

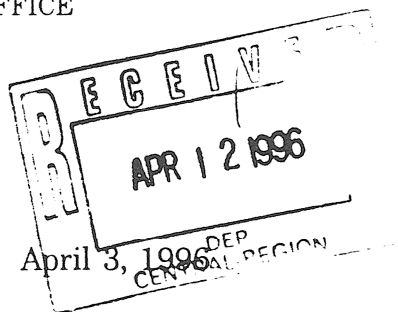
COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
CENTRAL REGIONAL OFFICE

WILLIAM F. WELD
Governor

MARGO PAUL CELLUCCI
Lt. Governor

TRUDY COXE
Secretary

DAVID B. STRUHS
Commissioner



CERTIFIED

In the Matter of
the
City of Leominster

**ADMINISTRATIVE CONSENT ORDER
FILE # ACO-CE-96-4003**

ARTICLE I - THE PARTIES

1. The Department of Environmental Protection (the "Department") maintains its principal offices at One Winter Street, Boston, Massachusetts, and also operates a regional office at 75 Grove Street, Worcester, Massachusetts. The Department's authority to issue this Administrative Order is conferred by M.G.L. chapter 111, section 150A; chapter 21, section 44; and chapter 30A, section 10.

2. The City of Leominster (the "City") is a municipal corporation located in Worcester County and duly organized under the laws of the Commonwealth of Massachusetts, with its principal offices located at the City Hall, Leominster, Massachusetts.

ARTICLE II - STATEMENT OF FACTS

1. The Department is a duly constituted agency of the Commonwealth of Massachusetts, established pursuant to M.G.L. c. 21A, § 7, which is responsible for the implementation and enforcement of M.G.L. c. 111, § 150A and § 150A1/2 and the regulations promulgated thereunder at 310 CMR 16.00, the **Site Assignment Regulations for Solid Waste Management Facilities** and 310 CMR 19.000, the **Solid Waste Management Facility Regulations** ("310 CMR 19.000"). The Department is also authorized to assess civil administrative penalties pursuant to M.G.L. c. 21A, § 16 and the regulations promulgated thereunder at 310 CMR 5.00.

2. The City owns and had operated (through the City Department of Public Works) the Leominster Municipal Landfill (the "Landfill") located off Mechanic Street Leominster, Massachusetts. The Landfill has ceased acceptance of the City's municipal solid waste since 1982. Department files do not indicate that the Landfill has been capped, and therefore is currently classified as an inactive unlined landfill.

3. Solid waste has been excavated from the Landfill and transported to Johnny Appleseed Lane in Leominster, Massachusetts when the Leominster Connector was built (1977-1978). On July 1, 1976 a letter was sent to Mr. Radlo, Department of Public Works, Boston, MA, regarding granting of an assignment for a landfill at the "exhausted gravel pit" on Johnny Appleseed Lane (the "JAL Site").

Further conditions were referenced in the letter regarding: "Leominster, Approval of Plans, Sanitary Landfill-Johnny Appleseed Lane", from the Department to Mr. Robert T. Teirney, P.E., Chief Engineer, Commonwealth of Massachusetts, Department of Public Works, Boston, MA and dated September 29, 1976.

The JAL Site is classified as an unlined inactive landfill by the Department. The Department has not received the required proof of final closure and post closure plan. The Department has not received JAL Site environmental monitoring data from either the City or their designated agent as required by 310 CMR 19.104 (6).

4. The Landfill received Department Plan Approval for operation on November 21, 1978. Although no acreage was mentioned the life expectancy for this portion of the landfill was to be four (4) years. The Department responded to a request from the City for an expansion to the plan approved facility as an emergency, interim solution. The life expectancy for this area was to be for approximately six (6) months. The Department approved these plans on September 17, 1980.

5. The Department approved the Landfill Operational and Closure Plans on January 11, 1982. The proposed final grades (as mentioned in the report) extended the life of the Landfill, and provided proper drainage and closure grades,

in accordance with the "Regulations for the Disposal of Solid Wastes by Sanitary Landfill".

6. The City proposed to use a portion of "the existing landfill site, Phase IV on the westerly side" to dispose of the Leominster Waste Water Treatment Plant sludge. The Department approved a temporary (12 months) Sludge Disposal method on March 9, 1982.

7. During the inspection of the Landfill by Department personnel on March 19, 1987, it was observed that the City was continuing to dispose of wastes at the Landfill and that the active sections of the Landfill had not been graded nor capped properly in compliance with 310 CMR 19.000. These conditions increase the infiltration of water and decrease surface runoff which result in an increase in leachate production.

8. The Department is in receipt of a letter from the City of Leominster, Department of Public Works regarding: "Formal Notification, Cease of Landfill Operation, Mechanic Street, Leominster, MA." The letter is dated June 28, 1990. The letter states that on or about January 1982 municipal waste acceptance was ceased. It further states that acceptance of sludge from the Leominster Waste Water Treatment Plant was ceased on or about July, 1989. The letter further states that; "It is the intent, through this notification, of the City of Leominster, Department of Public Works, and in conjunction with the Leominster Board of Health to cause the City of Leominster to advertise for an RFP as set forth under 310 CMR 19.030(3)(C)5 for closure and past (*sic*) [*post*] closure of the now inactive municipal landfill."

9. On September 30, 1991, the Department sent a letter to the City regarding: DSWM, CERO - Leominster Sanitary Landfill, Mechanics Street, Leominster, MA: Compliance with New Solid Waste Management Regulations. The letter included the following paragraph:

"If your facility will stop operating prior to July 1, 1992, a closure and post closure maintenance plan must be filed prior to the cessation of operations. If the landfill operated after April 21, 1971, but stopped

operating before July 1, 1990, then proof that the facility was closed in accordance with approved plans or a final closure/post closure plan in compliance with 310 CMR 19.104(6) must be submitted before January 1, 1992."

The Department has not received the required proof of final closure and post closure plan. The Department has not received environmental monitoring data regarding the Landfill from either the City or their designated agents as required by the cited regulation.

10. Data presented to the Department from the United States Environmental Protection Agency (hereinafter "EPA") in NUS/FIT 1984 and NUS/FIT 1990 Reports present the Landfill history and the results of environmental monitoring. The data indicates the presence of Inorganic, Volatile Organic (VOC), and Semi Volatile Organic (SVOC) compounds in samples collected at the Site. The Site is listed by the EPA as CERCLIS No. MAD980523294 and by the Department as a Location to be Investigated (hereinafter "LTBI") Number 2-81.

11. Methane was found in the basements of residences near the Landfill. Methane accumulation had been noticed in the monitoring wells located at the Landfill. Gas vents were installed at the Landfill to vent methane (1987).

12. Testimony regarding the Landfill was presented during the City of Leominster, Massachusetts, City Council, Case No. 1 of 1987, heard on February 17, 1987. The reference may be found in Book 1577, page 10 through Book 1577, page 14. The testimony by the DPW, recorded in Book 1577, page 12 of the recorded Case indicates Landfill related gas and Landfill leachate were identified as concerns.

13. A report entitled: Leachate Study, Mechanic Street Sanitary Landfill, Leominster, Mass., and dated December 10, 1981, submitted by E.J. Flynn Engineers, Inc. of Middleboro, MA, indicates the Landfill was "... once wetland." (page 6). The reference further indicates the lack of an impermeable cover and poor drainage "contribute considerably to the production of leachate". The report reached some conclusions regarding the impact of the Landfill and proposed

action. The referenced report, in this paragraph, was approved by the Department on January 11, 1982.

