance with the terms of this Agreement and such Request. A Request shall be required for any work undertaken under Task 4 of the Scope Of Services (**Exhibit A**).

If, during Contractor's performance of such services, there is a change in Contractor's estimate of time, cost or expenses for such services, Contractor will promptly notify CRRA in writing of such change and Contractor shall not incur any costs or expenses exceeding those specified in the Request without prior written authorization from an

Authorized Representative. CRRA shall not pay for any Services rendered or expenses incurred by Contractor in excess of those included in such Request unless specifically authorized in advance and in writing by an Authorized Representative.

2.9 Change In Scope Of Services

In the event that CRRA determines during the term of this Agreement that any revisions, modifications or changes are necessary to the Scope Of Services as set forth in Section 2.1 hereof, then pursuant to CRRA's request, Contractor shall promptly commence and perform the services required for such revisions, modifications or changes, which services shall be performed in accordance with the Standards unless otherwise specifically agreed to in writing by CRRA and Contractor. If any adjustment(s) to the Not-To-Exceed Contract Price and/or the Project Schedule is required as a result of such revisions, modifications or changes, CRRA and Contractor shall mutually agree in writing on the amount of such adjustment(s) provided that the Payment Rate Schedule approved by CRRA for the Project shall be used to determine the appropriate increase or decrease in the quantity or cost of the materials or services necessitated by such revisions, modifications or changes. Contractor shall promptly commence and perform any services required by such revisions, modifications or changes even if CRRA and Contractor cannot agree on the amount of such adjustment(s).

2.10 Site And Subsurface Conditions

All information and data shown or indicated in the Contract Documents with respect to underground facilities, surface conditions, subsurface conditions or other conditions at or contiguous to the Site are furnished for information only and CRRA does not assume any responsibility for the accuracy or completeness of such information and data. Contractor acknowledges and agrees that CRRA does not assume any responsibility for such information and data and that Contractor is solely responsible for investigating and satisfying itself as to all actual and existing Site conditions, including but not limited to surface conditions, subsurface conditions and underground facilities. Contractor has carefully studied all such information and data and Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (including but not limited to surface conditions, subsurface conditions and underground facilities) at or contiguous to the Site and all other conditions or factors which may affect cost, progress, performance, furnishing or completion of the Services or which relate to any aspect of the means, methods, techniques, sequences, and procedures or performance of the Services to be employed by Contractor and safety precautions and programs incident thereto. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for Contractor to conclusively determine, and Contractor has so determined, that the Services can be performed, furnished and completed in accordance with the terms and conditions of the Contract Documents. In the event that the information or data shown or indicated in the Contract Documents with respect to underground facilities or surface, subsurface or other conditions at or contiguous to the Site differs from conditions encountered by Contractor during performance of the Services, there shall be no increase

in the Not-To-Exceed Contract Price as a result of such differing conditions, unless CRRA, in its sole and absolute discretion, agrees in writing to such increase and/or extension.

2.11 Methane Gases

Contractor acknowledges the presence of methane gases at the Landfill and that, during the term of this Agreement, methane gases will be collected from such Landfill. Contractor covenants and agrees that it and its employees, agents, subcontractors and materialmen shall take all necessary precautions with respect to the presence of methane gases at all times at such Landfill, including, but not limited to, prohibiting the presence of any open flames, sparks, smoking or any other activity which might ignite any of the methane gases present at the Landfill.

2.12 Proprietary Information

Contractor shall not use, publish, distribute, sell or divulge any information obtained from CRRA by virtue of this Agreement for Contractor's own purposes or for the benefit of any person, firm, corporation or other entity (other than CRRA) without the prior written consent of CRRA. Any report or other work product prepared by Contractor in connection with the performance of the Services hereunder shall be owned solely and exclusively by CRRA and cannot be used by Contractor for any purpose beyond the scope of this Agreement without the prior written consent of CRRA. Any material designated by CRRA in accordance with applicable law as confidential shall not be disclosed to any third parties without the prior written consent of CRRA.

2.13 Books And Records

Contractor shall maintain proper books and records containing complete and correct information on all Services performed by Contractor pursuant to this Agreement in accordance with generally accepted accounting principles and practices. CRRA has the right to inspect and review all such books and records during Contractor's business hours.

2.14 Status Of Contractor

CRRA and Contractor acknowledge and agree that Contractor is acting as an independent contractor in performing any Services for CRRA hereunder and that Contractor shall perform such Services in its own manner and method subject to the terms of this Agreement. Nothing in this Agreement shall be construed or interpreted as creating a partnership, a joint venture, an agency, a master-servant relationship, an employer-employee relationship or any other relationship between CRRA and Contractor other than that of an owner and an independent contractor. Contractor is expressly forbidden from transacting any business in the name of or on account of CRRA, and Contractor has no power or authority to assume or create any obligation or responsibility for or on behalf of CRRA in any manner whatsoever.

2.15 Subcontractors

Contractor shall consult with CRRA before hiring any subcontractors to perform any Services hereunder. Contractor shall require all of its subcontractors to abide by the terms and conditions of this Agreement. Moreover, Contractor's subcontracts with such subcontractors shall specifically provide that, in the event of a default by Contractor thereunder or under this Agreement, CRRA may directly enforce such subcontracts and make payments thereunder. Contractor shall provide CRRA with all contracts, amendments, books, records, accounts, correspondence and other materials necessary to enforce such subcontracts. Also Contractor's subcontracts with its subcontractors shall specifically include CRRA as a third party beneficiary and shall provide that such subcontractors shall not be excused from any of their obligations under such subcontracts by reason of any claims, setoffs, or other rights whatsoever that they may have with or against Contractor other than through such subcontracts.

2.16 Contractor's Employees

All persons employed by Contractor shall be subject and responsible solely to the direction of Contractor and shall not be deemed to be employees of CRRA.

2.17 Mechanic's Liens

Contractor shall claim no interest in the Property or any equipment, fixtures or improvements located or to be located thereon, including but not limited to the Mid-Connecticut Resource Recovery Facility or any part thereof. Contractor shall not file any mechanic's liens or other liens or security interests against CRRA or any of its properties, including but not limited to the Property. Contractor shall defend, indemnify and hold harmless CRRA against all costs associated with the filing of such liens or interests by Contractor or any of its subcontractors or materialmen. Before any subcontractor or materialman of Contractor commences any Services hereunder, Contractor shall deliver to CRRA an original waiver of mechanic's liens properly executed by such subcontractor or materialman. If any mechanic's lien is filed against CRRA or any of its properties in connection with the Services hereunder, Contractor shall cause the same to be canceled and discharged of record within fifteen (15) days after the filing of such lien and, if Contractor fails to do so, CRRA may, at its option but without any obligation to do so, make any payment necessary to obtain such cancellation or discharge and the cost thereof, at CRRA's election, shall be either deducted from any payment due to Contractor hereunder or reimbursed to CRRA promptly upon demand by CRRA to Contractor.

3. COMPENSATION AND PAYMENT

3.1 Compensation

For the Services rendered and expenses incurred under this Agreement, Contractor shall be paid by CRRA on the basis set forth on **Exhibit C** attached hereto and made a part hereof. Contractor shall be reimbursed for costs and expenses actually incurred in providing the Services at the rates specified in the "Payment Rate Schedule" in **Exhibit**

C. In no case shall the Contractor be paid more for the Services than the amount set forth in Exhibit C as the "Not-To-Exceed Contract Price." If CRRA exercises its option for the one or both of the two divisible one-year extensions of the Agreement (See Section 4.1 of this Agreement), the Contractor shall not be paid more for the Services during the one-year extension than the amount set forth in Exhibit C as the Total of the Not-To-Exceed Bid Price for the appropriate extension.

Contractor will not be paid for costs or expenses for Services that exceed the Not-To-Exceed Contract Price of Exhibit C. CRRA does not guarantee that the Not-To-Exceed Contract Price of Exhibit C or any amount of monies will be paid to Contractor during the term of this Agreement.

For employees who are eligible for and are paid a higher hourly rate for overtime than the hourly rate listed in the "Payment Rate Schedule" of Exhibit C, Contractor will be entitled to reimbursement for such employee overtime when such overtime is a result of more than eight (8) hours in one day and/or more than forty (40) hours in one week worked by such an employee on this Project. Such overtime will be reimbursed as provided in Exhibit C.

Out-of-pocket expenses shall be reimbursed at cost provided they are consistent with CRRA's Travel and Expense Reporting document attached hereto and made a part hereof as Exhibit D, except that Contractor will be deemed to have met CRRA's "Receipt" requirements of such document if Contractor provides to CRRA with each billing the following:

- (a) Receipts for all items greater than or equal to \$25; and
- (b) Copies of Contractor's expense forms itemizing expenses incurred in providing Services to CRRA.

Contractor shall be solely responsible for the reporting of and payment of federal, state and local income taxes, FICA and FUTA contributions and shall maintain any insurance coverage required by state or federal law in addition to any insurance required hereunder.

3.2 Payment Procedure

Contractor shall render a bill to CRRA each month for all of the Services performed and all of the costs and expenses incurred in the immediately preceding month pursuant to this Agreement. Each monthly bill will contain at least the following information.

- (a) The name, title and billing rate for each person performing Services for which payment is sought;
- (b) A description of the Services performed by each person;
- (c) The time spent by each person on the Project;

- (d) Separate listing of all expenses incurred, including copies of receipts or sub-contractor invoices;
- (e) The time period covered by the invoice;
- (f) The contract number for this Agreement (to be provided by CRRA); and
- (g) The request for services identification number, if appropriate.

Exhibit E, attached hereto and made a part hereof, is the format for all monthly bills.

Contractor shall not be compensated for any time spent preparing any billing documentation or related materials.

If CRRA determines, in its sole discretion, that:

- (a) The Services for which Contractor is requesting payment have been properly performed and completed in conformance with the Standards,
- (b) Contractor is not in default hereunder,
- (c) CRRA does not dispute the amount of the payment requested, and
- (d) The bill contains all of the information required hereunder,

then CRRA shall pay the amount requested within thirty (30) calendar days after its receipt of such bill.

If, however, CRRA determines that:

- (a) Any of the Services for which Contractor has requested payment is not in conformance with the Standards,
- (b) Such bill does not contain all the requisite information, or
- (c) Contractor is in default hereunder,

then CRRA may in its sole and absolute discretion withhold all or a portion of the payment requested by Contractor, and Contractor shall, if requested by CRRA, immediately take, at Contractor's sole cost and expense, all action necessary to render such Services and/or bill in conformance with the Standards, or to cure such default.

CRRA shall have no obligation under this Agreement to pay for any Services that CRRA determines have not been performed and/or completed in conformance with the Standards, and CRRA shall have no obligation to pay Contractor any amount due Contractor under this Agreement if Contractor is in default hereunder. If CRRA disputes the amount in any written request for payment submitted by Contractor, CRRA shall have the right to withhold the disputed amount until the dispute is settled. CRRA shall notify Contractor of any disputed amount and the reason(s) for disputing such amount.

3.3 Accounting Obligations

Contractor shall maintain books and accounts of the costs incurred by Contractor in performing the Services pursuant to this Agreement by contract number and in accordance with generally accepted accounting principles and practices. CRRA, during normal business hours, for the duration of this Agreement, shall have access to such books and accounts to the extent required to verify such costs incurred.

3.4 Withholding Taxes And Other Payments

No FICA (social security) payroll tax, state or federal income tax, federal unemployment tax or insurance payments, state disability tax or insurance payments or state unemployment tax or insurance payments shall be paid or deposited by CRRA with respect to Contractor, nor be withheld from payment to Contractor by CRRA. No workers' compensation insurance has been or will be obtained by CRRA on account of the Services to be performed hereunder by Contractor, or any of Contractor's employees or subcontractors. Contractor shall be responsible for paying or providing for all of the taxes, insurance and other payments described or similar to those described in this Section 3.4 and Contractor hereby agrees to indemnify CRRA and hold CRRA harmless against any and all such taxes, insurance or payments, or similar costs which CRRA may be required to pay in the event that Contractor's status hereunder is determined to be other than that of an independent contractor.

3.5 State Of Connecticut Taxes

Contractor agrees that, pursuant to *Connecticut General Statutes* Section 22a-270 (as the same may be amended or superceded from time to time) CRRA is exempt from all State of Connecticut taxes and assessments. Without limiting the generality of the preceding sentence, Contractor also agrees that, pursuant to *Connecticut General Statutes* Section 12-412(92) (as the same may be amended or superceded from time to time), "[t]he sales and use of any services or tangible personal property to be incorporated into or used or otherwise consumed in the operation of any project of [CRRA] . . . whether such purchases are made directly by [CRRA] or are reimbursed by [CRRA] to the lessee or operator of such project" is not subject to Connecticut Sales and Use Taxes. Accordingly, Contractor shall not charge CRRA any State of Connecticut taxes or assessments at any time in connection with Contractor's performance of this Agreement, nor shall Contractor include any State of Connecticut taxes or assessments in any rates, costs, prices or other charges to CRRA hereunder. The obligations of Contractor contained in the preceding sentence are absolute and shall apply notwithstanding any payment by Contractor of any State of Connecticut taxes or assessments in connection with its performance of this Agreement. Contractor represents and warrants that no State of Connecticut taxes or assessments were included in any rates, costs, prices or other charges presented to CRRA in any RFB or other submittal or proposal to CRRA in connection with this Agreement.

4. TERM OF AGREEMENT

4.1 Term

The term of this Agreement shall commence upon the Effective Date and shall terminate, unless otherwise terminated or extended in accordance with the terms and provisions hereof, on June 30, 2009. At CRRA's sole and absolute discretion, CRRA shall have the option of exercising two (2) divisible one-year (1-year) term extensions of the Agreement the first option extension for the period July 1, 2009 through June 30, 2010 and the second option extension for the period July 1, 2010 through June 30, 2011.

Contractor shall retain and maintain accurate records and documents relating to the performance of Services under this Agreement for a minimum of three (3) years after final payment by CRRA for the Services hereunder and shall make them available for inspection and audit by CRRA. Contractor's obligations under this paragraph shall survive the termination or expiration of this Agreement.

4.2 Time Is Of the Essence

CRRA and Contractor hereby acknowledge and agree that time is of the essence with respect to Contractor's performance of the Services hereunder. Accordingly, upon the Effective Date of the Agreement, Contractor shall immediately commence performance of the Services and continue to perform the same during the term of this Agreement in order to complete all of the Services by the Termination Date of the Agreement.

4.3 Termination

CRRA may terminate this Agreement at any time by providing Contractor with ten (10) days' prior written notice of such termination. Upon receipt of such written notice from CRRA, Contractor shall immediately cease performance of all Services, unless otherwise directed in writing by CRRA. Prior to any termination of this Agreement, Contractor shall remove all of its personnel and equipment from the Property, restore any part of the Property, or any of the Services that require restoration pursuant to the terms and conditions of Section 4.4 hereof.

Upon termination of this Agreement pursuant to this Section 4.3,

- (a) CRRA shall pay Contractor for all Services performed and completed by Contractor prior to the termination date, provided:
 - (1) Such Services have been performed and completed by Contractor in conformance with the Standards;
 - (2) Payment for such Services have not been previously made or is not disputed by CRRA;
 - (3) Contractor is not in default hereunder;

(4) Contractor has performed and completed all its obligations under this Section 4.3 and Section 4.4 hereof to CRRA's satisfaction, and

(b) CRRA shall have no further liability hereunder.

Except for the payment that may be required pursuant to the preceding sentence, CRRA shall not be liable to Contractor in any other manner whatsoever in the event CRRA exercises its right to terminate this Agreement.

Contractor shall transmit to CRRA originals or copies of any and all material prepared, developed or obtained under this Agreement in Contractor's possession within thirty (30) days of receipt of the written notice of termination unless otherwise directed by CRRA.

4.4 Restoration

Unless otherwise directed in writing by CRRA, Contractor shall restore any part of the Property disturbed or damaged by Contractor or any of its directors, officers, employees, agents, subcontractors or materialmen to the same condition existing immediately prior to such disturbance or damage.

5. INDEMNIFICATION

5.1 Contractor's Indemnity

Contractor shall at all times defend, indemnify and hold harmless CRRA and its board of directors, officers, agents and employees from and against any and all claims, damages, losses, judgments, liability, workers' compensation payments and expenses (including but not limited to attorneys' fees) arising out of injuries to the person (including death), damage to property or any other damages alleged to have been sustained by:

- (a) CRRA or any of its directors, officers, agents, employees or other contractors, or
- (b) Contractor or any of its directors, officers, agents, employees, subcontractors or materialmen, or
- (c) Any other person,

to the extent any such injuries, damage or damages are caused or alleged to have been caused in whole or in part by the acts, omissions or negligence of Contractor or any of its directors, officers, agents, employees, subcontractors or materialmen. Contractor further undertakes to reimburse CRRA for damage to property of CRRA caused by Contractor or any of its directors, officers, agents, employees, subcontractors or materialmen, or by faulty, defective or unsuitable material or equipment used by it or any of them. The existence of insurance shall in no way limit the scope of this indemnification. Contractor's obligations under this Section 5.1 shall survive the termination or expiration of this Agreement.

6. INSURANCE

6.1 Required Insurance

Contractor shall procure and maintain, at its own cost and expense, throughout the term of this Agreement and any extension thereof, the following insurance, including any required endorsements thereto and amendments thereof:

- (a) Commercial General Liability insurance alone or in combination with Commercial Umbrella insurance with a limit of Five Million Dollars (\$5,000,000.00) each occurrence covering liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insurance contract (including the tort liability of another assumed in a business contract);
- (b) Business Automobile Liability insurance alone or in combination with Commercial Umbrella insurance covering any auto (including owned, hired, and non-owned autos), with a limit of One Million Dollars (\$1,000,000.00) each accident;
- (c) Workers' Compensation insurance with statutory limits and Employers' Liability insurance limits of One Million Dollars (\$1,000,000.00) each accident for bodily injury by accident or One Million Dollars (\$1,000,000.00) for each employee for bodily injury by disease;
- (d) Professional Liability insurance with a limit of One Million Dollars (\$1,000,000); and
- (e) Contractor's Pollution Liability insurance with a limit of Five Million Dollars (\$5,000,000).

6.2 Certificates

Within ten (10) days after CRRA issues the Notice Of Award, Contractor shall submit to CRRA a certificate or certificates for each required insurance referenced in Section 6.1 above certifying that such insurance is in full force and effect and setting forth the information required by Section 6.3 below. Additionally, Contractor shall furnish to CRRA within thirty (30) days before the expiration date of the coverage of each required insurance set forth in Section 6.1 above, a certificate or certificates containing the information required by Section 6.3 below and certifying that such insurance has been renewed and remains in full force and effect.

6.3 Specific Requirements

All policies for each insurance required hereunder shall:

- (a) Name CRRA as an additional insured (this requirement shall not apply to workers' compensation insurance/employers' liability insurance or professional liability insurance);
- (b) Include a standard severability of interest clause;
- (c) Provide for not less than thirty (30) days' prior written notice to CRRA by registered or certified mail of any cancellation, restrictive amendment, non-renewal or change in coverage;
- (d) Contain a waiver of subrogation holding CRRA free and harmless from all subrogation rights of the insurer; and
- (e) Provide that such required insurance hereunder is the primary insurance and that any other similar insurance that CRRA may have shall be deemed in excess of such primary insurance.