14. The Clean Waters Act prohibits any person from allowing the discharge of any pollutant into waters of the Commonwealth except in conformance with a permit issued under §43 of such Act. For the purposes of the Act the "waters of the Commonwealth" is defined to include both surface and groundwater (§26A), and "pollutant" is defined as "any element or property of sewage, leachate or compound whether originating at a point source or major non-point source (§26).

Article III - DEFINITIONS

The terms in this CONSENT ORDER shall have the same meaning as provided in the regulations unless the context clearly indicates otherwise.

ARTICLE IV - DISPOSITION AND ORDER

1. As a result of discussions which have taken place between the Department and the City (collectively "the parties") and without adjudication of any fact or law set forth above, the parties have agreed to negotiate this Administrative Consent Order (hereinafter "CONSENT ORDER"), rather than expend the time and resources necessary to adjudicate this matter, specifically the procedure and schedule to cap and assess the Landfill. This CONSENT ORDER represents the full and final agreement between the parties concerning the closure of the Landfill. This CONSENT ORDER shall not constitute, be construed as, or operate as an admission that the City has violated any law or regulation and shall not constitute any evidence or implication of any such violation.

2. The City shall develop plans for final capping of the Landfill (with special attention to removal and control of landfill gas) in accordance with the schedule outlined below in Article IV, paragraph 5.

3. The City shall conduct an Initial Site Assessment (ISA) to include a Scope of Work for a Comprehensive Site Assessment for the Landfill in accordance with the schedule outlined below in Article IV, paragraph 5.
4. The City shall conduct a Comprehensive Site Assessment (CSA) and, if applicable, a Corrective Action Alternatives Analysis as outlined in section 19.150 (6) of the Facility Regulations for the Landfill in accordance with the schedule outlined below in article IV, paragraph 5.
5. The City shall comply with the landfill assessment and closure process. Failure to conduct additional required assessment to evaluate the potential threat of the Landfill to public health and the environment, and failure to implement appropriate remedial responses found to be necessary to address this threat, including but not limited to CSA, Corrective Action Alternative Analysis (CAAA) and Post-closure monitoring, may be grounds for future administrative review, agreement and/or enforcement by the Department. In particular, failure to appropriate funds to perform the ISA, CSA, Final Capping and Post Closure Monitoring will result in further actions. The ISA, CSA, CAAA (if applicable), Final Capping and Post Closure Monitoring shall proceed in accordance with the following schedule:

CLOSURE OF THE LANDFILL

- 5A. By **April 13, 1996**, the City shall have a signed contract for engineering services for design of closure plans for, and assessment of, the Leominster landfill.
- 5B. By **June 1, 1996**, the City shall submit to the Department for review and approval, design plans for final capping and closure of the Landfill.
- 5C. By **July 15, 1996**, the City shall have appropriated funds sufficient to cover the final capping of the Landfill.

- 5D. By **July 15, 1996**, the City shall have a contract for construction of the landfill cap in place.
- 5E. By **June 15, 1997**, the City shall have completed closure of the Landfill and shall forward to the Boston Office of the Department a "Request for Final Payment", accompanied by the required documentation as outlined in the Grant Agreement Scope of Services. (A copy of the City of Leominster Scope of Services is attached for your reference)

LANDFILL ASSESSMENT

- 5F. In order to: provide sufficient information to develop a design for control of landfill gas during preparation of final closure plans for the landfill; and, to provide for the health and safety of abutters during the closure of the Landfill, the city shall:
- a) Provide the Department with a schedule for continued periodic surveying of abutting structures and underground conduits for the presence of explosive gasses.
 - b) Provide the Department with a schedule for a preliminary landfill gas sampling and analysis plan to examine the landfill gas for the presence of volatile organic compounds. The plan shall be carried out in accordance with the information provided in the Department of Environmental Protection, *Landfill Technical Guidance Manual*, September 1993.
- 5G. By **August 1, 1996**, the City shall have completed and submitted to the Department for review and approval, the ISA and CSA scope of work. The ISA shall include, but not be limited to, an assessment of the monitoring wells at the Landfill, site inspections, and base maps which accurately portrays current features of the site and a current

map listing property and the owners of those who abut the Landfill. Guidance for the assessment process is found in the Landfill Technical Guidance Manual (revised September, 1993) and Standard References for Monitoring Wells (DEP Publication #WSC-310-91). A schedule of tasks to be completed for the CSA report shall accompany the CSA/SOW.

- 5H. Upon receipt of an approval to proceed with the CSA, the City shall, **within 60 days of said approval**, appropriate the necessary funds to perform the CSA and shall commence work on the CSA in accordance with the approved schedule.
- 5I. Upon completion of the CSA, the City shall submit design plans for remediation in accordance with a CAAA, if applicable.

POST CLOSURE MONITORING

- 5J. Upon completion of closure activities, the City shall provide for the post closure maintenance and monitoring of the Landfill in accordance with the requirements of section 19.142 (as amended) of the Facility Regulations.

GENERAL

- 5K. By **April 10, 1996**, the City shall provide, to the Department, a written summary of the actions to be undertaken to address the issues discussed in this CONSENT ORDER.
- 5L. Upon signing of this CONSENT ORDER, the City shall submit to the Department, a report, due on the fifteenth (15th) of the following month, and every other month thereafter, until the activities required by this CONSENT ORDER have been deemed completed by the Department. The report shall indicate the steps the City has taken to comply with the requirements of this CONSENT ORDER.

5M. The Johnny Appleseed Lane Site (JAL) shall be evaluated, corrective action implemented (if required and as approved by the Department) and monitored in accordance with the requirements of 310 CMR 19.000. By **August 1, 1997**, the City shall provide the Department with a schedule for assessment of the JAL Site in accordance with the requirements of 310 CMR 19.000.

6. Nothing in this CONSENT ORDER shall be construed as or operate as, barring, diminishing, adjudicating, or in any way affecting any legal or equitable right of the Department to issue any future Order with respect to the subject matter covered by this CONSENT ORDER, or in any way affecting any other claim, action, suit, cause of action, or demand which the Department may initiate.

7. The Department hereby determines, and the City hereby agrees, that the deadlines set forth in this CONSENT ORDER constitutes a timeframe to perform the acts expressly agreed to in this CONSENT ORDER and that the activities required pursuant to this CONSENT ORDER otherwise meet the requirements of 310 CMR 19.000.

8. The activities conducted pursuant to this CONSENT ORDER are subject to approval by the Department and shall be performed in accordance with Massachusetts General Laws Chapter 111, Section 150A, 310 CMR 19.000 and all other applicable federal, state and local laws, regulations and approvals. Any non-compliance with the requirements and provisions of applicable federal, state and local laws, regulations, or approvals which delays the achievement of any performance deadline set by this CONSENT ORDER shall constitute a violation of this CONSENT ORDER, except as set forth in section IV.

9. All engineering work performed pursuant to the Closure, ISA and CSA issues presented in this CONSENT ORDER, shall be under the general direction and supervision of a qualified, (experienced in solid waste management, assessment and design) registered professional engineer. Any contractual relationship between the City and the engineer subsequent to this CONSENT ORDER shall require the engineer, as a condition of the contract, to implement

work consistent with the provisions of this CONSENT ORDER. The City shall provide the Department with a signed copy of any existing contractual agreements or evidence of work completed at the Landfill relating to the issues presented in this CONSENT ORDER within thirty (30) days of the date of the receipt of this CONSENT ORDER. The City shall further provide the Department with a signed copy of any subsequent contractual agreements for the Closure, ISA and CSA between the City and the engineer or between the City and any subsequent engineer within thirty (30) days of execution.

10. This CONSENT ORDER shall apply to and be binding upon the City and its successors and assigns. No change in ownership of the Landfill shall in any way alter the responsibility of the City under this CONSENT ORDER. The City shall provide a signed copy of this CONSENT ORDER to any successor or assign.

11. The City shall not violate this CONSENT ORDER and shall neither allow nor suffer its successors, agents, or contractors to violate this CONSENT ORDER.

12. The Department and its agents and employees shall have the right to enter upon the Landfill and JAL Site, without notice, to monitor the City's compliance with this CONSENT ORDER and all applicable environmental laws and regulations.

13. If, at any time, there exists at the Landfill a condition that results in a threat to the public health, safety, or the environment, the Department may seek any relief it deems appropriate.

ARTICLE V - FORCE MAJEURE

1. If any event occurs which delays or will delay a performance date established by this CONSENT ORDER, which event was beyond the control and without the fault of the City and any entity it controls, including its contractors and consultants, and which event could not have been prevented or avoided by the exercise of due care, foresight, or due diligence on the part of the City or any entity it controls, including its contractors and consultants, the City shall

immediately, and in any event within fifteen (15) days of such occurrence, notify the Department in writing of the anticipated length of the delay, the cause of the delay and the steps or measures to be taken to prevent or minimize the delay, including a timetable by which the City intends to implement such steps or measures. Upon receiving the approval of the Department, the City shall implement such steps or measures as are approved by the Department to avoid or minimize any delay. Nothing in this Paragraph shall excuse any noncompliance by the City with the provisions of this CONSENT ORDER.

2. If the City notifies the Department of the occurrence of an event which delays or will delay a performance date established by this CONSENT ORDER, and if the City otherwise complies with the requirements of Paragraph 1 of this section, and if the Department determines that the delay has been or will be caused by circumstances beyond the control and without the fault of the City and can not or could not have been overcome by the exercise of due diligence, due care or foresight, the Department shall extend the time for performance hereunder for a period of time equal to the length of the delay.

3. If the City disagrees with the Department's determination pursuant to paragraph 2 of this section, and if the parties are unable to reach an agreement that the delay has been or will be caused by circumstances beyond the control and without the fault of the City or any entity it controls, including its contractors and consultants, and can not or could not have been overcome by the exercise of due diligence, due care or foresight by the City or any entity it controls, including its contractors and consultants, then the matter may be submitted by any party to the Massachusetts Superior Court for resolution. If the Court determines that the delay has been or will be caused by circumstances beyond the control and without the fault of the City and any entity controlled by the City, including its consultants and contractors, and that the delay can not or could not have been overcome by the exercise of due care, foresight, or due diligence by the City or any entity controlled by the City, including its consultants and contractors, stipulated penalties shall not be due for the period of time the delay continues due to circumstances beyond the control and without the fault of the City.

4. In any proceeding pursuant to paragraph 3 of this section, the City shall

bear the burden of proving: (a) that the delay has been or will be caused by circumstances beyond the control and without the fault of the City and any entity controlled by the City, including its consultants and contractors; (b) and that neither the City, nor any entity controlled by the City, including its contractors and consultants, could have prevented or avoided such delay by the exercise of due care, foresight, or due diligence on the part of the City or any entity controlled by the City, including its contractors and consultants; and (c) the number of days of the delay caused by such circumstances.

5. Unanticipated or increased costs or expenses associated with the implementation of the actions required under this CONSENT ORDER or changed financial circumstances shall not, for the performance of the actions required by this CONSENT ORDER, be considered circumstances beyond the control and without the fault of the City.

ARTICLE VI - STIPULATED PENALTIES

1. In the event the City, or its employees, agents, or contractors, violates this CONSENT ORDER, the City shall pay stipulated penalties in accordance with the following schedule:

For each day of each violation of schedules set forth above in paragraph twelve (12), the City shall pay stipulated penalties as follows:

<u>Period of Violation</u>	<u>Penalty per day</u>
1st through 30th day	\$ 500 per day
31st through 90th day	\$1000 per day
91st day and thereafter	\$2000 per day

2. All stipulated penalties shall be paid without demand before the fifteenth (15th) day of the month following the month in which the violations occurred by

means of a certified check payable to the Commonwealth of Massachusetts Environmental Challenge Fund at the following address:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
One Winter Street
Boston, MA 02211

The name of the Municipality and the CONSENT ORDER reference number shall be printed clearly on the face of the check.

ARTICLE VII - ADMINISTRATIVE PENALTIES

Failure by the City to comply with any provision of this ORDER or with any Department rule or regulation may result in the assessment of administrative penalties by the Department in the amount of up to twenty five thousand dollars (\$25,000) per day, per violation in accordance with M.G.L. c. 21A § 16.

Article VIII - DISPUTE RESOLUTION

1. The Department and the Town shall attempt to resolve informally any disagreements concerning implementation of this CONSENT ORDER or any work required hereunder.
2. If the Town objects to any written approval, disapproval, claim, demand or determination of the Department (including a determination pursuant to the force majeure section of this CONSENT ORDER) made in accordance with this CONSENT ORDER, the Town shall notify the Department in writing of its specific objections within seven (7) days of receipt of the Department's writing. In response, the Department shall set a date for the completion of dispute resolution and notify the Town of such date either by writing, facsimile or oral

communication followed by a writing; such date shall be no sooner than seven (7) days after the Department receives the written notice of objections.

3. The Town and the Department then shall attempt to resolve the objections and may engage in discussions, meetings, fact-finding and any other activities which facilitate resolution of the objections. At any time, the Department may require the Town to submit to the Department a more complete written statement of its objections and the factual and legal basis for such objections.

4. After the dispute has been resolved or the date for completion of dispute resolution has passed, the Regional Director, or his/her designee, shall issue a written statement setting forth the agreement or his or her findings and the final determination in the matter. Such agreement or determination will be effective upon the receipt of such written statement by the Town.

5. The Town shall undertake all the work required by the agreement or the Department's final determination. Failure of the Town to undertake such work shall be a violation of this CONSENT ORDER.

6. The Town may enter objections pursuant to this Section no more than twice per phase of work and no more than a total of three (3) times throughout the implementation of this CONSENT ORDER.

7. Entering objections pursuant to this section shall not be cause for delay of the implementation of any work not specifically the subject of the written notice of objections. Deadlines for other work which is specifically the subject of the written notice of objections shall be extended an amount of days equal to the number of days from the date of the Department's initial writing to the date of the agreement or the Department's final determination.

8. Any stipulated penalties due under this CONSENT ORDER shall not be subject to this Section. The Department's reservation of rights also shall not be subject to this Section. Determinations involving permits, approvals, orders, agreements and other actions by the Department under authority other than

M.G.L. c. 111, § 150A and the regulations promulgated thereunder at 310 CMR 19.000 shall not be subject to dispute resolution pursuant to this Section.

ARTICLE IX - NON WAIVER

Failure on the part of the Department to complain of action or non-action on the part of the City shall not constitute a waiver by the Department of any of its rights hereunder. Furthermore, no waiver by the Department of any provision herein shall be construed as a waiver of any of the other provisions herein.

ARTICLE X - SEVERABILITY

If any term or provision of this CONSENT ORDER or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this CONSENT ORDER, and the application thereof, shall not be affected thereby, and each remaining term and provision shall be valid and enforceable to the fullest extent permitted by law.

ARTICLE XI - SUBMISSIONS

Submissions required by this CONSENT ORDER shall be made in writing to the following:

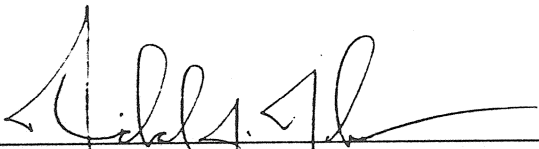
TO DEP: Michael J. Maher
Regional Engineer for Waste Prevention
Department of Environmental Protection
75 Grove Street
Worcester, MA 01605

TO THE CITY: The Hon. Dean J. Mazzarella, Mayor
City of Leominster
Office of the Mayor
25 West Street
Leominster, MA 01453

XII. EFFECTIVE DATE

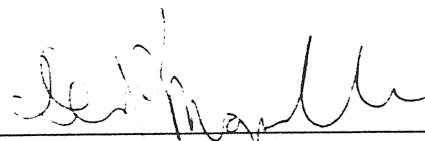
This CONSENT ORDER shall be effective on the date signed by the Department.