6.4 Issuing Companies

All policies for each insurance required hereunder shall be issued by insurance companies that are either licensed by the State of Connecticut and have a Best's Key Rating Guide of A- VII or better, or otherwise deemed acceptable by CRRA in its sole discretion.

6.5 Umbrella Insurance Liability Coverage

Contractor may submit to CRRA documentation evidencing the existence of umbrella liability insurance coverage in order to satisfy the limits of coverage required hereunder for commercial general liability insurance, business automobile liability insurance and employer's liability insurance.

6.6 Contractor's Subcontractors

Contractor shall either have its subcontractors covered under the insurance required hereunder, or require such subcontractors to procure and maintain the insurance that Contractor is required to procure and maintain under this Agreement. Contractor and/or subcontractor(s) must provide proof of such coverage to CRRA.

6.7 No Limitation On Liability

No provision of this Section 6 shall be construed or deemed to limit Contractor's obligations under this Agreement to pay damages or other costs and expenses.

6.8 Other Conditions

CRRA shall not, because of accepting, rejecting, approving, or receiving any certificate of insurance required hereunder, incur any liability for:

- (a) The existence, non-existence, form or legal sufficiency of the insurance described on such certificate,
- (b) The solvency of any insurer, or
- (c) The payment of losses.

7. SECURITY FOR FAITHFUL PERFORMANCE

7.1 Required Security

Contractor shall procure and maintain in full force and effect, at its own cost and expense, throughout the term of this Agreement and any extension thereof, a performance bond or letter of credit in the amount of _____ [the amount of the Not-To-Exceed Contract Price of **Exhibit C**] AND NO/100 DOLLARS (\$_____) (the "Bond" or the "Letter Of Credit"). If the Contractor uses a bond for the required security, the Bond shall be in the form set forth in **Exhibit F**. If the Contractor uses a letter of credit for the required security, the Letter Of Credit shall be in the form set forth in **Exhibit G**.

7.2 Submission Of Security

Within ten (10) days after CRRA issues the Notice of Award, Contractor shall furnish CRRA with the Bond or the Letter Of Credit.

7.3 Specific Requirements - Bond

The Bond required hereunder shall be automatically renewed by Contractor on an annual basis, unless not later than ninety (90) days prior to the then current expiration date of the Bond, Contractor notifies CRRA by registered mail that the surety of the Bond elects not to renew such Bond. If the surety on the Bond furnished by Contractor is declared a bankrupt or becomes insolvent or its right to do business is terminated in the State of Connecticut or it ceases to meet the above requirements or the surety elects not to renew the Bond due to no fault of Contractor, Contractor shall immediately substitute another bond (or letter of credit) and surety, subject to the requirements set forth in this Section 7.

7.4 Specific Requirements – Letter Of Credit

The Letter Of Credit required hereunder shall be automatically renewed by Contractor on an annual basis, unless not later than ninety (90) days prior to the then current expiration date of the Letter Of Credit, Contractor notifies CRRA by registered mail that the issuer of the Letter Of Credit elects not to renew such Letter Of Credit. If the issuer of the Letter Of Credit furnished by Contractor is declared a bankrupt or becomes insolvent or its right to do business is terminated in the State of Connecticut or it ceases to meet the above requirements or the issuer elects not to renew the Letter Of Credit due to no fault of Contractor, Contractor shall immediately substitute another letter of credit (or bond) and surety, subject to the requirements set forth in this Section 7.

7.5 Failure To Maintain The Security

Failure to maintain or renew the Bond or Letter Of Credit under the aforesaid terms shall constitute a default by Contractor of this Agreement.

7.6 Exercise Of Rights And Remedies

In the event Contractor fails to perform any of its obligations under this Agreement, CRRA shall have the right, in addition to all other rights and remedies available to CRRA hereunder or otherwise, to exercise any or all of CRRA's rights and remedies under the Bond or the Letter Of Credit.

7.7 Issuing Companies

The Bond shall be issued and executed by a surety company or companies acceptable to CRRA. The Letter Of Credit shall be issued and executed by a Connecticut Bank or by a national banking association acceptable to CRRA.

8. MISCELLANEOUS

8.1 Non-Discrimination

Contractor agrees to the following:

- (a) Contractor agrees and warrants that in the performance of the Services for CRRA Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, including civil union status, national origin, ancestry, sex, sexual orientation, mental retardation or physical disability, including, but not limited to, blindness, unless it is shown by Contractor that such disability prevents performance of the Services involved, in any manner prohibited by the laws of the United States or of the State of Connecticut. Contractor further agrees to take affirmative action to insure that applicants with job related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, including civil union status, national origin, ancestry, sex, sexual orientation, mental retardation, or physical disability, including, but not limited to, blindness, unless it is shown by Contractor that such disability prevents performance of the Services involved;
- (b) Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Connecticut Commission on Human Rights and Opportunities (The "Commission");

- (c) Contractor agrees to provide each labor union or representative of workers with which Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union, workers' representative and vendor of Contractor's commitments under Sections 4a-60 and 4a-60a of the *Connecticut General Statutes* and to post copies of the notice in conspicuous places available to employees and applicants for employment;
- (d) Contractor agrees to comply with each applicable provision of Sections 4a-60, 4a-60a, 46a-68e, and 46a-68f, inclusive, of the *Connecticut General Statutes* and with each regulation or relevant order issued by the Commission pursuant to Sections 46a-56, 46a-68e, and 46a-68f of the *Connecticut General Statutes*; and
- (e) Contractor agrees to provide the Commission with such information requested by the Commission, and permit access to pertinent books, records and accounts concerning the employment practices and procedures of Contractor as related to the applicable provisions of Sections 4a-60, 4a-60a and 46a-56 of the *Connecticut General Statutes*. If this Agreement is a public works contract, Contractor agrees and warrants that it will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials in such public works project.

8.2 Entire Agreement

This Agreement constitutes the entire agreement and understanding between the parties hereto and concerning the subject matter hereof, and supersedes any previous agreements, written or oral, between the parties hereto and concerning the subject matter hereof.

8.3 Governing Law

This Agreement shall be governed by, and construed, interpreted and enforced in accordance with the laws of the State of Connecticut as such laws are applied to contracts between Connecticut residents entered into and to be performed entirely in Connecticut.

8.4 Assignment

This Agreement may not be assigned in whole or in part by either party without the prior written consent of the other party or such assignment shall be void.

8.5 No Waiver

Failure to enforce any provision of this Agreement or to require at any time performance of any provision hereof shall not be construed to be a waiver of such provision, or to affect the validity of this Agreement or the right of any party to enforce each and every provision in accordance with the terms hereof. No waiver of any provision of this

Agreement shall affect the right of CRRA or Contractor thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any other default involving such provision or any other provision. Making payment or performing pursuant to this Agreement during the existence of a dispute shall not be deemed to be and shall not constitute a waiver of any claims or defenses of the party so paying or performing.

8.6 Modification

This Agreement may not be amended, modified or supplemented except by a writing signed by the parties hereto that specifically refers to this Agreement. Any oral representations or letters by the parties or accommodations shall not create a pattern or practice or course of dealing contrary to the written terms of this Agreement unless this Agreement is formally amended, modified or supplemented.

8.7 Restrictions On Parties

This Agreement shall not be construed to restrict either CRRA or Contractor from entering into other consulting agreements similar to this one with other parties, provided however Contractor shall not render services to another which would either be in conflict with the interests of CRRA or prevent Contractor from performing hereunder. Contractor shall not assign this Agreement or subcontract any of the Services to be performed hereunder without the prior written consent of the Authorized Representative or such assignment or subcontract shall be void.

8.8 Notices

All notices, requests, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed via certified first class mail return receipt requested postage prepaid or overnight express mail service to the pertinent address below.

(a) If to CRRA:

Connecticut Resources Recovery Authority
100 Constitution Plaza, 6th Floor
Hartford, Connecticut 06103
Attention: Director of Environmental Affairs and Development

With a copy to:

Connecticut Resources Recovery Authority
100 Constitution Plaza, 6th Floor
Hartford, Connecticut 06103
Attention: President

(b) If to Contractor:

Attention: _____

8.9 Benefit And Burden

This Agreement shall inure to the benefit of and be binding upon the heirs, personal representatives, successors and assigns of the parties hereto.

8.10 Severability

CRRA and Contractor hereby understand and agree that if any part, term or provision of this Agreement is held by any court to be invalid, illegal or in conflict with any applicable law, the validity of the remaining portions of this Agreement shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if this Agreement did not contain the particular part, term or provision held to be invalid, illegal or in conflict with any applicable law.

8.11 Small Contractor Application

At the request of CRRA and if Contractor qualifies, Contractor shall apply with the State of Connecticut Department of Economic and Community Development, and do all that is necessary to make itself qualify, as a Small Contractor and/or Minority/Women/Disabled Person Business Enterprise in accordance with Section 32-9e of the *Connecticut General Statutes*.

8.12 Whistleblower Protection

If any officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to the Auditors of Public Accounts or the Attorney General under the provisions of *Connecticut General Statutes* Section 4-61dd, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of the contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation each calendar day's continuance of the violation shall be deemed to be a separate and direct offense. The Contractor shall post a notice in a conspicuous place which is readily available for viewing by employees of the provisions of *Connecticut General Statutes* Section 4-61dd relating to large state contractors.

8.13 State Of Connecticut Audit Rights

The State of Connecticut (the "State") or its representatives shall have the right at reasonable hours to examine any books, records and other documents of Contractor or its subcontractors pertaining to work in connection with the Mid-Connecticut Project, or the performance of the obligations of Contractor to the State under the contract and shall allow such representatives free access to any and all such books and records. The State

will give the Contractor at least twenty-four (24) hours notice of such intended examination. At the State's request, the Contractor shall provide the State with hard copies of or magnetic disk or tape containing any data or information in the possession or control of the Contractor which pertains to the Agreement or the performance of the obligations of Contractor to the State under the contract. The Contractor shall incorporate this paragraph verbatim into any agreement it enters into with any subcontractor providing services in connection with the Mid-Connecticut Project or the performance of the obligations of Contractor to the State under the contract. The Contractor shall retain and maintain accurate records and documents relating to its performance of Services in connection with the Mid-Connecticut Project or the performance of the obligations of Contractor to the State under this Agreement for a minimum of three (3) years after the final obligation payment by CRRA and shall make them available for inspection and audit by the State.

8.14 Counterparts

This Agreement may be executed in any number of counterparts by the parties hereto. Each such counterpart so executed shall be deemed to be an original and all such executed counterparts shall constitute but one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals as of the day and year first written above.

CONNECTICUT RESOURCES RECOVERY AUTHORITY

By: _____
Thomas D. Kirk
Its President
Duly Authorized

CONTRACTOR

By: _____
Its
Duly Authorized

EXHIBIT A

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM
AGREEMENT**

SCOPE OF SERVICES

EXHIBIT A

SCOPE OF SERVICES

Under this Scope Of Services, the Contractor will operate and maintain the groundwater flow control system at the Hartford Landfill in Hartford, Connecticut (the "Landfill"). The Landfill is owned by the City of Hartford and leased by CRRA. The Landfill is located along the western bank of the Connecticut River. All work will be conducted as outlined in this Scope Of Services.

1. DESCRIPTION OF SYSTEM

The groundwater flow control system (GFCS) at the Landfill is operated to prevent the off-site migration of landfill leachate from the Landfill site. The GFCS extracts leachate-impacted groundwater from the site and discharges the groundwater into the City of Hartford sanitary sewer system for treatment at the MDC-Hartford Sewage Treatment Facility. The GFCS consists of the following components:

- (a) A slurry cut-off wall that surrounds the Landfill on the southern, western and northern sides and minimizes groundwater flow into and out of the Landfill site;
- (b) Four (4) groundwater extraction wells, equipped with submersible well pumps, located along the southern boundary of the Site;
- (c) A system of twenty (20) groundwater piezometers, located in ten paired sets along the interior and exterior sides of the slurry cut-off wall; and,
- (d) The GFCS control building, which houses flow meters and totalizer, pH meters, conductivity meter, and system controllers.

Attachment 1 to this Scope Of Services is a copy of a drawing entitled "Site Plan with Groundwater Contours – October 2005." Included on this drawing are the approximate locations of the GFCS slurry wall, pumping wells and piezometer pairs.

The GFCS has been designed to operate 24 hours per day, 7 days per week.

It is the Contractor's responsibility to operate the system effectively and at optimum pumping rates to ensure that the minimum inward hydraulic gradient is maintained across the slurry wall into the Landfill. Generally, pumping well #2 (PW-2) operates on a continuous basis at an average discharge rate of approximately 20 gallons per minute (GPM), while the three remaining pumping wells are cycled at approximately one-hour intervals during the day. Each of the three remaining pumps runs at an average pumping rate of approximately 35 GPM per pump. The Contractor is responsible for setting and adjusting pumping rates and cycles as necessary to ensure compliance with applicable environmental permits, as discussed below. Depending upon seasonal conditions, increases

or decreases in cycle times and/or in the pumping rates (within the pumps' operational range of 24 GPM to 55 GPM) will be required to maintain the inward hydraulic gradient.

2. ENVIRONMENTAL PERMITS

There are two (2) environmental permits that govern the operation of the GFCS. The Contractor is to operate and maintain the GFCS such that CRRA remains in compliance with both permits at all times.

Connecticut Department of Environmental Protection (CTDEP) Permit LF0000014 describes the operational requirements of the GFCS to ensure that the discharge of leachate does not exceed "the boundaries of the permitted zone of influence." A copy of this CTDEP permit is **Attachment 2** to this Scope Of Services. Compliance with the permitted zone of influence is verified through regular (quarterly) monitoring of the groundwater elevations in the piezometer pairs. In order to maintain compliance with the zone of influence provisions of the permit, the differential groundwater elevation between each external piezometer and its associated interior piezometer must be at least 0.05 feet (i.e., the groundwater elevation on the interior of the slurry wall must be at least 0.05 feet lower than the groundwater elevation on the exterior of the slurry wall to maintain an adequate inward hydraulic gradient).

CTDEP Pretreatment Permit SP0001412 regulates the quantity and quality of groundwater that can be discharged by the GFCS under discharge serial number DSN001-B to the City of Hartford sanitary sewer system. A copy of this CTDEP permit is **Attachment 3** to this Scope Of Services. Under this Scope Of Services, the Contractor will be responsible for ensuring compliance with the limits for average daily flow rate and maximum daily flow rate applicable to DSN001-B under permit number SP0001412. Under this Scope Of Services, the Contractor will also be responsible for maintaining continuous monitoring and recording of the pH of the discharged groundwater. This Scope of Services does NOT include monitoring of the discharged groundwater for chemical parameters (except for pH). Therefore, there should not be any analytical laboratory fees associated with the Services.

The Contractor shall immediately notify CRRA (orally) upon becoming aware of any permit non-compliance issues. Depending upon the type of non-compliance, CRRA may request that the Contractor supply a written notice of the non-compliance within a specified time frame.

It should be noted that CTDEP permit SP0001412 was scheduled to expire on February 6, 2003. CRRA has submitted to the CTDEP a timely application for a permit renewal, which included a request to increase the permitted average daily flow rate of DSN001-B. [In the past, the GFCS has exceeded the limits for average daily flow rate and maximum daily flow rate specified in permit SP0001412.] If CTDEP does not issue the permit renewal prior to the Effective Date of the Agreement, then the Contractor will be responsible for continuing to maintain compliance with all terms and conditions under SP0001412 until the new permit is issued and goes into effect. Other than the increase in the permitted average daily flow rate, CRRA does not anticipate any significant changes to the terms and

conditions of the pretreatment permit that would result in additional work for the Contractor outside of this Scope Of Services.

3. WORK TO BE PERFORMED

The work to be performed under this Scope of Services is summarized by the following Tasks, which are further described below:

- (a) Task 1: Personnel training and remote set-up;
- (b) Task 2: GFCS operation and reporting;
- (c) Task 3: Zone of influence monitoring and reporting; and
- (d) Task 4: GFCS repairs.

3.1 Task 1: Personnel Training And Remote Set-Up

CRRA expects that the Contractor will designate, at a minimum, one primary GFCS operator and one back-up operator for the term of the Agreement. The designated employees should possess educational backgrounds and experience applicable to the operation and maintenance of mechanical systems.

Under Task 1, the designated employees are to familiarize themselves with the system-specific operation and maintenance requirements through a review of information made available by CRRA. Such information may include, but not be limited to, the GFCS operation and maintenance manual, system plans and specifications, other historical reports, and applicable environmental permits.

Under Task 1, the Contractor will be responsible for establishing a remote-access connection to the GFCS from the Contractor's office. At a minimum, the Contractor's remote-access connection requires a personal computer with a 9600 baud fax/modem and a Microsoft Windows 2000™ or Windows XP™ operating system. The GFCS is equipped with an EOS ProControl Type B2 unit that allows both on-site and remote control of the GFCS operations. The ProControl unit is equipped with a built-in fax/modem, data logging memory (well pumping flows, pH measurements, and specific conductivity measurements), and instrument power supplies. The ProControl unit is also capable of sending outgoing faxes of daily status reports or alarm conditions in the event of a GFCS failure. The remote connection will allow the Contractor to call into the ProControl unit to remotely check the GFCS operation, download data, and adjust the run-times of the pumps. Valve throttling must be done on-site.

Costs under Task 1 shall include time and materials to establish the remote-access connection to the GFCS from the Contractor's office, including installation and configuration of ProControl unit software (software to be provided by CRRA) and reprogramming the telephone numbers associated with the emergency call-out features of the ProControl fax/modem.

3.2 Task 2: GFCS Operation and Reporting

The Contractor shall have personnel available for contact at all times for immediate communications, and shall have personnel available to report to the Landfill Monday through Friday during normal business hours within ninety (90) minutes to any emergency, alarm, or malfunction notification that the Contractor can not correct remotely. Timely response is required at other times.

Under Task 2, the Contractor is to operate the GFCS effectively and at optimum pumping rates to ensure that the minimum inward hydraulic gradient is maintained across the slurry wall into the Landfill. Attachment 4 of this Exhibit A is a detailed Sequence of Operations for the GFCS. Attachment 5 of this Exhibit A is the December 3, 1996 "Operations and Maintenance Plan" and Attachment 6 of this Exhibit A is the November 1997 Addendum to Operations and Maintenance Plan. Task 2 includes routine maintenance items that are detailed in the documents contained in Attachments 4, 5 and 6 of this Exhibit A. CRRA expects that the Contractor will check the GFCS operational status at least once per day, either via the remote-access computer connection at the Contractor's office or via review of a daily status report fax to the Contractor from the GFCS. If the GFCS shuts down and cannot be reset via the remote computer connection, the Contractor shall respond to the Landfill to troubleshoot the system.