For the DEPARTMENT OF ENVIRONMENTAL PROTECTION:

By: 
Michael J. Maher,
Regional Engineer for Waste Prevention

Date: 04/12/96

For the CITY OF LEOMINSTER:

By: 
Dean J. Mazzearella, Mayor
City of Leominster

Date: 4/12/96

cc: Philip Weinberg, DEP, DSWM, Boston
Richard Gioiosa, DEP, DSWM, Boston
Rebecca Cutting DEP, Legal, CERO
Paul Anderson, DEP, DSWM, CERO
Cheryl Poirier, DEP, DSWM, CERO
Nancy Smith, US EPA, Region 1, Boston
Robert Carlson, BOH, Leominster
City Council, Leominster
Conservation Commission, Leominster
Patrick LaPoint, Dept. of Public Works, Leominster
John Giorgio, City Solicitor, Kopelman and Paige
Dana Huff, Tighe and Bond, Consulting Engineers
Senator Robert Antonioni
Representative Mary Jane Simmons

LEOM4-96.ACO

September 29, 1997

Mayor Dean J. Mazzarella
25 West Street
City Hall
Leominster, Massachusetts 01453

CERTIFIED

Re: Leominster-DSWM-Sanitary Landfill
Initial Site Assessment
Mechanic Street

Amendment to: ACO-CE-96-4003

Dear Mayor Mazzarella:

The Department of Environmental Protection (the "Department" or "DEP") has reviewed the request submitted by, and on behalf of, the City of Leominster (the "City") regarding the City's request to change the Consent Agreement (ACO) between the City and DEP. The ACO became effective on April 12, 1996. The City has requested that the Department allow an extension of deadline for preparation of a site assessment work scope for the Johnny Appleseed Lane Site in Leominster. Section 5M. of Paragraph 5, ARTICLE IV of the ACO had established August 1, 1997, as the required date for submittal of the work scope.

In accordance with section VIII. Dispute Resolution of the ACO, and based on review of the documentation and discussions with the City, the Department hereby changes ARTICLE IV, Paragraph 5, Section 5M of ACO-CE-96-4003 to read:

5M. The Johnny Appleseed Lane Site (JAL) shall be evaluated, corrective action implemented (if required and as approved by the Department) and monitored in accordance with the requirements of 310 CMR 19.000. By **November 20, 1997**, the City shall provide the Department with a schedule for assessment of the JAL Site in accordance with the requirements of 310 CMR 19.000.

City of Leominster
Leominster-DSWM-Sanitary Landfill
Amendment to: **ACO-CE-96-4003**
Page 2.

The City should note that failure to comply with this submittal date will result in enforcement action as outlined in the ACO.

Please contact Paul Anderson (ext. 3802) or William DiLibero ext. 3708, from the Division of Solid Waste Management at (508) 792-7653, if you have any questions.

Very truly yours,

Sincerely,

Paul Anderson, Program Chief,
BRP - Municipal Assistance Program Support

MAS/WAD/wad
W:\SWM\LEOMAMD.CSA

cc: Philip Weinberg, DEP, Boston
Robert Carlson, Leominster Health Department
Alan Benvides, RUST Environment & Infrastructure

RUST Rust Environment & Infrastructure Inc.

A Rust International Company
10 Ferry Street, Suite 202
Concord, NH 03301

Phone 603.224.5511
Fax 603.226.2795

MAILED

SEP 5 1997

August 25, 1997

Ms. Cheryl A. Poirier
Commonwealth of Massachusetts
Department of Environmental Protection/Central Region
75 Grove Street
Worcester, MA 01605

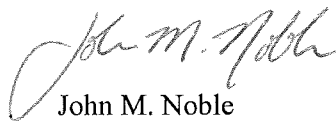
Subject: Site Assessment Work Scope
Johnny Appleseed Lane Site
Leominster, Massachusetts

Dear Ms. Poirier:

Per our August 21, 1997 conversation, Rust Environment and Infrastructure (REI), on behalf of the City of Leominster, would like to request an extension of the deadline to prepare the work scope to conduct a site assessment of the Johnny Appleseed Lane (JAL) Site in Leominster, Massachusetts. REI requests that the deadline be extended to October 20, 1997 to allow the DEP to sort their files relating to project, and to allow REI to conduct file reviews and prepare the work scope. To prepare the work scope, it is necessary for REI to examine all documents on file with the DEP and the City of Leominster, Board of Health, relating to the relocation of solid waste from the Leominster Municipal Landfill to Johnny Appleseed Lane during the construction of the Leominster Connector from 1977 to 1978.

I will telephone in one week to inquire about a convenient time for REI to examine the files. If you have any questions or comments, please feel free to call. Thank you for your assistance.

Sincerely,



John M. Noble
Project Hydrogeologist



Alan A. Benevides, P.E., L.S.P.
Project Manager

C: Mr. Robert Carlson, Director
Board of Health

Mr. Pat LaPointe, Director
Department of Public Works

Mayor Dean Mazzarella

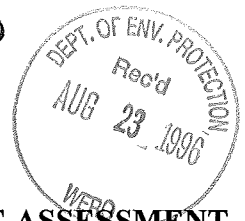
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Quality • Integrity • Creativity • Responsiveness



MAR 14 1997
CENTRAL REGION



INITIAL SITE ASSESSMENT

LEOMINSTER MUNICIPAL LANDFILL

**Mechanic Street
Leominster, Massachusetts**

Prepared for:

City of Leominster
City Hall
25 West Street
Leominster, MA

Prepared by:

Rust Environment & Infrastructure
25 Corporate Drive, Ste 230
Burlington, MA 01803

August 1, 1996

*Quality through
teamwork*

INITIAL SITE ASSESSMENT

**LEOMINSTER MUNICIPAL
LANDFILL**

**Mechanic Street
Leominster, Massachusetts**

Prepared for:

City of Leominster
City Hall
25 West Street
Leominster, MA

Prepared by:

Rust Environment & Infrastructure
25 Corporate Drive, Ste 230
Burlington, MA 01803

August 1, 1996

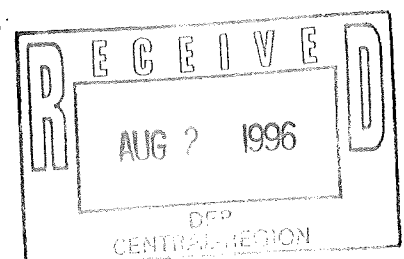


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Appendix

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- C DEP-GIS Solid Waste Assessment Priority Resource and Land Use Maps
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EXECUTIVE SUMMARY

The Leominster Landfill is an approximately 31.6 acre municipal landfill located off Mechanic Street in Leominster, Massachusetts. This Initial Site Assessment (ISA) of the Leominster Municipal Landfill has been completed in accordance with the Massachusetts Department of Environmental Protection (DEP) guidelines as outlined in Solid Waste Regulations 310 CMR 19.150 and the DEP's *Landfill Assessment and Closure Guidance Manual* (LAC Manual) revised in September 1993. The ISA is the first phase of the Landfill Assessment Program. The ISA consists of a historical and literature review, an evaluation of existing data and the identification of sensitive receptors.

The landfill may have received solid waste beginning somewhere between 1890 and 1940. The landfill has not received municipal waste since at least January 1982 and ceased to accept sludge from the Leominster Waste Water Treatment Plant by July 1989. A wetland area and the North Nashua River are located downgradient (i.e., northeast) of the landfill property.

The primary studies performed previously at the landfill include a Leachate Study (E.J. Flynn, 1981) and the Final Screening Site Characterization (NUS/FIT, 1991) performed under the Region 1 Environmental Protection Agency, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) program. Groundwater sampling of monitoring wells installed in 1981 on the perimeter of the landfill (1981 and 1991) have not indicated the presence of VOCs, SVOCs, or pesticides/PCBs in groundwater beneath the landfill property. Routine landfill monitoring parameters have been elevated above Massachusetts Maximum Contaminant Levels (MMCLs) or Secondary Maximum Contaminant Levels (SMCLs), especially in the downgradient groundwater monitoring wells. Surface water samples collected from the North Nashua River in 1981 and analyzed for general water quality/chemistry indicated relatively poor water quality at upstream and downstream locations. In 1988 several complaints were made to the City of Leominster Board of Health concerning the presence of landfill gas in the basements of homes along Mechanic Street across from the landfill.

The next phase of the Landfill Assessment Program, the Comprehensive Site Assessment (CSA), will involve the development and implementation of an environmental monitoring network, quarterly environmental monitoring, field investigations and summary reports in order to conduct a risk assessment of the landfill. This ISA report also provides a draft Scope of Work for the CSA. The DEP issued an Administrative Consent Order dated April 3, 1996 which requires the City to complete construction of the landfill closure (i.e., cap) by June 17, 1996. Therefore, closure activities will occur concurrently with the CSA. The closure activities are expected to be complete by December 1996. The data collected during the CSA will ultimately serve as the tool for deciding if any site remediation (in addition to the cap) is required to properly close the landfill.

1.0 BACKGROUND/HISTORICAL INFORMATION

1.1 Introduction

The Leominster Municipal Landfill is an approximately 31.6 acre municipal landfill located off of Mechanic Street in Leominster, Massachusetts (the landfill) (the site). This Initial Site Assessment (ISA) report has been prepared by Rust Environment & Infrastructure on behalf of the City of Leominster, Massachusetts (the City) in accordance with the Massachusetts Department of Environmental Protection (DEP) guidelines as outlined in Solid Waste Regulations (310 CMR 19.150) and the *Landfill Assessment and Closure Guidance Manual, Revised September 1993* (LAC Manual).

The DEP has adopted a landfill assessment process which is designed to determine the impact of a landfill on environmental quality by characterizing the nature and extent of contamination and assessing the associated risks to public health and the environment. The ISA is the first phase of the Landfill Assessment Program. The primary purpose of the ISA is to gather and evaluate all existing information related to the landfill, develop a conceptual site model, identify potential human and environmental receptors, and prepare a scope of work for the second phase of the process, or the Comprehensive Site Assessment (CSA).

The DEP issued an Administrative Consent Order dated April 3, 1996 which requires the City to complete construction of the landfill closure (i.e., cap) by June 17, 1996. Therefore, closure activities will occur concurrently with the CSA. The closure activities are expected to be complete by December 1996. The data collected during the CSA will ultimately serve as the tool for deciding if any site remediation (in addition to the cap) is required to properly close the landfill.

The ISA is composed primarily of five main components:

- Collection and evaluation of available data and historical information, along with a site visit;
- Defining the geologic and hydrologic conditions of the site, including known or potential contamination;
- Identifying and mapping potential human and environmental receptors;
- Defining the activities to be performed in the CSA; and
- Developing a detailed scope of work for the CSA.

This section contains an overview of the historical and general information for the landfill, and was based on information obtained from the DEP and City files, interviews with current and former City personnel, and reviews of existing data and reports.

1.2 Ownership and Abutters

The Leominster Municipal Landfill is located off of Mechanic Street in the City of Leominster, Worcester County, Massachusetts near the intersection of Route 2 and Interstate 190 (Latitude 42°31'12.5", Longitude 071°44'05"). A locus plan based on a U.S.G.S. quadrangle map is presented in Figure 1.1. This map shows the location, topography and surficial geology of the landfill site and surrounding areas.

The landfill is owned by the City, which purchased the property in 1900. Uses of the property prior to purchase by the City are unknown. However, the property was mapped as a wetland and may have been unusable. The main portion of the landfill is a 17.8 acre parcel identified as Lot 1A on the Leominster Assessors Map Number 572. The landfill is also comprised of the three adjoining parcels to the east, including: Lot 1 on Assessors Map Number 445 (10.74 acre); Lot 29 on Assessors Map Number 445 (2.80 acres); and Lot 29A on Assessors Map Number 445 (± 0.22 acres), all owned by the City of Leominster (total size approximately 31.6 acres). Lot 1A on Assessors Map Number 445 (see table below) may have also received some municipal waste. The parcel abutters are presented in Table 1.1 below.

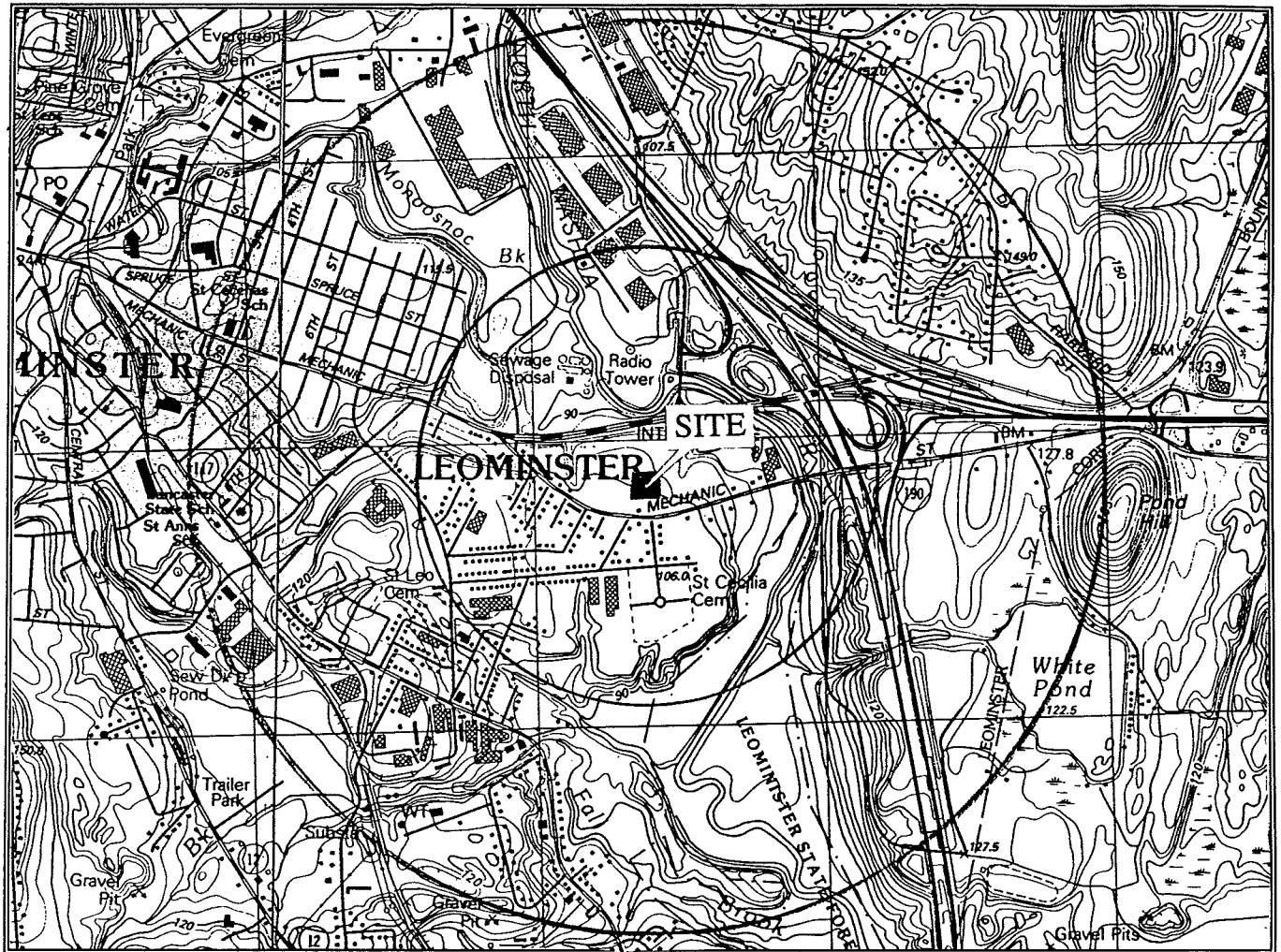
Table 1.1
Landfill Abutting Owners and Land Use