The GFCS design calls for the operation of all four pumping wells. Permit compliance can be maintained for a short time with only three wells operational. However, the Contractor will have to make operational adjustments (such as increasing pump running times) to compensate for the out-of-service well. The time period during which compliance can be maintained with only three operational wells varies, depending upon such factors as which well is down, the groundwater elevations in and around the landfill, climatic conditions, and location of the working face of the landfill.

For bidding and payment purposes, the costs for the remote-access connection to the GFCS from the Contractor's office shall be included in this Task 2. CRRA directly pays the bills for telephone service that allows the ProControl unit to send faxes to local and toll-free telephone numbers. CRRA will not pay charges associated with long-distance calls from the ProControl unit. If the Contractor is not within the local calling area and does not establish a toll-free line to receive faxes from the GFCS, then the Contractor will be responsible for long-distance charges associated with the GFCS operation. CRRA also directly pays the utility bills for the electricity used by the GFCS, as well as the sewer bills associated with the discharge of the pumped groundwater to the sanitary sewer. The Contractor is not responsible for these expenses.

For bidding purposes, in addition to bidder's proposed cost for the routine operation and maintenance items described above, bidders should also assume that they will be required to make two (2) unscheduled trips to the Landfill per month to address GFCS shutdowns, and that each trip will require eight (8) hours of on-site

time. The actual number of trips and number of hours on-site may vary. CRRA will only pay the Contractor for the actual number of trips and hours that the Contractor works.

Under CTDEP permit number SP0001412, CRRA is required to submit to the CTDEP a monthly discharge monitoring report (DMR) that summarizes flow and pH data for CTDEP DSN001-B. In order to assist CRRA in preparation of the DMR, the Contractor shall supply a monthly data summary to CRRA that summarizes the following data for the month:

- (a) Total Quantity of Groundwater Discharged Each Day (in gallons);
- (b) Minimum pH Level Recorded Each Day;
- (c) Maximum pH Level Recorded Each Day;
- (d) Average Daily Flow for the Month (in gallons per day); and,
- (e) Maximum Daily Flow During the Month (in gallons per day).

The Contractor shall submit the data summary for each month to CRRA by the 10th day of the following month (i.e., the data summary for January is due February 10th, the data summary for February is due March 10th, etc.). Submission of the monthly data electronically via e-mail is acceptable and preferred. Submission via fax is acceptable.

3.3 Task 3: Zone of Influence Monitoring and Reporting

In order to maintain compliance with CTDEP permit number LF0000014, the Contractor shall determine the groundwater elevations at all twenty (20) piezometers associated with the GFCS on a quarterly basis in the following months: January, April, July, and October. All groundwater measurements shall be made to an accuracy of 0.01 feet. The Contractor shall schedule the quarterly measurements to coincide with the quarterly groundwater sampling conducted at the Landfill under a separate contract. Within seven (7) days of the quarterly measurements, the Contractor shall supply the depth to water and groundwater elevation data directly to the firm that conducts the quarterly groundwater sampling at the Landfill for that quarter. CRRA will supply the Contractor with contact information for scheduling the quarterly events and for submission of the quarterly measurement data.

In addition to the quarterly groundwater measurements, the Contractor shall immediately report to the Landfill and measure the groundwater elevations in all twenty (20) piezometers whenever a check of the GFCS reveals that it has not operated for a period of at least 48 hours.

As required by Section 4(C)(ii) of CTDEP permit number LF0000014, the Contractor shall return to the Landfill and re-check the groundwater elevations of any piezometer pair where previous measurements indicate that the minimum

differential was not met (this is a potential non-compliance situation). The Contractor shall re-check potentially non-compliant piezometer pairs within fourteen (14) days of the measurement date that revealed the potential non-compliance. If the re-check of the well pair(s) reveals that one or more well pairs remain out of compliance (this is a “confirmed exceedance” under permit number LF0000014), the Contractor will notify CRRA in writing within 24 hours of the confirmed exceedance. The Contractor’s notification shall include a listing of the non-compliant well pair(s), the dates and results of the all measurements that revealed the non-compliance, and any extenuating circumstances or other possible explanations for the non-compliance.

The Contractor shall be responsible for identifying the cause(s) and appropriate corrective action(s) for addressing any confirmed exceedances with respect to the gradient across the slurry wall. The Contractor shall also assist CRRA in CRRA’s preparation of a confirmed exceedance follow-up report to the CTDEP, as required by Section 4(D) of permit number LF0000014. CRRA’s follow-up report is due to the CTDEP within sixty (60) days of the exceedance confirmation date.

Under Task 3 of this Scope Of Services, the Contractor is also responsible for preparation of a quarterly report that discusses the operation of the GFCS during the quarter. Each quarterly report should include, but not necessarily be limited to, a brief history of the GFCS and its operations, a summary of the GFCS operating conditions during the quarterly report period, including system downtime, pumping rates, repairs and adjustments, as well as a summary of all groundwater elevation measurements collected during the quarterly reporting period. The Contractor shall submit one (1) copy of each finalized quarterly report to CRRA, and shall submit one (1) copy of each finalized quarterly report to the firm that conducts the quarterly groundwater sampling at the Landfill. The quarterly reporting periods and report due dates are as follows:

| Quarterly Reporting Period | Draft Report Due to CRRA for Review | Final Report Due Date (2 Copies) |
|-----------------------------------|--|---|
| November 1 – January 31 | February 18 | February 28 |
| February 1 – April 30 | May 21 | May 31 |
| May 1 – July 31 | August 21 | August 31 |
| August 1 – October 30 | November 20 | November 30 |

For bidding purposes, bidders should assume that they will have to make a total of twelve (12) trips per year to the Landfill to measure the groundwater elevations in all twenty piezometers (includes quarterly measurements and measurements after 48 hours of GFCS downtime), plus two (2) additional trips per year to re-check the

elevations in ten potentially non-compliant piezometers (five pairs) each trip. The actual number of trips and the actual number of piezometers to be measured during each trip may vary. CRRA will only pay the Contractor for the actual number of trips and hours that the Contractor works.

3.4 Task 4: Miscellaneous GFCS Repairs

Under Task 4 of this Scope Of Services, the Contractor will be responsible for repairing miscellaneous GFCS problems that may be encountered during the routine operation and maintenance of the system. Such repairs may include, but not be limited to:

- Purchase and replacement of submersible pumps, in-line metering equipment (including, but not limited to, flow meters, pH meters, conductivity meters and the flow totalizer), combustible gas meters, and/or any other equipment associated with the GFCS;
- Re-development of one or more pumping wells to increase well yield;
- Repair of pumping well/piezometer casings, riser pipes, electrical connections, etc. in the event that a pumping well/piezometer is struck by landfill equipment (i.e., compactor, mower, etc.) and damaged.

Based on past experience, CRRA will establish the Not-To-Exceed Contract Price for Task 4. The Contractor shall notify CRRA of any work that needs to be completed under Task 4 prior to undertaking the work. Each Contractor's notification for work under Task 4 shall include a not-to-exceed cost that will include all Contractor time and materials. The Contractor will commence with work under Task 4 only after CRRA has issued to the Contractor a Request For Services consistent with **Exhibit B** for the specific work identified in the notification. Contractor shall be reimbursed for work performed under Task 4 based on the labor rates and equipment charges specified in **Exhibit C** to the Agreement.

It is the Contractor's responsibility to maintain critical repair equipment and spare parts on-site in accordance with the approved Operations and Maintenance Plan for the GFCS (refer to **Attachment 2** to this **Exhibit A** of the Scope of Services). Currently, there is at least one pump in spare parts inventory. CRRA intends to turn the existing spare parts inventory over to the Contractor at the start of the contract period. Contractor will use spare parts as necessary and replace them with comparable parts as soon as possible to maintain the inventory. The purchase of spare parts is considered part of this Task.

4. SAFE WORK PRACTICES

The Contractor shall follow safe work practices and adhere to all applicable OSHA regulations.

There is methane present in Landfill gas generated at the Landfill. The Contractor shall take all necessary precautions with respect to the presence of methane gas, including, but not limited to, monitoring for the presence of methane gas and prohibiting the presence of any open flames, sparks, smoking or other activity which could ignite the methane gas. The GFCS control building is equipped with permanently mounted, continuous methane monitors.

5. USE OF SUBCONTRACTORS

CRRA recognizes that the Contractor may need to utilize subcontractors to complete certain work required under Task 4 of this Scope of Services, particularly work that is specialized in nature or that requires specialized equipment. CRRA requires, however, that the selected Contractor possess the technical competence and knowledge to complete the work described under Tasks 2 and 3 (GFCS Operation and Reporting and Zone of Influence Monitoring and Reporting), and that subcontractors are therefore NOT to be utilized for work under Tasks 2 and 3.

ATTACHMENT 1

To

EXHIBIT A

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

**DRAWING ENTITLED "SITE PLAN WITH GROUNDWATER
CONTOURS – OCTOBER 2005"**

ATTACHMENT 2

To

EXHIBIT A

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

**CONNECTICUT DEPARTMENT OF ENVIRONMENTAL
PROTECTION GROUNDWATER DISCHARGE PERMIT NO.
LF0000014**



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Connecticut Resources Recovery Authority
179 Allyn Street
Hartford, Connecticut 06103

Attention: Robert Wright
Acting President

I CERTIFY THAT THIS DOCUMENT
IS A TRUE COPY OF THE ORIGINAL.

Pamela D. Kurney
NAME
Processing Technician
TITLE

DEPARTMENT OF ENVIRONMENTAL
PROTECTION, BUREAU OF WATER
MANAGEMENT

Re: [REDACTED]

Connecticut River Watershed

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

Your applications for a permit submitted by Fuss & O'Neill, Inc. on November 2, 1988, October 1, 1990, and as revised through April 15, 1994 by Fuss & O'Neill and Wehran Engineering Corp ("the application"); supporting documents, addenda, letters and plates identified in Appendix A of this permit; and compliance monitoring plan approved by the Commissioner of Environmental Protection (hereinafter "the Commissioner") on January 26, 1998, have been reviewed by the Connecticut Department of Environmental Protection.

The Commissioner has found that the proposed system to treat the discharge to ground water of leachate from an existing 86-acre, unlined solid waste disposal area, a 17-acre, Phase I, lined ash residue disposal area, and a 15-acre, Phase II, lined ash residue disposal area, if the liner and collection system fails, ("the Hartford Landfill"), located on Liebert Road, Hartford, will protect the waters of the state from pollution. The proposed system includes the construction of a slurry wall and ground water flow control system for the existing unlined solid waste disposal area and the Phase I lined ash residue area.

The Commissioner, acting under Section 22a-430, hereby permits the Connecticut Resources Recovery Authority (hereinafter "the permittee") to discharge leachate from the 86-acre, unlined solid waste disposal area, and the 17-acre, Phase I, lined ash residue disposal area of the Hartford Landfill at Liebert Road, Hartford, Connecticut, to the ground waters of the state in accordance with the following conditions:

- 1) Discharge Serial No. 001
Description: Leachate from Municipal Solid Waste and Municipal Solid Waste Ash Residue (Discharge code 305002e)
Discharge Location: Ground waters in the watershed of the Connecticut River Basin Code 4000.

(Printed on Recycled Paper)

79 Elm Street • Hartford, CT 06106 - 5127

<http://dep.state.ct.us>

An Equal Opportunity Employer

Disposal Area Design Size: 86 acres, unlined, municipal solid waste
32 acres, lined, municipal solid waste ash residue

- 2) ~~The Hartford Landfill shall be operated and maintained in accordance with the permit to operate a solid waste disposal area No. 064-4(L) permit modification issued on November 8, 1996, and additional supporting documents as approved.~~

See Mo
Dated
5/28/0

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

(A) Surface Water Quality Monitoring

- (i) Locations - Surface water quality monitoring shall be conducted at the following locations as shown on Figure 2, entitled "Compliance Monitoring Location Plan, CRRA - Hartford Landfill, July 1997 Environmental Monitoring Event, Leibert Road, Hartford, Connecticut", prepared by HRP Associates, and approved by the Commissioner on January 26, 1998.

- (a) Connecticut River Transects: Three monitoring locations shall be established on each transect. Monitoring locations shall be located approximately 50 feet apart along a line extending from the western bank of the river perpendicular to the direction of flow, with the westernmost location approximately 50 feet from the western shoreline.

Transect T-1, 1200 feet upstream of confluence with Meadow Brook

Locations: S-1W
S-1C
S-1E

Transect T-2, adjacent to location of monitoring well MW-101

Locations: S-2W
S-2C
S-2E

Transect T-3, adjacent to location of monitoring well MW-104

Locations: S-3W
S-3C
S-3E

- (b) Meadow Brook Transects: One monitoring location shall be established on each transect. Monitoring locations shall be established near the center of the flow channel.

Transect T-4, adjacent to monitoring well MW-307

Location: S-4

Transect T-5, adjacent to monitoring well MW-341

Location: S-5

Transect T-6, mouth of Meadow Brook

Location: S-6

- (c) Deckers Brook Transect: One monitoring location shall be established on each transect. Monitoring locations shall be established near the center of the flow channel.

Transect T-7, mouth of Deckers Brook

Location: S-7

(ii) Sampling Procedures --

- (a) All samples shall be collected from each surface water monitoring location in accordance with the plan entitled "Compliance Monitoring Plan, Hartford Landfill", received on December 10, 1997 and revisions received on December 18, 1997, January 6, 1998 and January 23, 1998, and prepared by CRRA and approved by the Commissioner on January 26, 1998.

A discrete grab sample shall be collected at each monitoring location at a depth of one foot below the water surface, at one foot above the bottom sediment, and at mid-depth.

For water depths between three and four feet, two grab samples shall be collected: one at one foot below water surface, and one foot above bottom sediments. For water depths of less than three feet, one grab sample shall be collected at mid-depth.

- (b) Grab samples collected at monitoring locations in Transects T-1, T-2 and T-3 listed in paragraph 3(A)(i)(a) above shall be composited prior to analysis as follows:

For monitoring locations established on Transect T-1 and T-3, a vertical composite sample shall be prepared at each monitoring location combining equal volumes of the near

surface, near bottom, and mid-depth grab samples.

For monitoring locations established on Transect T-2, three horizontal composite samples (near surface, near bottom, and mid-depth) shall be prepared by combining equal volumes of all samples collected at similar water depths at monitoring locations S2-W, S2-C, and S2-E.

- (c) Grab samples collected at monitoring locations in Transects T-4, T-5, T-6 and T-7 as listed in paragraph 3(A)(i)(b) and 3(A)(i)(c) above shall be composited by combining equal volumes to result in a single vertical composite sample made of the one to three grab samples.
- (d) Temperature (00011), pH (00400-012), Specific Conductance (0095-104), dissolved oxygen (00300-019), sample depth, and depth to bottom shall be measured at each sampling location at the time samples are collected in accordance with the schedules required by paragraph 3(A)(iv) or as required by paragraph (E)(vi). Stream flows (00061) shall also be determined at monitoring locations S-6 and S-7 by direct measurement or estimation and for the Connecticut River by gauge reports from the United States Geological Survey. Results shall be reported together with the results of analyses of the samples in accordance with paragraph 3(D).

(iii) Parameters -

(a)

| | <u>Parameter</u> | <u>Code No.</u> | <u>EPA Method:Minimum Level</u> |
|-----|----------------------------------|-----------------|---------------------------------|
| 1. | Total Dissolved Solids | (70295-019) | 160.1 |
| 2. | Total Suspended Solids | (00530-019) | 160.2 |
| 3. | BOD (5-day) | (00310-019) | 405.1 |
| 4. | Specific Conductance | (00095-104) | 120.1 |
| 5. | Chloride | (00940-019) | 325.x |
| 6. | Hardness (as CaCO ₃) | (00900-019) | 130.1 or 130.2 |
| 7. | pH | (00400-012) | 150.1 |
| 8. | Ammonia (as N) | (00610-019) | 350.2: 100 ppb |
| 9. | Nitrate (as N) | (00620-019) | 352.1 |
| 10. | Nitrite (as N) | (00615-028) | 354.1 |
| 11. | Cadmium (Total) | (01027-028) | 213.2: 0.5 ppb |
| 12. | Copper (Total) | (01042-028) | 220.2: 5 ppb |
| 13. | Copper (Dissolved) | (01040-028) | 220.2: 5 ppb |
| 14. | Iron (Total) | (01045-019) | 236.2: 5 ppb |
| 15. | Lead (Total) | (01051-028) | 239.2: 5 ppb |

| | | | |
|-----|--------------------------|-------------|----------------|
| 16. | Lead (Dissolved) | (01049-028) | 239.2: 5 ppb |
| 17. | Silver (Total) | (01077-028) | 272.2: 1 ppb |
| 18. | Zinc (Total) | (01092-028) | 289.2: 10 ppb |
| 19. | Zinc (Dissolved) | (01090-028) | 289.2: 10 ppb |
| 20. | Alkalinity | (00410-019) | 310.1 |
| 21. | COD | (00341-019) | 410.x |
| 22. | Sulfate (Total) | (00945-019) | 375.x |
| 23. | Orthophosphorus, (Total) | (70507-019) | 365.3 |
| 24. | Antimony (Total) | (01097-028) | 204.2: 10 ppb |
| 25. | Arsenic (Total) | (01002-028) | 206.2: 5 ppb |
| 26. | Barium (Total) | (01007-028) | 208.2: 10 ppb |
| 27. | Beryllium (Total) | (01012-028) | 210.2: 1 ppb |
| 28. | Chromium (Total) | (01034-028) | 218.2: 5 ppb |
| 29. | Chromium (Hexavalent) | (01032-028) | 218.5: 5 ppb |
| 30. | Cobalt (Total) | (01037-028) | 219.2: 5 ppb |
| 31. | Manganese (Total) | (01056-019) | 243.2: 1 ppb |
| 32. | Mercury (Total) | (71900-028) | 245.1: 0.2 ppb |
| 33. | Nickel (Total) | (01067-028) | 249.2: 5 ppb |
| 34. | Selenium (Total) | (01147-028) | 270.2: 5 ppb |
| 35. | Thallium (Total) | (01059-028) | 279.2: 10 ppb |
| 36. | Vanadium (Total) | (01087-028) | 286.2: 10 ppb |

x = Any method may be used.

- (b) Parameters shall be analyzed in accordance with the specifications of paragraph 3(E) of this permit. Alternative analytical methods which have been approved by the U.S. Environmental Protection Agency in accordance with 40 CFR 136 may be substituted for the methods identified above provided the analysis of these parameters includes appropriate calibration points or check standards which demonstrate that these alternative methods are capable of quantification of the parameter at the concentration present in the sample without sample concentration.

(iv) Schedule --

- (a) Surface water quality monitoring locations identified in paragraph 3(A)(i)(a) shall be sampled quarterly during the months of January, April, July, and October.
- (b) Surface water quality monitoring locations identified in paragraphs 3(A)(i)(b) and 3(A)(i)(c) shall be sampled quarterly during the months of January, April, July, and October. The frequency of sampling shall be monthly beginning on or before the third year after issuance of this permit, or one year prior to the construction of the ground water flow

control system for phase II of the lined ash residue landfill, whichever is earlier.

- (c) Surface water quality monitoring samples collected during the months of January, April, July and October shall be analyzed for the parameters listed in paragraph 3(A)(iii), items 1 through 36 inclusive.
- (d) Surface water quality monitoring samples collected during the months of February, March, May, June, August, September, November, and December shall be analyzed for the parameters listed in paragraph 3(A)(iii), items 1 through 19 inclusive.

(B) Ground Water Quality Monitoring

- (i) **Locations -** Ground water quality monitoring shall be conducted at the following locations as shown on Figure 2, entitled "Compliance Monitoring Location Plan, CRRA - Hartford Landfill, July 1997 Environmental Monitoring Event, Leibert Road, Hartford, Connecticut", prepared by HRP Associates, received by the Department on December 10, 1997, and approved by the Commissioner on January 26, 1998.

(a) Compliance Monitoring Wells:

| | |
|--------------|---|
| C- 1:MW-340 | |
| C- 2:MW-341M | |
| C- 3:MW-341B | Proposed bedrock monitoring well |
| C- 4:MW-342M | |
| C- 5:MW-342B | Proposed bedrock monitoring well |
| C- 6:MW-14B | |
| C- 7:MW-103B | Proposed bedrock well SE of existing landfill |
| C- 8:MW-7B | Proposed bedrock monitoring well on Southeast corner of existing landfill |
| C- 9:PZ-AI | Piezometer South of existing landfill |
| C-10:PZ-AE | Piezometer South of existing landfill |
| C-11:PZ-BI | Piezometer South of existing landfill |
| C-12:PZ-BE | Piezometer South of existing landfill |
| C-13:PZ-CI | Piezometer South of existing landfill |
| C-14:PZ-CE | Piezometer South of existing landfill |
| C-15:PZ-DI | Piezometer West of existing landfill |
| C-16:PZ-DE | Piezometer West of existing landfill |
| C-17:PZ-EI | Piezometer West of existing landfill |
| C-18:PZ-EE | Piezometer West of existing landfill |
| C-19:PZ-FI | Piezometer West of existing landfill |
| C-20:PZ-FE | Piezometer West of existing landfill |
| C-21:PZ-GI | Piezometer West of proposed landfill, Phase I |

C-22:PZ-GE
C-23:PZ-HI
C-24:PZ-HE
C-25:PZ-II
C-26:PZ-IE
C-27:PZ-JI
C-28:PZ-JE

Piezometer West of proposed landfill, Phase I
Piezometer West of proposed landfill, Phase I
Piezometer West of proposed landfill, Phase I
Piezometer North of proposed landfill, Phase I
Piezometer North of proposed landfill, Phase I
Piezometer North of proposed landfill, Phase I
Piezometer North of proposed landfill, Phase I

(b) Plume Characterization Wells:

W- 1:MW-307M
W- 2:MW-16S
W- 3:MW-16M
W- 4:MW-308M
W- 5:MW-309M
W- 6:MW-15-87
W- 7:MW-14-87
W- 8:MW-311M
W- 9:MW-13
W-10:MW-106
W-11:MW-101
W-12:MW-102
W-13:MW-103
W-14:PZ-AI (also C-9)
W-15:MW-312
W-16:MW-210
W-17:MW-7

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

C- 1:MW-340
W- 1:MW-307M
W- 2:MW-16S
W- 4:MW-308M
W- 5:MW-309M
W- 7:MW-14-87
W- 8:MW-311M
W- 9:MW-13
W-10:MW-106
W-11:MW-101
W-12:MW-102
W-13:MW-103
SW-1:MW-104
SW-2:PZ-AE (also C-10)

(d) The following well has been designated as a dedicated dioxin sampling well:

D-1:MW-DX (stainless steel well located approximately 5 feet from MW-106)

(ii) Parameters -

| | <u>Parameter</u> | <u>Code No.</u> | <u>EPA Method : Minimum Level</u> |
|-----|--|-----------------|-----------------------------------|
| 1. | Total Dissolved Solids | (70295-019) | 160.1 |
| 2. | Total Suspended Solids | (00530-019) | 160.2 |
| 3. | Alkalinity | (00410-019) | 310.1 |
| 4. | COD | (00341-019) | 410.x |
| 5. | Iron (Total) | (01045-019) | 236.2: 5 ppb |
| 6. | Manganese (Total) | (01056-019) | 243.2: 1 ppb |
| 7. | Specific Conductance | (00095-104) | 120.1 |
| 8. | Nitrate (as N) | (00620-019) | 352.1 |
| 9. | Chloride | (00940-019) | 325.x |
| 10. | Hardness (as CaCO ₃) | (00900-019) | 130.1 or 130.2 |
| 11. | pH | (00400-012) | 150.1 |
| 12. | Ammonia (as N) | (00610-019) | 350.2: 100 ppb |
| 13. | Sodium | (00929-019) | |
| 14. | Potassium | (00937-019) | |
| 15. | 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. | | |
| 16. | 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 | | |
| 17. | 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). | | |
| 18. | Dioxin and Furans | | |

x = Any method may be used

(iii) Schedule for Ground Water Quality Monitoring - The ground water quality monitoring program shall begin the first scheduled quarterly sampling period after issuance of this permit. The permittee shall certify to the Commissioner that all monitoring wells, piezometers, dedicated sampling devices and associated appurtenances have been installed. Thereafter, with the exception of the piezometers identified in paragraph 3(B)(i)(a) as numbers C- 9 to C-28, the ground water quality monitoring locations in paragraph 3(B)(i) shall be conducted four times per year in accordance with the following schedule unless otherwise specified:

Sampling Periods

January
April
July
October

Completed
10/97 &
1/98

- (a) Each ground water sample collected from the monitoring wells designated in paragraph 3(B)(i)(a) as C-2, C-3, C-4, C-5, C-6, C-7, and C-8 shall be analyzed for the parameters identified 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 W-3, W-6, W-14 and W-17 shall be analyzed for the parameters listed in paragraph 3(B)(ii), items 1 through 16.
- (c) Each ground water sample collected from the monitoring wells designated in paragraph 3(B)(i)(b) as W-15 and W-16 shall be analyzed for the parameters identified in Appendix II of 40 CFR Part 258 of the Federal Register, Vol. 56, No. 196, October 9, 1991, beginning page 51033, and the parameters listed in paragraph 3(B)(ii), items 1 through 14 for only two consecutive quarterly sampling periods beginning the first scheduled sampling period after issuance of the permit and ending after the second scheduled quarterly sampling period.
- (d) Each ground water sample collected from the monitoring wells designated in paragraphs 3(B)(i)(a), and 3(B)(i)(c) as C-1 shall be analyzed for the parameters identified in paragraph 3(B)(ii), items 13, 14, 16 and 17, and the parameters identified in paragraph 3(A)(ii), items 1 through 36, with the exception of item 3.
- (e) Each ground water sample collected from the monitoring wells designated in paragraphs 3(B)(i)(b), and 3(B)(i)(c) as W-1, W-2, W-4, W-5, W-7, W-8, W-9, W-10, W-11, W-12, W-13, SW-1, and SW-2, shall be analyzed for the parameters identified in paragraph 3(B)(ii), items 13, 14, and 16, and the parameters identified in paragraph 3(A)(ii), items 1 through 36, with the exception of item 3.
- (f) Each groundwater sample collected from the monitoring well designated in paragraph 3(B)(i)(d) as D-1 should be analyzed on an annual basis during the July sampling event for the parameters in paragraph 3(B)(ii), item 18.
- (iv) Schedule for Monitoring Piezometers - The ground water monitoring program for the piezometers shall begin 30 days after issuance of the permit. Piezometers identified in paragraph 3(B)(i)(a) as numbers C- 9 to C-28 shall be monitored for ground water

elevations on a monthly basis for a period of a minimum of twelve (12) months after notification in writing to the Commissioner that a state of equilibrium has been reached. Thereafter the monitoring frequency shall be quarterly in accordance with paragraph 3(B)(iii).

- (v) Sampling Conditions - Water level elevation (C0137) shall be measured at all ground water monitoring locations in paragraph 3(B)(i) prior to each sample collection and shall be reported together with the results of analyses of the sample in accordance with paragraph 3(D).

The samples shall be collected from each ground water monitoring location in accordance with the plan entitled "Compliance Monitoring Plan, Hartford Landfill", dated December 1997, prepared by CRRA, received on December 10, 1997 and revisions received December 18, 1997, January 6, 1998 and January 23, 1998, and approved by the Commissioner on January 26, 1998.

(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).
 - 1. W- 10:MW-106
 - 2. W- 11:MW-101
 - 3. W- 12:MW-102
 - 4. W- 13:MW-103
 - 5. W- 17:MW-7
 - 6. SW- 1:MW-104
- (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 and ending after the second scheduled quarterly sampling period.
- (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 monitoring in conformance with Appendix II of CFR Part 258 of the Federal Register, Vol. 56, No. 196, October 9, 1991 required by this paragraph, and a plan for amending the ground water quality monitoring parameters at the compliance monitoring wells C-1 to C-8 identified in paragraph 3(B)(i)(a), and schedule listed in paragraphs 3(B)(iii)(a) and 3(B)(iii)(d) to include Appendix II compounds detected.

- (v) Sampling conditions - The samples shall be collected from each ground water monitoring location identified in paragraph 3(C)(i) in accordance with the plan entitled "Compliance Monitoring Plan, Hartford Landfill", received on December 10, 1997 and revisions received on December 18, 1997, January 6, 1998 and January 23, 1998, prepared by CRRRA, and approved by the Commissioner on January 26, 1998.

(D) Reporting

- (i) 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:

Reporting Dates

March 15

June 15

September 15

December 15

- (ii) The results of all analyses and measurements required by this permit shall, unless otherwise specified in writing by the Commissioner, be reported by the Permittee to both the Bureau of Waste Management and the Bureau of Water Management (Attention: Landfill Monitoring Coordinator) of the Department of Environmental Protection at 79 Elm Street, Hartford, Connecticut 06106-5127. An additional copy of each report shall be submitted by the Permittee to the Aquatic Toxicology section of the Water Management Bureau.
- (iii) The results of all analyses and measurements required by this permit shall also be reported to the Health Officer of the City of Hartford.

(E) Sample Analysis

- (i) All sample analyses required by this permit shall be performed by a laboratory certified for such analyses by the Connecticut Department of Public Health and Addiction Services or in advance of any use, a laboratory approved in writing by the Commissioner.
- (ii) Analytical results for each parameter shall be reported together with their method detection limits. 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.
- (iii) Analyses required by paragraphs 3(A), 3(B), 5 and 6 shall be performed using

the methods specified unless an alternative method has been specifically approved in writing by the Commissioner for monitoring at this facility. Failure to use the analytical method specified or approved by the Commissioner shall constitute a permit violation.

- (iv) Monitoring required by paragraphs 3(A) and 3(B) which specify the use of analytical methods in paragraph 3(A)(iii)(a) must be conducted to achieve the minimum levels for each of the parameters, where identified, unless an alternative method that is capable of achieving the minimum levels has been specifically approved in writing by the Commissioner.
- (v) The minimum levels specified in paragraph 3(A)(iii)(a) 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.
- (vi) 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 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 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.
- (vii) 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 and recommends modification to the method or an alternative method that is sufficiently sensitive and free of the identified matrix effect.

4. Zone of Influence Compliance Monitoring - The Permittee shall operate and maintain a ground water flow control system in accordance with the compliance monitoring plan entitled "Compliance Monitoring Plan, Hartford Landfill", received on December 10, 1997 and revisions received on December 18, 1997, January 6, 1998 and January 23, 1998, prepared by CRRA, and approved by the Commissioner on January 26, 1998. The Permittee

shall follow the requirements of this section to determine whether the discharge of leachate has exceeded the boundaries of the permitted zone of influence. All sampling shall be conducted in accordance with the compliance monitoring plan.

(A) Background Data Base and Piezometer Monitoring -

- (i) Background Data Base -** The compliance ground water quality monitoring wells identified in paragraph 3(B)(i)(a) of this permit shall be sampled no less than thirty (30) day intervals for twelve months. Samples shall be analyzed for alkalinity, hardness, ammonia, chlorides, iron, manganese, sodium, potassium, and total dissolved solids. The results of all sampling and analyses during this twelve month period shall be reported in accordance with paragraph 3(D) of this permit. No later than 60 days after the collection of the final sample, a report shall be submitted for the review and approval of the Commissioner describing the results of all sampling and analyses performed required by this paragraph, proposing maximum background levels for all nine parameters, and recommending selection of at least four parameters for the zone of influence compliance monitoring program. These selected parameters will be designated as compliance parameters. The maximum background level is defined as the maximum measured concentration of each compliance parameter at each compliance well during the twelve month monitoring period.
- (ii) Piezometer Monitoring -** No later than 30 days after permit issuance, the permittee shall submit for the Commissioner's review and written approval a report describing the performance of the ground water flow control system, the difference in ground water elevations measured at each piezometer pair, and proposing the recommended minimum differential of ground water elevations at each piezometer pair location and a schedule for attaining the minimum differential. The minimum differential is defined as the minimum difference in ground water elevations established at each piezometer pair between the inside and outside of the ground water flow control system to assure that the zone of influence will not extend beyond the possession of the permittee.

(B) Exceedance -

- (i)** 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 4(A)(i) shall constitute an exceedance.
- (ii)** Ground water elevations which are not maintained at the minimum differential at any piezometer pair as defined in paragraph 4(A)(ii) shall constitute an exceedance.

(C) Confirmed Exceedance -

(i) 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 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.

(ii) Any piezometer pair for which an exceedance occurs shall be resampled within fourteen (14) days of the sampling event which established the exceedance. If the second result is found not meeting the minimum differential, such result shall constitute a confirmed exceedance. If the second result is found to meet the minimum differential, the monitoring program shall resume its normal monitoring schedule. If the next monthly sampling result is found not meeting the minimum differential, such result shall constitute a confirmed exceedance.

(D) Within 7 days of becoming aware of an occurrence of a confirmed exceedance as defined in paragraph 4(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 and recommends steps to be taken to prevent such exceedances from recurring.

5. On a monthly basis the permittee shall conduct an inspection of the perimeter and side slopes of the existing 86-acre, unlined solid waste disposal area, and the 17-acre, Phase I ash residue disposal area ("the landfills"), the banks of surface waters, and the wetlands adjacent to the landfills to identify the presence of any leachate seeps or iron oxide precipitation. All persistent leachate seeps identified shall be sampled and analyzed for the parameters identified in paragraph 3(B)(ii), items 1 through 16. Persistent leachate seeps are defined as active discharges which have been identified at any one location in three consecutive inspection periods. The permittee shall, in accordance with the reporting schedule in paragraph 3(D) submit for the review and approval of the Commissioner a report which includes a map drawn to a scale of one inch equal to 200 feet showing the presence and location of all leachate seeps or iron oxide precipitation, describes their chemical composition, any sampling results, and the discharge rate, and which includes a plan for the

remediation of such seeps or iron oxide precipitation and a schedule for carrying out the remediation plan. The permittee shall conduct the remediation plan in accordance with the schedule approved by the Commissioner in writing.

6. In 1998, 2000, and 2002, during the months of July and August, a habitat assessment shall be conducted in accordance with the surface water and ground water monitoring plan entitled "Compliance Monitoring Plan, Hartford Landfill", received on December 10, 1997 and revisions received on December 18, 1997, January 6, 1998 and January 23, 1998, prepared by CRRRA, and approved by the Commissioner on January 26, 1998. The habitat assessment shall include but not be limited to the following: at each surface water monitoring location identified in paragraph 3(A)(i), a description of physical characteristics and water quality; chemical analyses of sediment samples collected; and a survey of stream bank and submerged aquatic vegetation in and along that portion of Meadow Brook east of the railroad right of way, and a schedule for reporting the results of such assessment to the Commissioner. Sediment samples shall be analyzed for the following parameters:

- Arsenic (Total)
- Cadmium (Total)
- Chromium (Total)
- Copper (Total)
- Iron (Total)
- Lead (Total)
- Mercury (Total)
- Nickel (Total)
- Silver (Total)
- Zinc (Total)
- Percent Moisture
- Particle Size
- Total Organic Carbon
- Total Polyaromatic Hydrocarbons
- Total Polychlorinated Biphenyls
- Acid Volatile Sulfides

Metals, with the exception of mercury, shall be analyzed using graphite furnace atomic absorption spectrophotometry. Mercury shall be analyzed using the cold vapor method.

Report shall be submitted to the Aquatic Toxicity section of the Bureau of Water Management of the Department of Environmental Protection.

7. On or before January 1, 1999 and annually thereafter, a summary report of the monitoring and inspection program required by this permit shall be submitted for the Commissioner's review and written approval. The report shall include but not be limited to a) a map depicting all ground water and surface water monitoring locations, ground water withdrawal locations, and the locations of the collection, treatment, and conveyance of stormwater, leachate, and gas condensate; b) an evaluation of surface water and ground water quality,

and leachate quality and quantity, including graphical representation(s) of monitoring results; c) the condition of all monitoring wells and the need for repair or replacement of any wells; d) an evaluation of the extent and potential extent of the leachate discharge to ground water and whether any impact on the surface water quality of the Connecticut River, Meadow Brook or any other surface waters was detected or could reasonably be expected to occur; and e) an evaluation of the performance of the ground water flow control system and its ability to maintain possession of the zone of influence. The second annual report shall specifically include a summary of all surface and ground water monitoring results to date. The permittee may submit a written request for the Commissioner's review and approval a modification of the surface water and ground water quality monitoring program as warranted by the data collected and reported pursuant to the requirements of this permit.

8. For ground water, the zone of influence of the discharge from the Hartford Landfill, which is hereby permitted, shall not extend beyond property owned by the permittee or onto property whereby the right of possession of the zone of influence was not acquired by easement as approved by the Commissioner. The instrument establishing any easement shall, at a minimum, provide the following: (i) the permittee has the right to discharge pollutants to the ground water within the zone of influence; (ii) the permittee has the exclusive right to withdraw ground water from within the zone of influence; and (iii) the Municipality has the right to access the area of easement for the purposes of characterizing, monitoring, and remediating the ground water within the zone of influence. All such instruments establishing the right of possession shall be recorded on the land records of the Municipality.

The zone of influence of the discharge is defined as the area of soil and ground water within which the treatment of the leachate discharge by soils and mixing of leachate with ground water occurs and could reasonably be expected to occur and, therefore, within which some degradation of ground water quality is anticipated to occur.

9. See Mod dated 5/28/02

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 February 6, 2028.

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

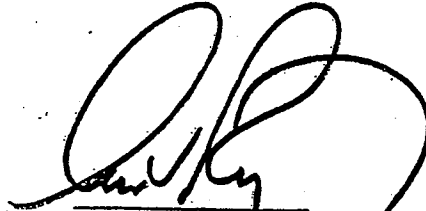
- (a) Definitions
- (b) General
- (c) Inspection and Entry
- (d) Effect of a Permit
- (e) Duty
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (l) Conditions 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
- (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 the 6th day of February, 1998.