Direction	Abutters		
	Map-Lot Number/Size	Owner	Land Use
North	Map 572	City of Leominster	Leominster Connector
East	445-1A/5.5 acres	Zichelle	Vacant/Undeveloped
	445-2/5.5 acres	Zichelle	Office Building
South	156-275/20,000 sq. ft. (SF)	Charette	Apartments
	157-233/9,440 SF	Shammas	Single Family Residence
	157-227/12,000 SF	Marrama	Single Family Residence
	157-187/10,326 SF	Chhom	Single Family Residence
	157-181/12,504 SF	Cedeno	Single Family Residence
	157-128/10,784 SF	Leblan/Jeannine	Single Family Residence
	158-122/11,310 SF	Basque/Bolduc	Single Family Residence
	158-77/9,740 SF	Fontaine	Vacant/Residential
	158-71/29,049 SF	Caiado	Four Unit Apartment
West	572-17A/2.21 acres	Longstone Ltd.	Vacant/Industrial
	572-6/10,000 SF	Whitman	Vacant
	572-10/9,963 SF	Whitman	Office Building
	572-11A/9,209 SF	Robichaud	Vacant/Residential

Figure 1.1

Locus Plan

Leominster Municipal Landfill
Mechanic Street
Leominster, Massachusetts



Sources: USGS Ayer and Fitchburg Quadrangles (1988)
Massachusetts
7.5 x 15 Minute Series (Topographic)

APPROXIMATE SCALE
1 : 24,000

CONTOUR INTERVAL
3 Meters
National Geodetic Vertical Datum 1929

SITE LATITUDE/LONGITUDE
43 Degrees 31' 12.5" N
71 Degrees 44' 05" W

1.3 Operational History

It is unclear when the property was first used for the disposal of solid waste, but this use may have begun somewhere between 1890 and 1940. The disposal of solid waste on the property is reported to have occurred in three stages: open dump, sanitary landfill, and sludge landfill. The City operated the landfill as an open dump until the early 1970s. During this time, trash was dumped on existing piles, was frequently burned and no cover material was used. The use of cover material began around 1958. However, the landfill continuously burned, whether intentionally or by spontaneous combustion. Intentional burning at the landfill was banned by the City of Leominster Board of Health on March 25, 1969, with the exception of demolition debris from a Methodist church which was being razed at the time.

In 1965, recommendations and plans were made to operate the property as a sanitary landfill. In 1971, the Massachusetts Department of Public Health (DPH) issued the City a Notice of Violation of the "Regulations for the Disposal of Solid Wastes by Landfill" for numerous violations including the disposal of chemical wastes and the disposal of industrial wastes in a wetland. In 1977, industries in Leominster were notified that hazardous wastes would not be accepted at the landfill.

Periodic inspections of the landfill have indicated several incidents of industrial and chemical waste disposal between 1971 and 1981, as follows:

Table 1.2
Known Chemical and Industrial Waste Incidents

1971	Engineers from the DPH reported the disposal of an industrial waste described as "white sludge" from the Foster Grant Chemical Company. Visual evidence suggested that the material was not always covered and had flowed "great distances" - potentially to the Nashua River. The City DPW later reported that this material was "inert".
1974	Inspectors from the DEP (then the Department of Environmental Quality and Engineering - DEQE) observed "hundreds, possibly thousands, of 55-gallon chemical drums". It is unknown what the drum contents were, if any, or if the drums were later removed.
1975	DEQE inspectors observed the disposal of machine oil and questioned whether this material was a hazardous waste.
1976	DEQE inspectors observed a truck delivering empty barrels and a "strong odor of organic chemicals" in the area. The Foster Grant Chemical Company, Inc. indicated that this disposal of chemical waste was authorized by the City.
1979	DEQE inspector observed empty drums and questioned whether hazardous waste had been disposed.
1980	An inspector for the DEQE noted the disposal of "mixed barrels of chemical byproducts" brought there by Polysar Resins, Inc. The inspector was of the understanding that Polysar had been asked to remove the barrels. This material was later determined to be non-hazardous by RCRA standards.
1981	An inspector for the DEQE noted the disposal of polyvinyl chloride (PVC) sludges from the Borden Chemical Company (they had been granted a Special Waste permit-license from the City Board of Health to dispose of approx. 1000 yd ³). This material was determined to be non-hazardous by RCRA standards.

Industrial wastes which have reportedly been disposed of at the landfill have included vinyl chloride, polyvinyl chloride and trichloroethene (i.e., Borden Chemical PVC sludge). In April of 1980 the operation of the landfill was taken over by Sam Cosimi, a private contractor in Leominster. Mr. Cosimi furnished all equipment, labor and fill used for cover at the landfill.

The use of the property as a municipal landfill ceased on or about January 1982. However, the landfill continued to be used as a sludge disposal facility for the City's Waste Water Treatment Plant. The disposal of sludge reportedly began as early as 1974 and ceased on or about July 1989.

The volume of material in the landfill could not be accurately determined. In 1964, a reported 70 to 80 tons of material were disposed of at the landfill every week. It has been further estimated that 6,700 tons of municipal solid waste were received by the landfill from 1965 to 1979. By 1981, an estimated 140 tons/day of solid waste were brought to the landfill. Based on cross-sections of the landfill, an estimated 2,040,000 cubic yards of solid waste may have been disposed of at the landfill.

In 1977, the landfill was divided into two areas divided by the Leominster Connector (I-190 Connector) which passes through the northern portion of the property. During the construction, an unknown volume of material was excavated from this portion of the property and disposed of on a property located on Johnny Appleseed Lane in Leominster.

A second construction project occurred in 1984 when the City installed a sewer line between the Leominster Connector and the landfill. During excavation for the sewer line, the contractor (P. Gioioso & Sons, Inc.) reported that leachate and groundwater filled the trench.

1.4 Site Mapping

A Site Plan (Base Map), located in Appendix A, shows applicable site features of the property boundary at a scale of 1" = 60'. The plan shows topography at 2 foot contour intervals, property lines, estimated limits of refuse, locations of test pits performed by Rust E&I (refer to Appendix B), structures, wetlands, and existing and proposed monitoring well locations. The survey for this map was conducted in April 1996. A copy of GIS-based Solid Waste Assessment Priority Resource and Land Use Map was obtained from the DEP Division of Solid Waste on June 10, 1996. These maps may be used to assess regional information. A copy of the DEP-GIS Solid Waste Assessment maps are included in Appendix C. The City Assessors Maps, available at the Assessors office, show property lines, structures and landfill abutters. The DEP's Natural Heritage and Endangered Species Program was contacted concerning the presence of vernal pools and endangered species in the area of the landfill. A copy of this map is included in Appendix D. The following table summarizes pertinent information regarding site features identified on the various site mapping.