Arthur J. Rocque, Jr.
Commissioner

PAMS Application No. 19950983
Application Nos. 88-357 & 90-496

Permit No. LF0000014



APPENDIX A

The Application

Proof of Publication provided by the Hartford Courant dated March 10, 1994, APP EX 1.

Application Summary Supplement Regarding the Permit Application Documents for the Proposed North Meadows Ash Landfill Expansion at the Hartford Landfill and DEP Comments. Dated March, 1994, revised to April 13, 1994 (Wehran Engineering Corporation, 3" 3-Ring Binder), APP EX 2.

Exhibit B: Development/Design Report Ash Monocells and Revised Operational and Management Plan. Dated May 1987, Rev. August, 1990 and August, 1993 (F&O, 20 pg - Bound), APP EX 4.

Exhibit C: Ash Leachate Treatability Review for CRRA for the Hartford Landfill Ash Residue Disposal Facility, Dated August, 1990, Rev. June 1993 (F&O, 1" - Bound), APP EX 5.

Exhibit D: Hydrogeological Investigation of the Hartford Landfill and Proposed Residue Disposal Site, Dated July 1990, as Ex. f, Rev. September, 1993 (F&O, 4" 3-Ring Binder), APP EX 6.

Exhibit F: SPDES Application for the Discharge of Leachate from the Existing and Proposed Landfill to Groundwater for Discharge to the MDC Sewer System, Hartford Landfill (Wehran, 1" - bound), APP EX 8.

Exhibit G(1): Stormwater Pollution Prevention Plan Hartford Landfill, Liebert Road, Hartford, CT Dated August, 1990 as NPDES Application, Rev. Aug. 1993, Rev. March, 1994 (Anchor, ½" - bound), APP EX 9.

Exhibit G(2): Stormwater Drainage and Design Computations - Hartford Landfill Phase 1 and 2, Liebert Road, Hartford, CT, Proposed Horizontal Expansion, Dated November, 1989 Stormwater Management Plan Ex. J., Rev. August 1993 (F&O 1" - bound), APP EX 10.

Exhibit I: Proposed Horizontal Expansion, Phase I and Phase II Hartford Landfill Drawings Dated June, 1990 as Ex. H Rev. August, 1993 (F&O, 21 - 30"x42" Sheets), APP EX 12.

Potentiometric Surface Contour Maps, 1":100' scale plans dated April, 1994 (F&O, 4 plates, 4A-4D), APP EX 13.

Groundwater Reclassification Request, Letter to Robert Smith (DEP) from Christopher Recchia (CRRA), dated March 18, 1994 (CRRA, 6 pages), APP EX 14.

1989 Annual Groundwater Summary for the Hartford Landfill by F&O, dated June, 1990, APP EX 18.

1990 Annual Groundwater Summary for the Hartford Landfill by F&O, dated June, 1991, APP EX 19.

1991 Annual Groundwater Summary for the Hartford Landfill by F&O, dated May, 1992, APP EX 20.

1992 Annual Groundwater Summary for the Hartford Landfill by F&O, dated May, 1993, APP EX 21.

NPDES (Sic SPDES) Permit Application for the Mid-Connecticut [Hartford] Landfill by F&O, dated October, 1988, APP EX 22a.

Reapplication for Permit DEP/WPC 064-072 for the Mid-Connecticut [Hartford] Landfill by F&O, dated March, 1989, APP EX 22b.

Supplement to the Discharge Permit Reapplication for the Mid-Connecticut Project [Hartford Landfill] by F&O, dated July, 1990, APP EX 22c.

Hydrogeologic Investigation for the Proposed Residue Disposal Site by F&O, dated July 1990, APP EX 23a.

Hydrogeologic Investigation for the Proposed Residue Disposal Site by F&O, dated July 1990. Appendices A-P, Plates 1-8, APP EX 23b.

Additional Submittals

Lease Agreement Amendment with the City of Hartford, dated December 29, 1995, includes drawings "Survey Showing Land Leased by CRRA ... Sheets 1& 2" by Fuss & O'Neill, revised November 21, 1995.

Letter from CRRA to CTDEP, Re: Amendment to Lease Agreement with City of Hartford, Hartford Landfill, dated June 18, 1997.

"Project Manual Contract Documents for Hartford Landfill - Groundwater Flow Control System, CRRA Contract No. 974120" prepared by EMCON for CRRA, dated February 14, 1997.

Incorporates the following documents:

"Technical Specification, Groundwater Collection and Pumping System at the Hartford Landfill" prepared by EMCON for CRRA, dated October 1996 with cover letter dated November 15, 1996.

"Operations and Maintenance Plan for the Groundwater Collection and Pumping System - Hartford Landfill - Hartford, Connecticut" prepared by EMCON for CRRA dated December 3, 1996.

"Engineering Design Report for the Groundwater Collection and Pumping System - Hartford Landfill - Hartford, Connecticut" prepared by EMCON for CRRA dated December 3, 1996.

"Connecticut Resource Recovery Authority, Hartford Landfill, Construction Plans for the Groundwater Collection System" prepared by EMCON, dated November 1996, revised January 1997.

"Project Manual Contract Documents for Hartford Landfill - Groundwater Collection and Pumping System, CRRA Contract No. 974117" prepared by EMCON for CRRA, dated January 30, 1997.

"Connecticut Resources Recovery Authority, Hartford Landfill, Preliminary Design Plans for the Groundwater Flow Control System" prepared by EMCON for CRRA, dated February 1997.

Operations and Maintenance Plan Revisions - Mixed Waste Landfill, dated December 16, 1996, includes Closure of Interim Ash Area and Program of Leachate Outbreaks & Seeps, dated November 1996.

Incorporates the following document:

“Summary of Proposed Program and Past Practices Associated with Inspections, Monitoring and Control of Leachate Outbreaks and Seeps at the Hartford Landfill” prepared by CRRA, dated November 1996.

Letter from Jim Law, Dept. of the Army, New England Division, Corps of Engineers, to Frank Venile, Greater Hartford Flood Control Commission, dated March 13, 1997.

Letter from CRRA to CTDEP, Re: Groundwater Flow Control System, dated March 27, 1997. (Revision to “Project Manual Contract Documents for Hartford Landfill - Groundwater Collection and Pumping System, CRRA Contract No. 974120” dated February 14, 1997.)

Letter from CRRA to CTDEP Re: Groundwater Flow Control System, Hartford Landfill, supplemental information to letter dated March 27, 1997, dated April 24, 1997. (Revision to “Project Manual Contract Documents for Hartford Landfill - Groundwater Collection and Pumping System, CRRA Contract No. 974120” dated February 14, 1997.)

“Cutoff Wall - Site Plan, Groundwater Flow Control System, Hartford Landfill, Connecticut Resources Recovery Authority, Hartford, Connecticut” prepared by Woodward-Clyde Consultants, dated May 2, 1997. (Revision to “Project Manual Contract Documents for Hartford Landfill - Groundwater Collection and Pumping System, CRRA Contract No. 974120” dated February 14, 1997.)

“Construction Certification Report - Groundwater Flow Control System (including slurry wall) - Hartford Landfill”, Volumes 1 and 2, prepared by EMCON for CRRA, dated November 1997.

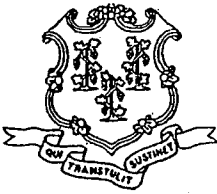
Includes the following document as Appendix I of Volume 1:

“72 Hour Aquifer Pump Test, Groundwater Flow Modeling and Groundwater Control Alternatives for the Hartford Landfill” by Environmental Risk Limited dated November 1997.

“Addendum to the Operations and Maintenance Plan - Groundwater Control System - Hartford Landfill” Environmental Risk Limited dated November 1997. (Also located in Appendix F of letter dated November 24, 1997.

Letter from CRRA to Oswald Inglese, CTDEP, Re: Renewal of Groundwater Discharge Permit No. LF0000014, Hartford Landfill (Groundwater Flow Control System (GFCS)), dated November 24, 1997.

“Compliance Monitoring Plan, Hartford Landfill”, received December 10, 1997 and revisions received on December 18, 1997, January 6, 1998, and January 23, 1998 and prepared by CRRA.



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



STATE PERMIT MODIFICATION

issued to

Permittee:

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

Attn: Peter Egan

Facility ID: 064-072

Location Address:

180 Leibert Road
Hartford, CT

Permit ID: LF0000014

This permit modification is issued in accordance with section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), section 22a-430-4(p)(5) of the Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended.

Connecticut Resources Recovery Authority, ("Permittee"), shall comply with all conditions of Permit No. LF0000014 issued on February 6, 1998 with the following modifications:

Paragraph 2) is replaced in its entirety with the following:

- 2) The Hartford landfill Phase I lined Ash Residue Disposal Area shall be operated and maintained in accordance with the "Revised Operations and Management Plan, Hartford Landfill, including Vertical Expansion of Special Waste Disposal Area and Phase I lined Ash Residue Disposal Area", dated July 10, 2000, or any replacement for this plan as it may be approved by the Commissioner; and shall also be operated and maintained in accordance with all other permits required by regulation. All other areas of the Hartford landfill shall be operated in accord with all conditions of Permit No. LF0000014, issued on February 6, 1998, and operational plans referenced therein.

A new paragraph 9) is added as follows:

- 9) Leachate shall be monitored as follows:

- (A) Lined Ash Residue Disposal Area

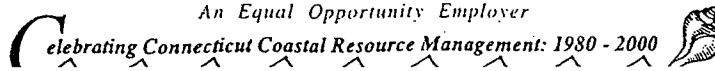
Leachate from the Phase I Lined Ash Residue Disposal Area leachate collection system shall be sampled at any point in the collection system that is representative of leachate from the entire Ash Residue Disposal Area, is prior to any co-mingling with other wastestreams, and is prior to the pH adjustment system. Samples shall be acquired in accord with the frequency and methods specified in Table B of State Pretreatment Permit SP0001412, except that grab samples shall also be obtained for field pH measurement. Leachate samples shall be analyzed for parameters specified in Table B of State Pretreatment Permit SP0001412, and for pH and total

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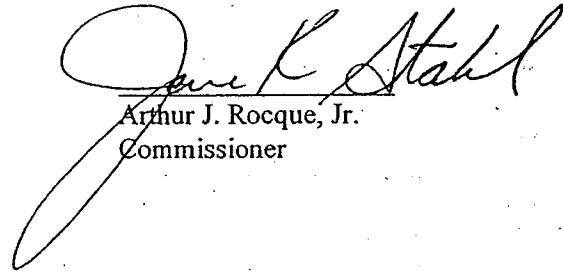
Manganese. The results of all sampling required through this paragraph shall be included in all reports required by paragraph 3)(D) of Permit No. LF0000014. The annual summary reports required under paragraph 7) of Permit No. LF0000014 shall include all leachate sample results, summary flow volume statistics, and, beginning in 2002, a comparison of current results to prior year average results.

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 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 Connecticut General Statutes or regulations adopted thereunder which are then applicable.

All other terms and conditions of Permit No. LF0000014 issued on February 6, 1998 shall continue in full force and effect.

This modification is hereby issued on the

May 28, 2002.



Arthur J. Rocque, Jr.
Commissioner

AJR/KRF

Permit No. LF0000014
Sent RRR

ATTACHMENT 3

To

EXHIBIT A

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

**CONNECTICUT DEPARTMENT OF ENVIRONMENTAL
PROTECTION PRETREATMENT PERMIT NO. SP0001412**



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PRETREATMENT PERMIT

issued to

Connecticut Resources Recovery Authority (CRRA)
179 Allyn Street
Hartford, CT 06102

Location Address:
Hartford Landfill

Facility ID: 064-072



Permit Expires: February 6, 2003

SECTION 1: GENERAL PROVISIONS

- (A) This permit is issued 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 (CRRA), ("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

I CERTIFY THAT THIS DOCUMENT
IS A TRUE COPY OF THE ORIGINAL.

Pamela D. Burrey
NAME
Processing Technician
TITLE

DEPARTMENT OF ENVIRONMENTAL
PROTECTION, BUREAU OF WATER
MANAGEMENT

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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
 - (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-157 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.

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:

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

SECTION 3: COMMISSIONER'S DECISION

- (A) The Commissioner of Environmental Protection ("the Commissioner") has made a final determination and found that the system installed for the treatment of the discharge, will protect the waters of the state from pollution. The Commissioner's decision is based on application # 90-469(1995-00855) for permit issuance, received on June 21, 1993 (Ash Leachate), and December 7, 1993 (Municipal Solid Waste Leachate), as amended 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 discharges shall not exceed and shall otherwise conform to specific terms and conditions listed below. The discharges are restricted by, and shall be monitored in accordance with, the tables below.

TABLE A

| DISCHARGE SERIAL #001-A | | MONITORING LOCATION: 1 | | | | | |
|--|-------|-----------------------------------|---------------------|--------------------------|-------------|-------------------------|--------------|
| WASTEWATER DESCRIPTION: Ash leachate | | | | | | | |
| MONITORING LOCATION DESCRIPTION: after pH adjustment | | | | | | | |
| AVERAGE DAILY FLOW: 35,000 gallons per day (gpd) | | MAXIMUM DAILY FLOW: 124,000 (gpd) | | | | | |
| DISCHARGE LOCATION: The MDC-Hartford Sewage Treatment Facility (Facility ID# 064-001) via its conveyance system. | | | | | | | |
| PARAMETER | UNITS | FLOW/TIME BASED MONITORING | | INSTANTANEOUS MONITORING | | | |
| | | Average Monthly Limit | Maximum Daily Limit | Sampling Frequency | Sample type | Limit or required range | Sample Freq. |
| pH | S.U. | ----- | ----- | ----- | ----- | 6-10 | Continuous |

TABLE B

DISCHARGE SERIAL #:001-A
 MONITORING LOCATION: G
 WASTEWATER DESCRIPTION: Ash leachate
 MONITORING LOCATION DESCRIPTION: influent to holding tank
 DISCHARGE LOCATION: The MDC-Hartford Sewage Treatment Facility (Facility ID# 064-001) via its conveyance system.

| PARAMETER | UNITS | FLOW/TIME BASED MONITORING | | | |
|--|-------|----------------------------|---------------------|--------------------|---------------------|
| | | Average Monthly Limit | Maximum Daily Limit | Sampling Frequency | Sample type |
| Alkalinity | mg/l | --- | --- | Quarterly | Daily Composite |
| Aluminum, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Arsenic, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Barium, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Cadmium, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Chloride | mg/l | --- | --- | Quarterly | Daily Composite |
| COD | mg/l | --- | --- | Quarterly | Daily Composite |
| Conductivity | mg/l | --- | --- | Quarterly | Daily Composite |
| Copper, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Copper, Dissolved | mg/l | --- | --- | Quarterly | Daily Composite |
| Cyanide, Total | mg/l | --- | --- | Quarterly | Grab Sample Average |
| Hydrocarbons, Total Volatile | mg/l | --- | --- | Quarterly | Grab Sample Average |
| <i>Methods 8010, 8020, 8260 (per 7 AUG 98 mod)</i> | | | | | |
| Iron, Dissolved | mg/l | --- | --- | Quarterly | Daily Composite |
| Iron, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Lead, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Manganese, Dissolved | mg/l | --- | --- | Quarterly | Daily Composite |
| Mercury, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Nickel, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Nitrogen, Ammonia | mg/l | --- | --- | Quarterly | Daily Composite |
| Nitrogen, Nitrate | mg/l | --- | --- | Quarterly | Daily Composite |
| Potassium | mg/l | --- | --- | Quarterly | Daily Composite |
| Sodium | mg/l | --- | --- | Quarterly | Daily Composite |
| Solids, Total Dissolved | mg/l | --- | --- | Quarterly | Daily Composite |
| Solids, Total Suspended | mg/l | --- | --- | Quarterly | Daily Composite |
| Zinc, Total | mg/l | --- | --- | Quarterly | Daily Composite |

2-Chloroethyl Vinyl Ether
 Chloromethyl Methyl Ether
 1-Chlorohexane
 Trans-1,3-Dichloropropene
 Trichlorofluoromethane
 } include per 7 AUG 98 mod

TABLE C

DISCHARGE SERIAL #: 001-B
 MONITORING LOCATION: 1
 WASTEWATER DESCRIPTION: Municipal Solid Waste Leachate (Plume Control)
 MONITORING LOCATION DESCRIPTION: at manhole prior to mixing with DSN001-A
 AVERAGE DAILY FLOW: 101,200 gallons per day (gpd)
 MAXIMUM DAILY FLOW: 173,000 (gpd)
 DISCHARGE LOCATION: The MDC-Hartford Sewage Treatment Facility (Facility ID# 064-001) via its conveyance system.

| PARAMETER | UNITS | MONITORING | | | |
|--|----------------|-----------------------|---------------------|--------------------|---------------------|
| | | Average Monthly Limit | Maximum Daily Limit | Sampling Frequency | Sample type |
| Alkalinity | mg/l | --- | --- | Quarterly | Daily Composite |
| Aluminum, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Arsenic, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Barium, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Cadmium, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Chloride | mg/l | --- | --- | Quarterly | Daily Composite |
| COD | mg/l | --- | --- | Quarterly | Daily Composite |
| Conductivity | mg/l | --- | --- | Quarterly | Daily Composite |
| Copper, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Copper, Dissolved | mg/l | --- | --- | Quarterly | Daily Composite |
| Cyanide, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Hydrocarbons, Total Volatile | mg/l | --- | --- | Quarterly | Grab Sample Average |
| (Methods 8010, 8020, 8260) <i>per 7 AUG 98 Mod</i> | | | | Quarterly | Grab Sample Average |
| Iron, Dissolved | mg/l | --- | --- | Quarterly | Daily Composite |
| Iron, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Lead, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Manganese, Dissolved | mg/l | --- | --- | Quarterly | Daily Composite |
| Mercury, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Nickel, Total | mg/l | --- | --- | Quarterly | Daily Composite |
| Nitrogen, Ammonia | mg/l | --- | --- | Quarterly | Daily Composite |
| Nitrogen, Nitrate | mg/l | --- | --- | Quarterly | Daily Composite |
| pH <i>per Mod 7 AUG 98</i> | <i>5.5-8.5</i> | --- | --- | Monthly | Instantaneous |
| Potassium | mg/l | --- | --- | Quarterly | Daily Composite |
| Sodium | mg/l | --- | --- | Quarterly | Daily Composite |
| Solids, Total Dissolved | mg/l | --- | --- | Quarterly | Daily Composite |
| Solids, Total Suspended | mg/l | --- | --- | Quarterly | Daily Composite |
| Zinc, Total | mg/l | --- | --- | Quarterly | Daily Composite |

2-Chloroethyl Vinyl Ether
 Chloromethyl Methyl Ether
 1-Chlorohexane
 Trans-1,3-Dichloropropene
 Trichlorofluoromethane

add per 7 AUG 98 Mod

- (1) 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.
- (2) 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.
- (3) 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 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

*per Mod dated
7 AUG 98*

- (1) The permittee shall report pH values generated on Table A, specifically maximum and minimum, for ~~each day of sample collection and for each month~~. The pH range for each month is defined as the highest and lowest single pH reading during all operating days of the month including periods when sampling is not performed.
- (2) The permittee shall maintain at the facility a record of the total flow for each day of discharge, for DSN 001A and DSN 001B, and shall report on the discharge monitoring report the total flow for the day of sample collection and the Average Daily Flow and the Maximum Daily Flow for each sampling month.