Table 1.3
Summary of Base and Regional Map Features

Item	Description
Wetlands	According to the Site Plan, a vegetated wetland area is located immediately to the northeast of the landfill. Solid waste is located within the wetland and will be removed during closure. The Solid Waste Assessment Priority Resource Map indicates that Fresh Water Non-Forested Wetlands are located approximately 0.7 miles to the southeast of the landfill around White Pond. NUS/FIT indicated that a total of 245 acres of wetlands are located within 1 mile of the landfill. Of these, 40 acres are adjacent to the landfill, and 130 acres are along the North Nashua River.
Floodplains	Portions of the north and east sides of the landfill are located within the 100-year flood plain of the North Nashua River. The base 100-year flood elevations are between 293 feet and 296 feet.
Public Water Supplies	The Solid Waste Assessment Priority Resource Map indicates that there are no public water supplies within 1 mile of the landfill. The closest public well (Southeast Wells) is located 1.3 miles west (cross-gradient) of the landfill.
Private Water Supplies	According to the Leominster Board of Health, two private water supply wells are located approximately 0.1 miles south of the landfill at the eastern end of Florence Street. Roy F. Weston estimated that 48 private wells are present within a 1 mile radius of the landfill.
Zone II	According to the Solid Waste Assessment Priority Resource Map, the landfill is not located within the Zone II of a public water supply.
Interim Wellhead Protection Areas (IWPA)	The Solid Waste Assessment Priority Resource Map indicates that the IWPA for the Southeast Wells in Leominster is located approximately 0.9 miles west (cross-gradient) of the landfill.
Aquifer Protection Zones	The Solid Waste Assessment Priority Resource Map indicates that there are no high yield aquifers within a 1-mile radius of the landfill. Medium yield aquifers are located approximately 0.4 miles south and 0.75 miles southwest of the landfill boundary.
Areas of Critical Environmental Concern (ACEC)	According to the Solid Waste Assessment Priority Resource Map, an ACEC is located to the southeast of the landfill, beginning just south of Mechanic Street, along the North Nashua River. Protected and Recreational Open Space areas are located to the north, southeast, and west within a 1-mile radius of the landfill.
Watersheds and Drainage	The Landfill is located within the Nashua River Basin. Runoff from the landfill likely flows directly into the North Nashua River.
Natural Heritage and Endangered Species	No vernal pools or endangered species are located in the area of the landfill.

1.5 Zoning and Land Use

The Leominster Zoning Map prepared in July 1987 indicates the landfill parcel is zoned as Industrial. Areas to the north and east are also zoned as Industrial. Zoning in surrounding areas to the west and south are primarily zoned as Residential (Light and Medium). An area immediately to the west is zoned as Commercial.

Land use in the area (i.e., 0.5 mile), based on visual observations and the Solid Waste Assessment Land Use Map, indicates that it is generally Residential, Forest and Transportation. Much of the area comprising the landfill is designated as Cropland. An area to the northwest of the landfill is indicated as Waste Disposal (Leominster's Waste Water Treatment Plant). Open Areas with No Vegetation are located to the north (just north of the North Nashua River) and on the northeast corner of the landfill. Spectator Recreation areas are found to the northwest and west. A Commercial area is located to the west of the landfill near the North Nashua River. The abutters to the landfill and their land use were presented in Table 1.1.

1.6 Current Site Conditions

Site visits were performed on May 23, 1996 and June 14, 1996. The purpose of the site walks were to document the existing environmental conditions at the landfill, including:

- the condition of the landfill surface cap;
- direction(s) of surface water runoff; the location and condition of all monitoring devices;
- evidence of leachate outbreaks;
- evidence of landfill gas emissions;
- location and condition of surface water and wetlands;
- landfill operation procedures;
- land use of adjacent properties;
- landfill accessibility; and
- local geology.

The landfill is located off Mechanic Street and is bordered to the north by the Leominster Connector to the south by Mechanic Street, and to the east and west by private property owners. A residential neighborhood is located south of the landfill across Mechanic Street. Approximately 10 acres of the landfill (from Mechanic Street to the center of the site) have flat to shallow slopes (<5%). Most of the side slopes are mild ranging from 5% to 20%. The mound of solid waste in the northeast corner of the landfill has steep slopes ranging from 4H:1V to 2H:1V. Most of the landfill is covered with heavy vegetation including small to medium trees. Approximately 5 acres has been filled with a sandy material and is not vegetated. An isolated 1.13 acre ponded area exists on top of the landfill due to the deposition of sludge from the Leominster's Waste Water Treatment Plant. The top of the landfill is at an elevation of 350 feet above mean sea level and the toe-of-slope along the Leominster Connector is at an elevation of 300 feet above mean sea level.

Table 1.4 summarizes the general field observations made during the site reconnaissance.

Table 1.4
Site Walk Summary - General Observations

Item	Description
Landfill Surface Condition	The landfill has been largely inactive for approximately seventeen (17) years. However, some disposal of yard waste and household furnishing has occurred. The landfill surface is vegetated in most areas with brush, grass and some small- and medium-height trees. The side slopes on the north and west side are sparsely covered, in some areas, with municipal waste visible at the surface. Areas of ponded water were observed on the south side of the landfill, indicating inadequate grading and poor drainage. An unused building is located on the landfill just off Mechanic St. between Seventh Ave. and St. Cecilia Ave. A fence is located between the Leominster Connector and the landfill.
Surface Water Runoff	With the exception of flat areas and areas of mounding in the south-central portion of the property, the landfill is a mound shape such that surface water runoff is diverted towards the north, east and west. The area on the northeast side of the landfill is steeply sloped, diverting water into the wetland area bordering the North Nashua River.
Monitoring Wells	Nine (9) groundwater monitoring wells were installed in 1981 as part of a <i>Leachate Study</i> performed by E.J. Flynn Engineers, Inc. The well boring logs included in the report provide little information concerning well construction details. An inspection of these wells during the site walk indicated a number of deficiencies which are further discussed in Section 4.1.
Leachate Breakouts	No leachate breakouts were observed during the site visit. However, apparent rust-stained water was observed on the northwest perimeter of the landfill. Leachate breakouts were previously noted during the Final Screening Site Inspection performed under the direction of the Region 1 Environmental Protection Agency.
Gas Emissions	Evidence of gas emissions included dead trees along the Mechanic St. property line near Fourth Ave. Numerous gas vents were installed on the landfill in 1987. Following several complaints to the City's Board of Health in February 1988, the basements of six homes were found to contain elevated levels of methane and the monitoring wells could not be capped because of methane buildup in the wells. As a result, a combustible gas meter with an alarm was installed in 5 homes on Mechanic St., one home on Sixth Ave. and one home on St. Cecilia Ave. Odors were detected during the site visit upon opening the existing monitoring wells.
Surface Water and Wetlands Locations	A wetland area is located on the northeast side of the landfill near the North Nashua River. Wetland vegetation has spread up the side of the landfill mound. Wetland-type vegetation is also found over the southern portion of the landfill near the wet areas mentioned above. The North Nashua River flows into the Nashua River approximately 9 miles downstream of the landfill. The northeast portion of the landfill is located within the 100-year flood plain.
Landfill Operations	Operation of the property as a municipal landfill ceased on or about January 1982. The City ceased to accept sludge from the Leominster's Waste Water Treatment Plant on or about July 1989.