(for DSN 001B only)
*per Mod dated
7 AUG 98*

- (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 (hereinafter "WPCA") involved in the treatment and collection of the permitted discharge.

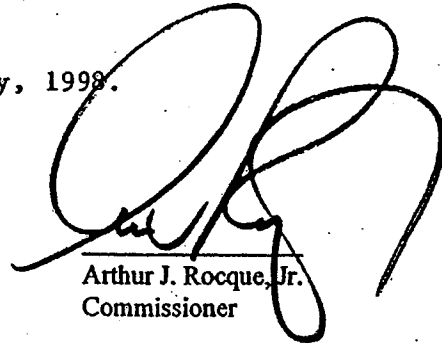
SECTION 6: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS

- (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 Commissioner within 30 days of the exceedance.
- (B) The Permittee shall immediately notify the Commissioner 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.

SECTION 7: COMPLIANCE SCHEDULE

On or before 30 days after the issuance date of this permit the Permittee shall submit an Operation & Maintenance manual for the Ash Leachate collection and treatment system.

This permit is hereby issued on the 6th day of February, 1998.



Arthur J. Rocque, Jr.
Commissioner

cc: MDC
DMR Section

P:\WORKING\GLEAVITT\APPLICATION\CRAHFTD\PRTRTREAT1.WPD



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



MINOR PERMIT MODIFICATION

Connecticut Resources Recovery Authority (CRRA)
79 Allyn St.
Hartford, CT 06102

RECEIVED
CONN. RESOURCES
RECOVERY AUTHORITY

98 AUG 18 AM 10:35

[Redacted]
Facility ID: 064-072

Gentlemen:

The above referenced permit was issued on February 6, 1998. This minor modification is issued to clarify monitoring and units of measure as follows:

- 1) The units on the pH parameter in Table C is modified to S.U. instead of mg/l.
2) Section 5 (C)(1): The first sentence is modified to delete; "each day of sample collection and for". Section 5(C)(2): After "...for the day of sample collection" add "(for DSN001B only)"
3) For Tables B and C, the "Hydrocarbons, Total Volatile" parameter shall be revised to delete Method 8010 and 8020 test methods and add 2-Chloroethyl Vinyl Ether, Chloromethyl Methyl Ether, 1-Chlorohexane, Trans-1-3- Dichloropropene, and Trichlorofluoromethane. Therefore, the result to be reported to satisfy the "Hydrocarbons, Total Volatile" parameter is the sum of the results of the 8260 test method plus the results from these individual parameter tests.

All other terms and conditions of Permit #SP0001412 issued to Connecticut Resources Recovery Authority on February 6, 1998 shall continue in effect. This minor modification is issued under the authority of the Commissioner set forth in Section 22a-430-4(p)(5)(B) of the Regulations of Connecticut State Agencies.

This permit modification is hereby issued on the 7th day of August, 1998.

Sincerely

[Handwritten Signature]

Arthur J. Rocque, Jr.
Commissioner

AJR/GLL/ar

cc: DMR Section
Permit File

P:\WORKING\GLEAVITT\APPS\CRRA\HITFD\MINMOD.WPD

I CERTIFY THAT THIS DOCUMENT
IS A TRUE COPY OF THE ORIGINAL.

[Handwritten Signature: Pamela D Burrey]
NAME
Processing Technician
TITLE

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DEPARTMENT OF ENVIRONMENTAL
PROTECTION, BUREAU OF WATER
MANAGEMENT

ATTACHMENT 4

To

EXHIBIT A

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

GFCS SEQUENCE OF OPERATION

Hartford Landfill Groundwater Collection and Pumping System

Sequence of Operation

Assuming that the wells are full and the low water cut off is satisfied, the wells may be run locally by placing the selector switch in the hand position or, if the selector switch is in the auto position, the system will run on an automatic schedule controlled by the telemetry panel.

In the auto position, a contact closure from the telemetry panel will enable each of the four pumps to run on an adjustable, time-based schedule. If the water in a given well drops below the low water level cut off level, the affected pump will shut down. This low water condition will illuminate a discrete red alarm light on the main control panel and send a signal to the telemetry panel for off-site notification. In order to resume pumping after the well has refilled, the low water level control will have to be manually reset, either locally at the panel reset button, or remotely through the telemetry panel. The pump will not run in the hand position while in the low water cut off condition.

A secondary alarm, called an abnormal pump condition, will shut down an affected pump if the telemetry panel senses low water flow or no water flow with the pump circuit energized. A five minute time delay has been programmed to allow the pump to overcome initial start-up purging of air, yet not allow the pump to run continuously if a real problem exists. An abnormal condition will illuminate a discrete yellow light on the main control panel and a common yellow strobe on the building exterior. Once the abnormal condition has been corrected, a reset button at the main control panel will allow local reset through the telemetry panel, or the pump circuit may be reset remotely through the telemetry panel. The telemetry panel has full control of the reset and alarm functions for the abnormal condition.

An individual Signet Scientific flow meter is installed on each well at the 2" influent line. The 4-20 ma output of this meter is sent to the telemetry system to indicate flow and proper function of each well. Each 2" line has a diaphragm valve installed immediately before entering the 4" header. These valves may be used to vary the delivery rate of the individual pumps. Flow should not be restricted to the point where the pump output pressure exceeds 80 psi.

An Endress and Hauser mag flow meter is installed on the 4" effluent line to calculate total flow; the 4-20 ma output of this meter is sent to the telemetry panel for record and report generation. This meter is equipped with an LCD readout on the front of the meter for field readings; modifications to the display are also accomplished at this point.

Also installed on the 4" effluent line is a Signet Scientific pH meter and a Signet Scientific conductivity meter. These meters read the pH and conductivity of the effluent, and this information is also sent to the telemetry unit for record and report generation.

A series of bypass valves on the 4" effluent line allow the leg of the effluent line containing the mag flow meter, pH meter and conductivity meter to be isolated for service. In the event that the metering leg is completely drained or the pH probe is removed, care should be taken to assure that the pH probe does not dry out. This may be accomplished by immersing the probe in a test solution or putting some test solution in the original shipping cap and placing it over the end of the probe.

A methane gas detection system is installed in this pump house which constantly monitors for the presence of combustible gas. Two detectors report to a detection panel mounted adjacent to the main control panel. The detection panel displays a caution light at 5% LEL, a warning at 8% LEL and full alarm at 10% LEL. The detection panel energizes an audible alarm, an exterior red strobe light, exhaust fan and dampers and sends a signal to the telemetry panel. The audible alarm may be silenced with a reset button on the front of the detection panel; the fan will continue to run until the percentage of LEL is reduced below the alarm level. The exhaust fan and louvers can alternately be energized by a wall mounted thermostat reacting to temperature rise or a manual wall switch adjacent to the front door.

ATTACHMENT 5

To

EXHIBIT A

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

OPERATION AND MAINTENANCE PLAN

**OPERATIONS AND MAINTENANCE PLAN FOR THE
GROUNDWATER COLLECTION AND PUMPING
SYSTEM**

**HARTFORD LANDFILL
HARTFORD, CONNECTICUT**

Prepared for
Connecticut Regional Resources Authority
December 3, 1996

Prepared by
EMCON
3 Riverside Drive
Andover, MA 01810-1121

Project 85999-001.000

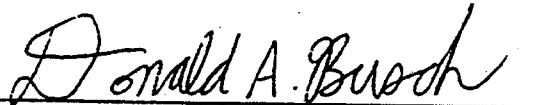
**Operations and Maintenance Plan
Hartford Landfill**

The material and data in this report were prepared under the supervision and direction of the undersigned.

EMCON



Benjamin G. Siebeck, P.E.
Project Manager



Donald A. Busch, P.E.
Senior Engineer

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ATTACHMENT I

TABLES AND FIGURES

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1 GROUNDWATER COLLECTION SYSTEM DESCRIPTION

The Groundwater Collection and Pump System (GCS) is designed to control the groundwater zone of influence from the unlined portion of the existing Hartford Landfill for the interim period prior to construction of the GFCS. The results of groundwater modeling determined four pumping wells located along the southern edge of the Landfill could effectively capture groundwater flow from the landfill. The wells would pump collected groundwater to the GCS Control Building where flow can be monitored, combined into a common header pipe, and discharged to the MDC sewer system manhole located on Liebert Road. A flow diagram is presented in Figure 1-1.

The following components comprise the GCS:

- Four (4) groundwater pumping wells. Wells will be equipped with 4-inch diameter staged turbine pumps capable of pumping an average of 50 gallon per minute. The pump motors range from 1 to 3 hp based on distance between well and GCS Control Building;
- Nine (9) groundwater level piezometers;
- Discharge force mains from each well;
- Pump power cable and control wiring and associated conduit between each well head and the system control panel;
- The GCS Control Building which houses throttling valves, meters, monitoring appurtenances and system control panel; and
- Discharge force main and sewer connection to MDC sanitary manhole.

The GCS system is designed to operate at a range of 0 to 200 gallons per minute (gpm) however, individual wells will be field adjusted to operate at the modeled rate which maintains the required drawdown in groundwater elevation between adjacent wells, thus demonstrating capture of the groundwater zone of influence. Based upon groundwater modeling results, the rate is anticipated to average 105 gpm, or 26 gpm per well. The pumps on-off cycle will be adjusted by electronic timer to achieve this average pumping rate.

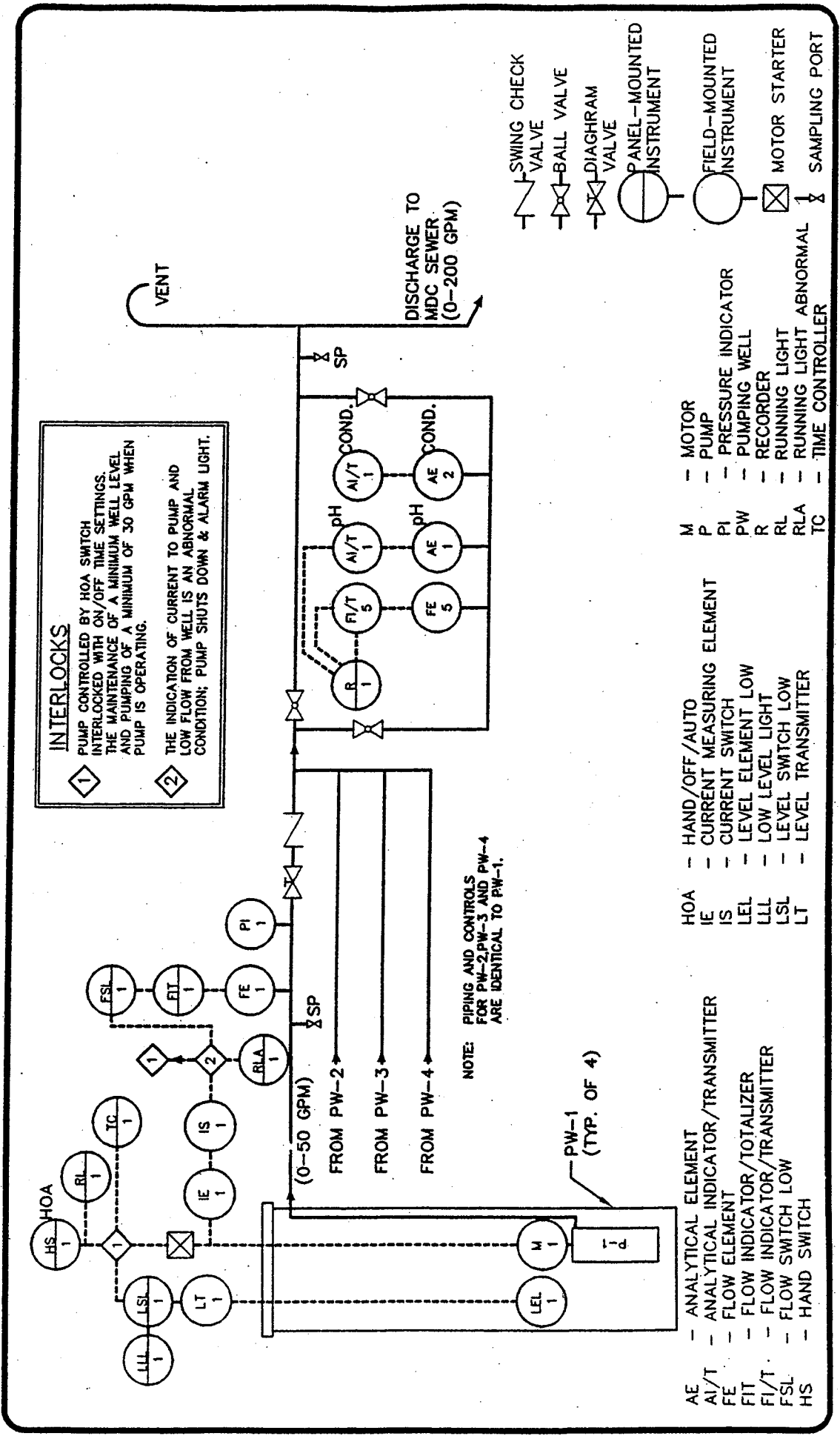


FIGURE
1-1
 PROJECT NO.
 85999001.000

CONNECTICUT RESOURCE RECOVERY AUTHORITY
 HARTFORD LANDFILL
 HARTFORD, CONNECTICUT
FLOW DIAGRAM

DATE 12/03/96
 DWN R.WOOD
 APP D.BUSCH
 REV



2 GROUNDWATER COLLECTION SYSTEM OPERATION

The groundwater extraction system is designed to operate 24 hours per day, 365 days per year. To ensure proper operation, the system will be operated, maintained, monitored and inspected as described Sections 2, 3, and 4, respectively. Section 2 covers startup, operation and shutdown procedures for the groundwater collection system

2.1 Initial Start-Up Operations

During the initial start-up period it will be necessary to monitor the groundwater level in piezometers at a more frequent interval than during normal operations. An aquifer pump test will be performed during the first 72 hours of system startup. Thereafter, water levels from the piezometers will be measured on a weekly, or as needed, basis. The average flow rate from each well will be monitored and the timing sequence adjusted as required to fine tune the extraction system. The actual flow rate from each well can be controlled by manually adjusting the diaphragm valve located in the GCS Control Building, however, there should be little need to adjust in this manner.

2.2 Normal Operations

The extraction well pumps can be operated either in an automatic or manual mode. Normally, the pumps will be operated in the automatic mode allowing the pump to operate in accordance with the programmed timing sequence. The manual mode will be used when the automatic level control system has failed or when the operating system performance is being evaluated. Each pump shall be equipped with a HOA switch for selecting the desired operating mode. The total average flow rate from each pumping well will be maintained at approximately 26 gpm to maintain the proper drawdown.

Start-Up Individual Well Pump

To start-up a well pump, the following steps should be taken:

- Thoroughly inspect the well to ensure all piping and electrical wiring is properly connected (Pumping Well);
- Verify the pump disconnect/breaker is in the energized or closed position;

- Partially open the diaphragm valve;
- Move the pump selector switch to the automatic mode. The pump should start, provided there is sufficient water in the well;
- Note the flow from the well on local indicator to verify the proper flow rate from the well; and
- Visually check the piping in the Control Building for leaks. If leaks are found, shutdown the well and repair.

Repeat the above steps for each well and pump as required. After pumps are started, verify that each well is pumping at the proper rate and that the total extraction system flow rate is within operating parameters. Readjust flows as required.

Shutdown-Individual Well Pump

To shutdown a well pump, the following steps should be taken:

- Move the pump selector switch to the OFF mode; and
- Close the diaphragm valve.

If repairs are to be performed on the pump, the following additional steps should be taken:

- De-energize or open the pump disconnect switch and lock into position; and,
- Lockout the diaphragm valve.

3 GROUNDWATER COLLECTION SYSTEM MAINTENANCE

Section 3 provides a maintenance plan for the groundwater collection and pumping system, details for diagnosing problems, and a list of spare parts to be kept at the facility.

3.1 Normal Maintenance

Increased pressures, reduced flow rates, lack of water table drawdown will be used to indicate operating problems.

Routine maintenance of the pumps will be performed in accordance with the manufacturer's recommendations. Other maintenance items, such as replacement or repair of the well pumps, will be performed on an as-required basis. Routine inspections of the pumping systems (refer to Section 4) will include monitoring each pump for parameters that indicate the need to replace or repair the pump. These parameters will include items such as:

- Excessive pump noise or vibration;
- Low pump discharge pressures and/or flow rates;
- Unexplained tripping of the low water level alarm, motor starter breakers, or fuses; and,
- Failure of the pump to operate in the automatic or manual mode.

A spare pump, identical to that used in PW-4, will be kept on-site to minimize the time to repair/replace a pump. This pump can provide the needed flow under the conditions at any of the pumping wells. The damaged pump will be removed from the well by using the stainless steel cable within the well. The damaged pump will be rebuilt or replaced to maintain the spare part inventory. *

Pump electrical controls (switches, breakers, starters) should be lubricated annually or in accordance with manufacturers instructions. The electrical resistance (ohms) of the pump motor will be periodically measured and compared to the manufacturing specifications to determine the condition of the motor. Replacement/repair of the pump will be performed as required. Flow, pH, and conductivity meters will be serviced (including calibration) in

accordance with the manufacturer's recommendations and valves will be exercised on a semi-annual basis. The collected groundwater will not exceed any discharge limitations so no pH alarms have been provided.

3.2 Diagnosing Operating Difficulties

Mechanical/Electric Problems

Vendor or equipment manuals for the mechanical and electrical parts of the extraction system should be referred to when troubleshooting or repairing a specific component. System operational problems should be diagnosed as follows:

Pump does not operate in the Manual Mode:

- Verify main disconnect is energized;
- Check and replace fuses as required;
- Check and reset pump overloads, if applicable;
- Verify pump is properly wired and check electrical continuity; and
- Replace/repair pump.

Pump operates but not in Automatic Mode:

- Verify there is sufficient water level in the well to inactivate the low level control system; and
- Check timer controls system.

Insufficient flow from extraction system or individual well:

- Verify flowmeter is operating properly;
- Verify each extraction pump is on and repair pumps as required;
- Check individual well flow rates and adjust throttling valves as required;
- Performance test pump to determine if piping is clogged or leaking; and
- Performance test well to determine if well screen is fouled and rehabilitate, as required.

Repeated low level pump shut-offs:

- Verify the flow rate from the well is not excessive and adjust the throttling valve as required;
- Check the well level and verify the low level sensor is set at the correct level; and
- Performance test the well to determine if the well screen is fouled and rehabilitate, as required.

Excessive Pump Operation:

- Check timer control system; and
- Verify flowmeter is operating properly.

Hydraulic Control Problems

Problems with hydraulic control would most likely be the result of insufficient extraction rates. The following are possible corrective measures to increase the hydraulic control at the system (as needed):

- Determine the extent to which hydraulic control must be improved. This includes determining the required increase of extraction flow rates and the area from which the groundwater should be extracted;
- Increase the flow rates from existing wells by opening throttling valves;
- Increase well capacities by installing larger pumps and/or large motors on existing pumps; and,
- Add additional extraction wells as required.

3.3 Available On-Site Equipment

Critical repair equipment and spare parts will be kept on-site to minimize the amount of downtime of the extraction system for maintenance and repairs. These items will include:

- One spare 3 HP pump;
- Spare common connections and fittings;
- Spare fuses or breakers;

- Water level measuring equipment; and
- Electronic timer control.

Other critical items, such as a hoist system for lifting pumps out of the wells and equipment for calibrating the flow meter, will be made available by the O&M subcontractor on an as-needed basis.

4 GROUNDWATER COLLECTION SYSTEM MONITORING AND INSPECTION

Section 4 of this O&M Plan provides a inspection and monitoring plan for the groundwater collection and pumping system, as well as, details on reporting requirements.

4.1 Inspection and Monitoring Plan

The key operating parameters of the pumping system (operating status of the well pumps, well level conditions, pH, conductivity, and total extraction system flow rate) are displayed on a central control panel located in the GCS Control Building. The control panel will be reviewed by site operating personnel whenever the landfill is in operation.

Normally, except for holidays, the site is manned 6 days a week. Based on modeling, the groundwater extraction system can be off for over 2 days without allowing the migration of leachate out of the extraction system capture zone. If the landfill is not manned for greater than two days in a row, special arrangements shall be made to have personnel monitor the extraction system.

The chart recorder sheets will require changing on a weekly basis. The sheets shall be maintained in a logbook.

The groundwater pumping system will be inspected monthly by a qualified person experienced in groundwater pumping practices. Table 4-1 presents the monthly inspection checklist which includes the following activities:

- Recording individual well flow rates and total flows;
- Adjusting flow rates (i.e., time cycle or throttling valve position) as required;
- Visually inspecting piping in Control Building for leaks;
- Checking pumps for abnormal noise or vibrations; and
- Scheduling preventative maintenance and repairs as necessary.

In addition, water levels in monitoring wells and piezometers near the vicinity of the extraction system will be measured quarterly (after steady state conditions have been reached and maintained over a period of time) to assess its performance. Effluent from the groundwater extraction system will be monitored in accordance with the discharge agreement between CRRA, the MDC and CT DEP. Collection of groundwater samples from pumping wells will coincide with the existing quarterly groundwater monitoring program for the Landfill.

4.2 Reporting

The results of monitoring well sampling events and water level measurements will be reported quarterly to the CTDEP. Any significant problems or repairs to the system, such as well rehabilitation or other significant difficulties, will be reported to the CTDEP on an annual basis.

Records for the GCS will be maintained at the Landfill and include the following:

- Weekly chart recorder sheets for pH, flow, and conductivity;
- Monthly inspection logsheets;
- Logbooks summarizing daily activities including: adjustments to the operating system, maintenance and repairs to equipment, visitors, and abnormal operating conditions;
- Equipment files detailing repairs and modifications to major pieces of equipment;
- As-built drawings including field modifications to the system; and
- Copies of the quarterly and annual reports.

Table 4-1 Monthly System Inspection Form

Site: Hartford Landfill, Hartford, CT

Inspection Form No.: _____

Owner: CRRA

Date: _____

Contractor: _____

Time: _____

Inspector: _____

| Location | Flowrate (gpm) | Totalizer (gallons) | pH (su) | Conductivity (µmhos) | Well / Piping Condition | Pump Condition | Electrical Connections | Other Comments |
|---------------|-------------------|------------------------|------------|-------------------------|----------------------------|-------------------|---------------------------|----------------|
| PW-1 | | | | | | | | |
| PW-2 | | | | | | | | |
| PW-3 | | | | | | | | |
| PW-4 | | | | | | | | |
| MDC Discharge | | | | | | | | |

| Location | Calibration | Replacement | Maintenance |
|--------------------|-------------|-------------|-------------|
| pH Meter | | | |
| Conductivity Meter | | | |
| PW-1 Well Pump | N/A | | |
| PW-2 Well Pump | N/A | | |
| PW-3 Well Pump | N/A | | |
| PW-4 Well Pump | N/A | | |

Is system in proper working condition? (if not, explain): _____

5 GROUNDWATER COLLECTION SYSTEM SAFETY

5.1 Chemical Hazards

Groundwater and off-gases may contain harmful concentrations of the following chemicals: methane, H₂S, carbon monoxide, and oxygen displacing dense gases. Adequate ventilation must be maintained while working near wells and sampling from the GCS Control Building. The GCS Control Building will be equipped with a combustible gas monitor and an alarm light to warn against entry into the building when combustible gas levels are elevated.

5.2 Electrical Hazards

The following is a list of procedures and requirements that should be followed when installing, replacing, or maintaining electrically controlled equipment devices:

- Personnel working in the proximity of any part of an electrical power circuit should be protected against electric shock by de-energizing the circuit and grounding it and locking and tagging the circuit breaker out of service.
- Ground fault circuit interrupters shall be used in the absence of properly grounded circuitry or when portable tools must be used around wet areas.
- All live parts of electrical equipment operating at 50 volts or more shall be guarded against accidental contact by cabinets or other forms of enclosures.

5.3 Personal Protective Equipment

- Wear approved safety glasses and hard hat at all times.
- Wear acoustical earmuffs when required. Check MSDS sheets for detailed information on exposure limits and required personal protection.

Attachment I: Operation and Maintenance of the Collection and Treatment Systems General Description, Plan Checklist and Certification

produce and complete this entire form for each permit that you are applying for.

Type of receiving water (check one): Surface water POTW Ground water

Part A: General Description

Please provide a general description of the methods and provisions for the operation and maintenance of the collection and treatment systems, specifically addressing Plan Elements No. 1, 6, and 9 outlined in Part B: Plan Checklist. Be sure to label this description by identifying it as "Attachment I - Part A" and attach the description to this Plan Checklist.

Part B: Plan Checklist

Review the following plan elements to ensure that each element is included and adequately addressed in your Operation and Maintenance Plan. A copy of this plan must be maintained on-site at all times. Certify that the plan is adequate with respect to each element by inserting your initials in the space provided. For elements which are determined to be not applicable to the collection and treatment systems, please indicate "N/A" next to the element and provide a brief explanation.

| Plan Elements | Initial/Not Applicable |
|--|--|
| <p>1. A detailed description of all wastewater treatment equipment on site including:</p> <p style="margin-left: 20px;">a. A description of treatment unit sizes, their operating capacities, retention times, manufacturers and models.</p> <p style="margin-left: 20px;">b. A functional description of each treatment system and subsystem including a discussion of how each item functions and variables that might affect performance.</p> | <p>Operations & Maintenance Plan Section 1</p> |
| <p>2. A detailed description of collection and treatment system operation, start-up, shut-down and power outage procedures, including the positions of all switches, valves, instrument settings and precautions. For batch systems, include operating instructions describing testing procedures to be performed for each batch, when different treatments are to be used and instructions for operating the different types of treatments.</p> | <p>Operations & Maintenance Plan Section 2</p> |
| <p>3. A list of instrument calibration and alarm testing frequencies. This should include but not be limited to the frequency that the pH meters and alarms, flow meters, and level alarms are tested or calibrated.</p> | <p>Operations & Maintenance Plan Section 3.1</p> |
| <p>4. An inventory of all spare parts and equipment kept at the facility for the wastewater treatment system.</p> | <p>Operations & Maintenance Plan Section 3.3</p> |

| Plan Elements | Initial/Not Applicable |
|--|---|
| <p>5. A list of all treatment chemicals, quantities stored at the facility and dosage rates.</p> | <p>N/A — No treatment is associated with this facility.</p> |
| <p>6. A maintenance plan for the collection and treatment system, both preventive and corrective, with proposed daily, weekly, monthly, semi-annual and annual inspections and procedures.</p> | <p>Operations & Maintenance Plan Sections 3.1 & 3.2</p> |
| <p>7. The number of full or part time waste water treatment system operators needed to properly run the system and a detailed description of any training the operators have had in the proper operation of the treatment system. For domestic sewage treatment facilities, the plan must include documentation of operator certification as required by Sections 22a-416-1 through 22a-416-10 RCSA.</p> | <p>N/A — No treatment is associated with this facility.</p> |
| <p>8. A description of the log(s) to be kept near the treatment system for operational monitoring and inspections. All entries must show time, date and be initialed. These log books must be bound, pre-numbered and contain the following information:</p> <p>a. for batch treatment systems:</p> <ul style="list-style-type: none"> (1) number of gallons of each batch discharged (2) treatment chemicals added to each batch (3) the results of any chemical analysis done on each batch (4) what the wastewater of each batch consisted of (what processes contributed to the batch) (5) the pH of each batch at time of discharge (6) when meters and probes were calibrated and/or replaced (7) any maintenance performed on the system (8) any observations the operator may have noticed about the discharge (clarity, foam, etc.) | <p>N/A — Not a batch treatment system.</p> |

**Attachment I: Operation and Maintenance Plan Checklist (continued)
for Collection and Treatment Systems**

| Plan Elements | Initial/Not Applicable |
|--|---|
| <p>8. b. for flow through systems:</p> <ul style="list-style-type: none"> (1) total daily/shift flow (2) treatment chemical dosage rates (3) daily/shift treatment chemical tank levels (4) the results of any chemical analysis performed on the discharge (5) the range of pH during the day/shift (6) when meters and probes were calibrated and/or replaced (7) any maintenance performed on the system (8) the reason for any upsets that may have occurred (9) any observations the operator may have noticed about the discharge (clarity, foam, etc.) | <p>N/A -- Not a treatment system.</p> <p>For Discharge Monitoring, see Operations & Maintenance Plan, Section 4</p> |
| <p>9. A description of any security measures to prevent vandalism of the collection and treatment systems.</p> | <p>N/A -- System contained within a larger facility security fence.</p> |
| <p>10. A flow diagram of the process or activity generating the discharge. The diagram must show all incoming waste streams, treatment units and their sizes, treatment chemical additions, all pumps and associated equipment, electrical equipment (pH sensors and controllers, high level sensors and alarms, etc.) and connections between electrical units. Flow and pump rates must be included. Flow rates of incoming waste streams, flow between treatment units and pumps rates must be indicated.</p> | <p>Operations & Maintenance Plan Figure 1-1</p> |

Applicant Certification of An Operation and Maintenance Plan Checklist

Applicant Name: _____
(as indicated on the *Permit Application Transmittal Form*)

Application Number: _____ (if known)

Facility I.D. Number: _____ (renewals only)

Permit Number: _____ (renewals only)

I have personally examined and am familiar with the information contained in the Operation and Maintenance Plan submitted with this application, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for preparing the Operation and Maintenance Plan, such plan contains all applicable information listed in the Operation and Maintenance Plan Checklist. I further certify that I will submit this plan to the Department of Environmental Protection (DEP) upon request.

Applicant Signature

Date

In the space below, please provide the names of the persons who prepared the Operation and Maintenance Plan and a brief description of the qualifications of each preparer, (i.e., professional certifications, education background, related work experience, etc.).

ATTACHMENT 6

To

EXHIBIT A

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

OPERATION AND MAINTENANCE PLAN ADDENDUM



ENVIRONMENTAL RISK LIMITED

**ADDENDUM TO THE
OPERATIONS AND MAINTENANCE PLAN
GROUNDWATER CONTROL SYSTEM**

Hartford Landfill

Hartford, Connecticut

Prepared for:

Connecticut Resources Recovery Authority

Prepared by:

Environmental Risk Limited

November 1997

ERL Project No. 05770-56

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1.0 INTRODUCTION

Environmental Risk Limited (ERL) has prepared this manual as an addendum to the operations and maintenance (O&M) manual for the Groundwater Control System (GCS) which is being installed as part of the Groundwater Flow Control System (GFCS) at the Hartford Landfill operated by the Connecticut Resources Recovery Authority (CRRA) in Hartford, Connecticut. This addendum is required to address the revised operational approach following the replacement of the strip chart recorder specified in the original GCS contract documents with a remote telemetry unit.

Installation of the telemetry unit was chosen to allow for more consistent monitoring of the GCS, and to allow for more rapid identification of problems which may occur with the system. The original strip chart recorder was initially designed to provide for the continuous monitoring of the GCS effluent flow, pH, and conductivity.

With the installation of the telemetry unit, this data will now be transferred to the telemetry unit which will be continuously connected to a remote computer via modem for the storage and processing of the data. The remote computer will initially be located at the office of the GCS maintenance contractor.

Four electric timers were also initially specified as part of the original GCS design for the control of the timing sequence for the four pumps associated with the GCS pumping system. These were also eliminated from the design and the timing will now be controlled by the Programmable Logic Control (PLC) which is a part of the telemetry unit.

Additionally, the telemetry unit will also monitor the flow from each of the four groundwater pumping wells and will monitor for alarm conditions for abnormal pump operations (low flow or low well water level), elevated levels of explosive gases within the pumping building, low temperature within the pump building, and power outage. The alarm conditions will provide both a visual alarm and a audible alarm at the remote computer screen (in addition to the originally specified local alarms).

2.0 SYSTEM SETUP, OPERATION & MAINTENANCE

2.1 Telemetry System Setup

Prior to the final operation of the GCS system, the 4-20 mA outputs from the GCS (influent and effluent flows, effluent pH, and effluent conductivity) will need to be scaled to ensure that the data from the sensors matches to the data reported at the remote computer. This will be done by the GCS maintenance contractor prior to system startup. Once the outputs are scaled, no additional adjustment should be required.

The pumping system timing configuration will also be required to be set prior to initiation of operation. These pump on/off settings will be set based on the results of the drawdown tests being performed by the GCS maintenance contractor. These settings will be able to be remotely modified if the system pumping conditions warrant alteration (i.e. a well is pumping dry and a shorter on cycle is required).

2.2 Telemetry System Operation

Once operational, the telemetry unit will operate automatically to monitor the GCS system. The GCS maintenance contractor will check the remote monitoring computer on a daily basis to ensure that no abnormal operational conditions have occurred and that the system is operating within the design criteria.

On a weekly basis, the process control software associated with the control of the PLC will generate a graphical report which will show the change in the effluent flow, pH, and conductivity with time. Copies of these reports will be delivered to the landfill during the monthly system maintenance visit and maintained in a three ring binder located within the GCS pump building.

If an alarm condition is detected by the telemetry unit, a visual and audible alarm will be produced at the remote computer. All alarm conditions, as well as identification of the person that accessed the computer to address the alarm, are recorded as individual events so that a clear record of the system problems encountered is available. Additionally, any modifications to the pump timing setup or any resetting of pumps which have automatically shut down will be recorded as individual events along with identification of the personnel who conducted the modification.

If there is a power outage at the landfill, the entire GCS system will be inoperable but the PLC of the telemetry unit will remember the timing sequence and automatically initiate it upon restoration of power. Such a power outage will also generate an alarm condition.

If the lines of communication between the two modems is interrupted, the remote modem will automatically attempt to reestablish the connection. If the connection can not be reestablished within several minutes, an alarm condition will be generated. Additionally, if the telephone connection is lost, or there is a power outage at the remote location, the PLC (which is located within the GCS building) will continue to control the timing of the pumps and will have the capacity to store data for approximately 24 hours. This data would then be automatically downloaded to the remote computer upon reestablishing communications, or regaining power at the

remote location, or could be manually downloaded to a portable computer brought to the GCS building.

2.3 Telemetry Unit Maintenance

The telemetry unit is a reasonably maintenance free system.

The only maintenance task projected for the telemetry system would be to check the correlation between the readouts at the flow, pH, and conductivity sensors at the GCS building with the value displayed at the remote computer. This correlation should be verified every six (6) months and modified accordingly.

The only failure mode envisioned for the system would be the failure of the hard drive on the remote computer. To respond to this, a backup copy of the process control software will be maintained by the GCS contractor and will be loaded onto another computer temporarily until repair of the primary computer can occur.

Table 1
 Piezometer Construction Details
 CRRRA Hartford Landfill
 ERL Project No. 05770-56

| Well ID | PVC Elevation | Ground Surface Elevation | Top of Screen Elevation | Screen Bottom Elevation |
|---------|---------------------------------|--------------------------|-------------------------|-------------------------|
| PZ-A(E) | 20.92 | 19.03 | 12.03 | -11.97 |
| PZ-A(I) | 24.4 | 22.49 | 12.49 | -9.51 |
| PZ-B(E) | 22.39 | 20.4 | 4.4 | -10.6 |
| PZ-B(I) | 22.42 | 20.26 | -0.74 | -10.74 |
| PZ-C(E) | 21.87 | 20.11 | 5.11 | -9.89 |
| PZ-C(I) | 23.27 | 21.36 | 5.36 | -9.64 |
| PZ-D(E) | 19.18 | 17.21 | -0.79 | -13.79 |
| PZ-D(I) | 19.37 | 17.98 | 1.98 | -13.02 |
| PZ-E(E) | damaged | 19.03 | 3.53 | -8.97 |
| PZ-E(I) | 23.47 | 21.47 | 0.47 | -8.53 |
| PZ-F(E) | 24.33 | 22.4 | 5.4 | -12.6 |
| PZ-F(I) | 24.83 | 23.97 | 6.97 | -11.03 |
| PZ-G(E) | 32.73 | 30.56 | 1.56 | -10.44 |
| PZ-G(I) | 35.98 | 32.25 | 3.25 | -9.75 |
| PZ-H(E) | 26.75 | 24.37 | 3.37 | -13.13 |
| PZ-H(I) | 35.66 | 31.7 | 2.7 | -12.3 |
| PZ-I(E) | 23.99 ^{ns} | 21.93 | 6.93 | -9.07 |
| PZ-I(I) | 38.26 | 34.27 | 3.27 | -10.73 |
| PZ-J(E) | not installed | *** | *** | *** |
| PZ-J(I) | installed, but not surveyed yet | | 17' below grade | 45' below grade |

Piezometer pairs installed by Seaboard Environmental Drillers, 8/8/97 through 10/7/97
 Installation oversight provided by Environmental Risk Limited

EXHIBIT B

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

STANDARD FORM – REQUEST FOR SERVICES

STANDARD FORM - REQUEST FOR SERVICES

Dear :

Subject: Request For Services – Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System

This Request will authorize you to provide the Services described below in accordance with the terms and conditions of the Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System Agreement, dated _____ between CRRA and you.

The Scope Of Services, Estimated Time Of Performance and Estimated Costs set forth below will become a part of the above-referenced Agreement and will be incorporated therein, as an amendment, upon your acceptance of the Request, to be indicated below. The Scope Of Services is the product of consultation between CRRA and you and the Estimated Time Of Performance and Estimated Costs have been provided by you and deemed acceptable by CRRA.

- Item I Scope Of Services (provide details)
- Item II Estimated Time Of Performance (per Consultant)
- Item III Estimated Costs (per Consultant)

These costs are not to be exceeded without CRRA's prior written consent. CRRA shall not pay for any services rendered or expenses incurred by Consultant in excess of those included in this Request unless specifically authorized in advance and in writing by CRRA.

Very truly yours,

CONNECTICUT RESOURCES RECOVERY AUTHORITY

By: _____
Title:

Accepted under the terms of the Operation And
Maintenance Of The Hartford Landfill
Groundwater Flow Control System Agreement
Dated _____

CONTRACTOR

By: _____
Title:

EXHIBIT C

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

**NOT-TO-EXCEED PROJECT PRICE AND
PAYMENT RATE SCHEDULE**

NOT-TO-EXCEED PROJECT COST AND PAYMENT RATE SCHEDULE

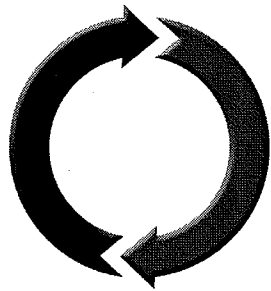
[TO BE ADDED BY CRRRA BASED ON SUCCESSFUL BIDDER'S NOT-TO-EXCEED BID PRICE AND PAYMENT RATE SCHEDULE FORM, AS SUCH FORM MAY BE MODIFIED AS A RESULT OF NEGOTIATIONS BETWEEN CRRRA AND SUCCESSFUL BIDDER.]

EXHIBIT D

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

**CRRA'S TRAVEL AND EXPENSE REPORTING
DOCUMENT**



**CONNECTICUT
RESOURCES
RECOVERY
AUTHORITY**

TRAVEL POLICY AND EXPENSE REPORTING

**BOARD OF DIRECTORS POLICY AND PROCEDURE
NUMBER 032**

**APPROVED BY CRRA BOARD OF DIRECTORS
SEPTEMBER 29, 2005**

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CONNECTICUT RESOURCES RECOVERY AUTHORITY

TRAVEL POLICY AND EXPENSE REPORTING

1. GENERAL STATEMENT

This Travel Policy and Expense Reporting guide presents the policies that all CRRA employees (hereafter "employee(s)") must adhere to in the planning and conducting of their business travel and their reimbursement requests. CRRA requires that all travel expenditures and their accountings meet the Internal Revenue Service requirements of "ordinary, necessary and reasonable" and should be conservative and consistent with the nature of the business assignment. These policies safeguard CRRA and protect the employee from being assessed additional taxable income. All employees are expected to fully comply with the policies and instructions in this guide. Reimbursements for actual and necessary expenses made to Directors of CRRA shall be made consistent with the provisions of this Travel Policy And Expense Reporting guide; however, as stated in the Connecticut General Statutes, Directors shall not be required to obtain pre-approval from the President for any expenses.

2. APPROVALS

Prior written approval by the President or the employee's Division Head at least one (1) week in advance is required for all overnight trips out of state, except in an emergency. It is the obligation of the employee to obtain this prior approval and no reimbursement will be made without this approval.

Prior written approval by the President or the employee's Division Head at least one (1) week in advance is required for all employee trips that are for educational seminars, professional conferences, vendor-initiated field trips, and industry organization events.

To obtain written approval, the employee must complete the overnight travel form, and, if a cash advance is requested, complete a cash advance form that estimates the out-of-pocket expenses, and submit the completed form(s) to the appropriate Division Head or President in as far in advance as possible of departure date.

3. TRANSPORTATION

Transportation expenses should be kept to a minimum. The most direct and practical route should be selected.

3.1 Rental Automobile

Rental car expenses will be paid by CRRA and whenever possible should be billed directly to CRRA to take advantage of CRRA's tax-exempt status and any other discounts available to CRRA.

3.1.1 Insurance

3.1.1.1 Business Use Of A Rental Automobile

Employees on business do not need to purchase additional insurance coverage (collision damage waiver or excess liability) from the rental company. The Corporate Insurance Program covers these risks. Please note that all vehicles must be rented in CRRA's name to have CRRA's policy cover the employee.

3.1.1.2 Personal Use Of A Rental Automobile

Employees are prohibited from using a CRRA rental automobile for personal use. Personal use that is incidental to CRRA business use will be covered by the CRRA insurance policy as long as the vehicle was rented in CRRA's name. Incidental usage is defined as usage of the vehicle that is directly related to business usage (e.g. mileage to get meals on a business trip).

3.2 Business Use Of Employee's Car

3.2.1 Reimbursement Rate

The reimbursement rate for an employee's use of their personal automobile for CRRA business is the IRS approved rate, as adjusted from time to time by the IRS, for employee use of their personal car on business. The above mileage reimbursement allowance for business use of an employee's vehicle is calculated in a manner that takes into account all auto-related expenses, including the cost of carrying insurance (without a deductible). Therefore, CRRA will not reimburse an employee for vehicle damage or personal liability that occurs while a personal automobile is being used on CRRA business if the employee drives their personal vehicle 2,500 miles per year or more. This includes any deductible that may apply. However, if an employee's vehicle is driven on company business 2,500 miles or less annually, and is involved in a motor vehicle accident, CRRA will reimburse the employee through the normal expense reimbursement process for their physical damage deductible up to a maximum of \$500.00 per accident. Evidence of the payment of the deductible by the employee must be provided to CRRA in order to receive reimbursement. (Traveling on business does not include any travel involved in commuting to or from work, lunch time errands or anything other than authorized business use). Before an employee seeks the foregoing reimbursement for the use of his personal automobile, the

employee shall provide CRRA with written evidence of his personal automobile insurance with limits as required by the Connecticut General Statutes. The foregoing written proof shall be kept on file in the CRRA Finance Division.

3.2.2 Mileage Calculation

In all travel away from the CRRA office, the employee will be reimbursed using the shortest distance between points. For travel from Hartford to a CRRA facility, the President shall cause the shortest distance to be determined and the President shall cause such determination to be made available to employees. Unless approved by an employee's Division Head, employees shall use the distances determined by the President in all requests for reimbursement for travel from Hartford to a CRRA facility. An employee may request and the employee's Division Head may approve distances other than those determined by the President in extraordinary circumstances when, for reasons beyond the control of the employee, the route of the shortest distance was not reasonably available for use.

In calculating mileage, the normal commute mileage to and from the employee's home to the employee's assigned place of work must be deducted from the total trip mileage. For example, if the total trip mileage equals 100 miles, and normal commute mileage equals 20 miles, CRRA will reimburse the employee for 80 miles. This is in accordance with Internal Revenue Service and State of Connecticut policy.

3.2.3 Tolls/Parking

No receipts are necessary for tolls or parking unless they exceed five (\$5.00) dollars.

3.3 Air Travel

All air travel requires prior approval from the CRRA President. For approved travel, CRRA will reimburse employees only for coach accommodations. Employees are encouraged to inquire about discount packages and to take advantage of the least costly route whenever possible. When an employee plans a trip, the reservations should be made as far in advance as practical to obtain the lowest rate. All approved air travel for the previous month shall be reported to the CRRA Board of Directors at its next Board Meeting.

3.4 Taxis

Taxi service may be used when no other form of public transportation is available or when the cost of a taxi is close to the cost of public transportation. Employees are encouraged to use courtesy cars, airport limousines, or buses whenever possible. Since some taxi services do not provide receipts, you should have the back of your business card signed, dated, and the amount of the fare indicated by the driver.

3.5 CRRA Owned Automobiles

Please refer to the CRRA Vehicle Usage Policy adopted by the CRRA Board of Directors at its November 21, 2003, Board of Directors Meeting.

4. MEALS

Permissible expenditures for meals and tips depend on location and circumstances. Only reasonable and customary charges will be allowed and reimbursed by CRRA. An exception may be granted by the President in unusual circumstances. In-state breakfast, lunch, and dinner will not be reimbursed unless they involve a business meeting.

5. LODGING

Lodging accommodations in reasonable and economically priced single occupancy rooms, including customary tips, are reimbursable if the employee has to stay away from home overnight because of unfinished business or an early morning business meeting.

Employees should request government rates at the time of making reservations.

6. INCIDENTALS

The incidentals allowance encompasses such things as gratuities and one telephone call a day of reasonable duration to the employee's home. It is anticipated that the cost of such calls generally will appear on the employee's hotel bill.

7. PERSONAL EXPENSES

Some travel expenses are considered personal and CRRA will not reimburse them. The following, while not all inclusive, lists examples of such personal expenses that are not reimbursable expenses: amusements, athletic events, barbers, books for personal reading, athletic court or gym costs, damage to luggage, fines, hair stylists, magazines, newspapers, movies, and saunas.

8. OTHER BUSINESS EXPENSES

With prior approval of the President, CRRA will reimburse an employee for the incidental costs necessary to further an important CRRA business purpose. Any foregoing expense must be reported to the Board at the Board's next Board of Directors meeting. Any such expense must be documented by showing the following:

- The name(s) of the person or persons and the location and nature of the expense.
- The business relationship with CRRA.
- The specific business reason for the expense.
- The actual business conducted.

CRRA will not reimburse the cost of home entertaining.

9. EXPENSE REPORTING

All expense reporting must be submitted to CRRA using the CRRA expense reimbursement form(s) within twenty working days after the day the employee returns from his/her trip.

10. RECEIPTS

Employees shall obtain receipts for all travel expenses, exclusive of mileage reimbursement. This includes receipts for all meals, airfare, bus fare, taxi, toll or parking charges in excess of \$5.00 dollars, limousine, hotel, and registration fees. Travel expenses in excess of the stated guidelines herein will be reimbursed only if all receipts accompany expense vouchers. Expenses submitted without a receipt, except for gratuity and certain transfer charges, may not be reimbursed.

Original receipts are required for all entertainment.

11. EXCEPTIONS

Exceptions to these travel and expense guidelines will be authorized only upon the prior authorization of President when the circumstances warrant. Any such exception to these travel and expense guidelines should be documented and the President should notify the CRRA Board of Directors of such exception at the Board's next Board Meeting.

ORIGINAL

Approved by: Board of Directors
Effective Date: 05/20/04

REVISION 1

Prepared by: Jim Bolduc, Chief Financial Officer
Approved by: Board of Directors
Effective Date: 09/29/05

EXHIBIT E

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

MONTHLY BILL FORMAT

MONTHLY BILL FORMAT

| | |
|---------------------|--|
| Name of Contractor: | |
| Contract Number: | |
| Billing Period: | |
| Project Name: | Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System |

TASK __ (Insert Task Number and Name; Use a separate set of tables for each task.)

| Personnel | Grade | Hours | Rate | Amount |
|---|-----------------|--------|--------|--------|
| (Insert Name of Person who worked on Task) | | | | |
| (Insert Name of Person who worked on Task) | | | | |
| (Insert Name of Person who worked on Task) | | | | |
| Subtotal Personnel | | | | |
| Ancillary Services/Equipment | Units | Rate | Amount | |
| (Insert Name of Ancillary Services/Equipment used for Task) | | | | |
| (Insert Name of Ancillary Services/Equipment used for Task) | | | | |
| (Insert Name of Ancillary Services/Equipment used for Task) | | | | |
| Subtotal Ancillary Services/Equipment | | | | |
| Subcontractors | Invoice Amount* | Markup | Amount | |
| (Insert name of subcontractor who worked on Task) | | | | |
| (Insert name of subcontractor who worked on Task) | | | | |
| (Insert name of subcontractor who worked on Task) | | | | |
| Subtotal Subcontractors | | | | |

| | |
|--|--|
| Subtotal for Task __ (Insert Task Number) | |
|--|--|

| | |
|--|--|
| TOTAL _____ (Insert billing period for which bill is being submitted) | |
|--|--|

* All Subcontractor invoices must be attached.

EXHIBIT F

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

PERFORMANCE BOND

PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable. The below addresses are to be used for giving required notice.

CONTRACTOR (Name and Address):

SURETY (Name and Principal Place of Business):

| | |
|--|--|
| | |
|--|--|

OWNER (Name and Address):

| |
|--|
| Connecticut Resources Recovery Authority 100 Constitution Plaza, 6 th Floor Hartford, CT 06103-1722 |
|--|

AGREEMENT

| | |
|---|--|
| DATE: | |
| AMOUNT: | |
| PROJECT DESCRIPTION <small>(Including Name and Location):</small> | Operation and Maintenance of the Hartford Landfill Groundwater Flow Control System Hartford Landfill 180 Leibert Road Hartford, Connecticut |

BOND

| | |
|---|---------------------|
| BOND NUMBER: | |
| DATE: <small>(Not earlier than Agreement Date)</small> | |
| AMOUNT: | DOLLARS (\$ _____) |

IN WITNESS WHEREOF, Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on Pages 2 and 3 hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

| |
|--|
| |
|--|

(SEAL)

| |
|--|
| |
|--|

(SEAL)

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

| | | | |
|------------------------|--|------------------------|--|
| SIGNATURE: | | SIGNATURE: | |
| NAME AND TITLE: | | NAME AND TITLE: | |

TERMS AND CONDITIONS TO PERFORMANCE BOND

1. The Contractor and the Surety jointly and severally bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the foregoing Agreement, the terms of which are incorporated herein by reference. Any singular reference to the Contractor, the Surety, the Owner or any other party herein shall be considered plural where applicable.
2. If the Contractor performs the Agreement, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.
3. If there is no Owner Default (as hereinafter defined), the Surety's obligation under this Bond shall arise after:
 - 3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below, that the Owner is considering declaring a Contractor Default (as hereinafter defined) and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen (15) days after the receipt of such notice to discuss methods of performing the Agreement. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Agreement, but such an agreement shall not waive the Owner's right, if any, to subsequently declare a Contractor Default; and
 - 3.2 The Owner has declared a Contractor Default (as hereinafter defined) and formally terminated the Contractor's right to complete the Agreement. Such Contractor Default shall not be declared earlier than twenty (20) days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1.
 - 3.3 The Owner has agreed to pay the Balance of the Agreement Price to the Surety in accordance with the terms of the Agreement or to a contractor selected to perform the Agreement in accordance with the terms of the agreement with the Owner.
4. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 4.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Agreement; or
 - 4.2 Undertake to perform and complete the Agreement itself, through its agents or through independent contractors; or
 - 4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Agreement, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with a performance bond executed by a qualified surety equivalent to the bond issued on the Agreement, and pay to the Owner the amount of damages described in Paragraph 6; or
 - 4.4 Waive its right to perform and complete, arrange for completion or obtain a new contractor and with reasonable promptness under the circumstances:
 - 4.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefor to the Owner; or
 - 4.4.2 Deny liability in whole or in part and notify the Owner citing reasons therefor.
5. If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen (15) days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4 and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.
6. After the Owner has terminated the Contractor's right to complete the Agreement, and if the Surety elects to act under Subparagraph 4.1, 4.2 or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Agreement, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Agreement. To the limit of the amount of this Bond, the Surety is obligated without duplication for:
 - 6.1 The responsibilities of the Contractor for correction of defective work and completion of the Agreement;
 - 6.2 Additional legal and delay costs resulting from the Contractor's Default and resulting from the actions or failure to act of the Surety under Paragraph 4; and
 - 6.3 Liquidated damages, or if no liquidated damages are specified in the Agreement, actual damages caused by delayed performance or non-performance of the Contractor.
7. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Agreement. No right of action shall accrue on this Bond to any person or entity other than the Owner or its successors and assigns.
8. The Surety hereby waives notice of any change, including changes of time, to the Agreement or to related subcontracts, purchase orders and other obligations.
9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two (2) years after Contractor Default or within two (2) years after the Contractor ceased working or within two (2) years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions

of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page of this Bond.
11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Agreement was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions confirming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12. Definitions.

12.1 Balance of the Agreement Price: The total amount payable by the Owner to the Contractor under the Agreement after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Agreement.

12.2 Agreement: The agreement between the Owner and the Contractor identified on the signature page, including all Agreement Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with any of the terms of the Agreement.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Agreement or to perform and complete or comply with the other terms hereof.

EXHIBIT G

To

**OPERATION AND MAINTENANCE OF THE
HARTFORD LANDFILL
GROUNDWATER FLOW CONTROL SYSTEM AGREEMENT**

LETTER OF CREDIT

LETTER OF CREDIT

To Be Issued By a Connecticut Bank Or By a National Banking Association

| | | | |
|--|---|------------------|--------|
| Irrevocable Standby Letter Of Credit No. | [Letter Of Credit #] | | |
| Issuance Date: | [Date] | Expiration Date: | [Date] |
| Beneficiary: | Connecticut Resources Recovery Authority 100 Constitution Plaza, 6th Floor Hartford, CT 06103 | | |

Gentlemen:

We hereby establish our Irrevocable Standby Letter Of Credit No. [Letter Of Credit #] in favor of the "Beneficiary," Connecticut Resources Recovery Authority ("CRRA"), at the request and for the account of [Name of Contractor], for the sum or sums up to the aggregate amount of [amount of Letter Of Credit] available for payment against your draft(s) at sight on us.

Drafts must be drawn and presented to us at this office not later than our close of business on [Date] or any duly extended expiration date, and each draft must bear the following clause: "Drawn Under Letter Of Credit No. [Letter Of Credit #]."

Drafts must be accompanied by a certified statement from the Beneficiary that [name of Contractor] has failed to satisfy or perform one or more of its obligations or breached one or more of its covenants or representations under a certain Operation And Maintenance Of The Hartford Landfill Groundwater Flow Control System Agreement between [name of Contractor] and CRRA, dated as of [Date].

Partial drawings hereunder are permitted.

We hereby agree with you that drafts drawn under and in compliance with the above terms of this Letter Of Credit shall be duly and promptly honored on due presentation and delivery to us on or before the above-referenced expiration date or any duly extended expiration date.

The term "Beneficiary" includes any successor by operation of law of the named Beneficiary including, without limitation, any liquidator, rehabilitator, receiver or conservator.

Except as expressly stated herein, this undertaking is not subject to any agreement, condition or qualification. The obligation of [name of the issuing Connecticut Bank or National Banking Association] under this Letter of Credit is the individual obligation of [name of the issuing Connecticut Bank or National Banking Association] and is in no way contingent upon reimbursement with respect thereto.

It is a condition of this Letter Of Credit that it is deemed to be automatically extended without amendment for one (1) year from the expiration date stated above, or any future expiration date, unless not later than ninety (90) days prior to the expiration date stated above or the then current expiration date we notify you by registered mail that we elect not to renew this Letter Of Credit for any such additional period.

We hereby agree that all drafts drawn under and in compliance with the terms of this Letter Of Credit shall be duly honored by us at your first demand, notwithstanding any contestation or dispute between you and **[name of Contractor]**, if presented to us in accordance with the provisions hereof.

This Letter of Credit is subject to and governed by the laws of the State of Connecticut, the decisions of the courts of that state, and the Uniform Customs and Practice for Documentary Credits (1993 Revision) International Chamber of Commerce Publication No. 500 and in the event of any conflict, the laws of the State of Connecticut and the decisions of the courts of that state will control. If this Letter Of Credit expires during an interruption of business of this bank as described in Article 17 of said Publication 500, **[name of issuing Connecticut Bank or National Banking Association]** hereby specifically agrees to effect payment if this Letter of Credit is drawn against within thirty (30) days after the resumption of business from such interruption.

Very truly yours,

Authorized Signature for
[name of issuing Connecticut Bank or National Banking Association]