Adjacent Land Use	The areas to the south, east and west of the site are largely used for residential purposes. Numerous homes are located in these areas. The area immediately to the north of the landfill is occupied by the Leominster Connector. An unused parcel of land is located on the eastern border of the landfill. This parcel was found to contain groundwater contamination including vinyl chloride, 1,1-dichloroethene and diethylphthalate. Just to the east of this parcel is the Crossroads Office Park which includes two buildings totaling approximately 68,000 square feet. The Park is occupied by numerous businesses including a child day care center.
Landfill Accessibility	The northern border of the landfill is separated from the Leominster Connector by a chain-link fence. However, there are no other barriers or restrictions to access. The landfill is easily accessed from Mechanic Street (to the south) via an unpaved road located on the east side of the existing on-site building. A second access road is located further to the west of the existing building and allows unrestricted access onto the central portion of the landfill from Mechanic Street.
Geology	The areas surrounding the landfill consists of sandy/silty soils with some areas of gravel fill. No visible areas of rock outcrop were observed.
Recreational Use	Despite its relative ease of accessibility, no evidence of recreational uses were observed.

In the mid to late 1980s, the City installed a two-foot-thick impervious soil cap over a 9-acre area. However, there are no records which document the limit of the cap or the quality of the installation. The existing landfill gas collection/control system consists of a collection trench along Mechanic Street (a perforated pipe installed a couple of feet below grade and embedded in stone) and a blower system connected to the perforated pipe, to actively vent migrating landfill gas to the atmosphere. The blower system is currently inoperative and the collection trench vents landfill gas passively. A number of "candy cane" landfill gas vents were previously installed to assist in the passive control of landfill gases. Although the design plans for these vents indicate they extend down to the groundwater, no as-built drawings or log sheets were available. It is expected that the vents were installed to a shallow depth and do not effectively vent landfill gases.

1.7 Potential Environmental and Sensitive Receptors

Based on the site visit and the MASS-GIS Solid Waste Assessment Priority Resource Assessment maps, sensitive potential receptors were identified in the vicinity of the landfill. This list includes the following:

- The residences on Mechanic Street, Third Avenue, Fourth Avenue, Fifth Avenue, Sixth Avenue and St. Cecilia Street in the vicinity of the landfill;
- The Piccolo Mondo Childcare and Learning Center located to the east of the landfill at 680 Mechanic Street in the Cross Roads industrial park;
- The ACECs along the North Nashua River to the southeast of the landfill;

- The Southeast Elementary School located on Viscoloid Street, approximately 0.4 miles to the west of the landfill;
- The North Nashua River; and
- Protected and Recreational Open Space areas located to the north and southeast of the landfill.

The Massachusetts Site Assignment regulations (310 CMR 16.00) identifies hospitals, nursing homes and prisons located within 0.5 miles of a site as a sensitive receptor. There are no facilities of this type in the vicinity of the landfill.

2.0 PRIOR SITE INVESTIGATIONS

This section of the ISA briefly describes prior contamination and/or hydrogeologic investigations at the landfill and adjacent properties.

2.1 NUS/FIT CERCLA Final Screening Site Inspection

In 1991, the NUS Corporation Field Investigation Team (NUS/FIT) was requested by the Region 1 Environmental Protection Agency (EPA), Waste Management Division to perform a *Final Screening Site Inspection* of the landfill under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA) (commonly referred to as "Superfund"). This evaluation was undertaken in response to the results of the *Preliminary Assessment* of the property in January 1984, discussed below in Section 2.2. Information for this evaluation was obtained through file searches at the DEP and EPA, site reconnaissance (June 15, 1990), and groundwater and soil sampling (June 19, 1990).

The environmental sampling included the collection of 5 soil samples (including one background and one duplicate) and 4 groundwater samples (including one duplicate). The groundwater samples were collected from monitoring wells installed previously by E.J. Flynn during the *Leachate Study* discussed below in Section 2.3. The monitoring wells sampled were designated by NUS/FIT as GW-01, GW-02 and GW-03, formerly referred to by E.J. Flynn as Well Nos. 2, 3 and 4, respectively.

The results of the NUS/FIT study included much of the background and operational history of the landfill presented previously. Additional information obtained from the file reviews, the site visit and environmental sampling results included the following:

- No leachate breakouts were observed;
- No volatile organic chemicals (VOCs), semi-volatile organic chemicals (SVOCs), pesticides or polychlorinated biphenyls (PCBs) were detected in groundwater at levels above the EPA Maximum Contaminant Levels (MCLs);
- Several inorganics were detected in groundwater at concentrations greater than their MCLs;
- Approximately 13,459 people are served by groundwater sources within 4 miles of the landfill;
- It has not been determined if the North Nashua River and the groundwater are hydraulically connected; and
- Of the soil samples collected from areas of stained soils or stressed vegetation, only the SVOC bis(2-ethylhexyl)phthalate was detected at a concentration greater than 3 times the background detection limit.

2.2 Earlier NUS/FIT Inspections

The first notification to the EPA regarding potential hazardous waste being disposed of at the landfill reportedly was in November 1979. As a result, the site was added to the CERCLA list in 1981-1982.

An inspection of the perimeter of the property was performed by NUS/FIT on November 3, 1983. The only comments provided by NUS/FIT were that:

- the Nashua River flows adjacent to the site on the north and east sides;
- the landfill is not encompassed by a fence;
- monitoring wells were noted at various locations in the landfill;
- some trash was observed, but no leachate breakouts were noted on the perimeter; and
- the landfill was inactive at the time.

(Note: At that time the sludge from the Leominster Waste Water Treatment Facility was being landfilled and covered, and an on-site pilot compost project was ongoing).

A *Preliminary Assessment* report was performed in January 1984 by NUS/FIT at the request of the Region 1 EPA. The following conclusions were made based on personal interviews, file reviews and a site visit (January 9, 1984):

- Very little documentation concerning the types and quantities of waste is available;
- The only notifier, Borden Chemical, indicated that small amounts of PVC sludge were disposed of at the landfill;
- Only one-third of the landfill is capped (i.e., materials may be leaching from the landfill to the underlying aquifer);
- The landfill is adjacent to the Nashua River and its adjoining wetland;
- High levels of methane have been noted to be emanating from the landfill. The nine on-site monitoring wells have to be kept open to reduce the chances of accidental explosion;
- Residents have complained repeatedly about the odors;
- Although closed, the landfill is receiving sewage sludge from a nearby treatment plant;
- The landfill does not have any restrictions to access; and
- The landfill may have been subject to "midnight dumping" and liquid waste disposal from local chemical industries (highly suspected, but no evidence currently exists).

An inspection of the property by NUS/FIT on March 15, 1984 provided the following comments to the DEP (then the DEQE):

- Sludge is currently landfilled and covered at the site;
- A pilot compost project by the City is currently on-site; and
- A Special Waste Permit for disposing of approximately 1,000 cubic yards of pond sludge from Borden Chemical was issued by the Leominster Board of Health on December 11, 1980 (ending January 1, 1981).

2.3 E.J. Flynn Leachate Study

In 1981, E.J. Flynn Engineers, Inc. of Middleboro, MA performed a *Leachate Study* to determine the extent to which the landfill had affected the surrounding environment. This study was intended to supplement the closure plans which had been submitted to the DEP and the City. The investigation involved the installation of nine (9) monitoring wells around the landfill perimeter, the collection of two rounds of groundwater samples (September 29, 1981 and October 26, 1981) and two sets of surface water samples (September 17, 1981 and October 26, 1981) from six (6) locations from the unnamed stream on the northwest portion of the former landfill area to the north of Leominster Connector and from the North Nashua River in this area (four (4) upstream and two (2) downstream). The monitoring well and surface water sample locations are presented in Figure 2.1. Groundwater and surface water samples were submitted for laboratory analysis of general water quality parameters. Existing subsurface conditions on the Leominster Waste Water Treatment Plant were also determined through test borings and test pit explorations.

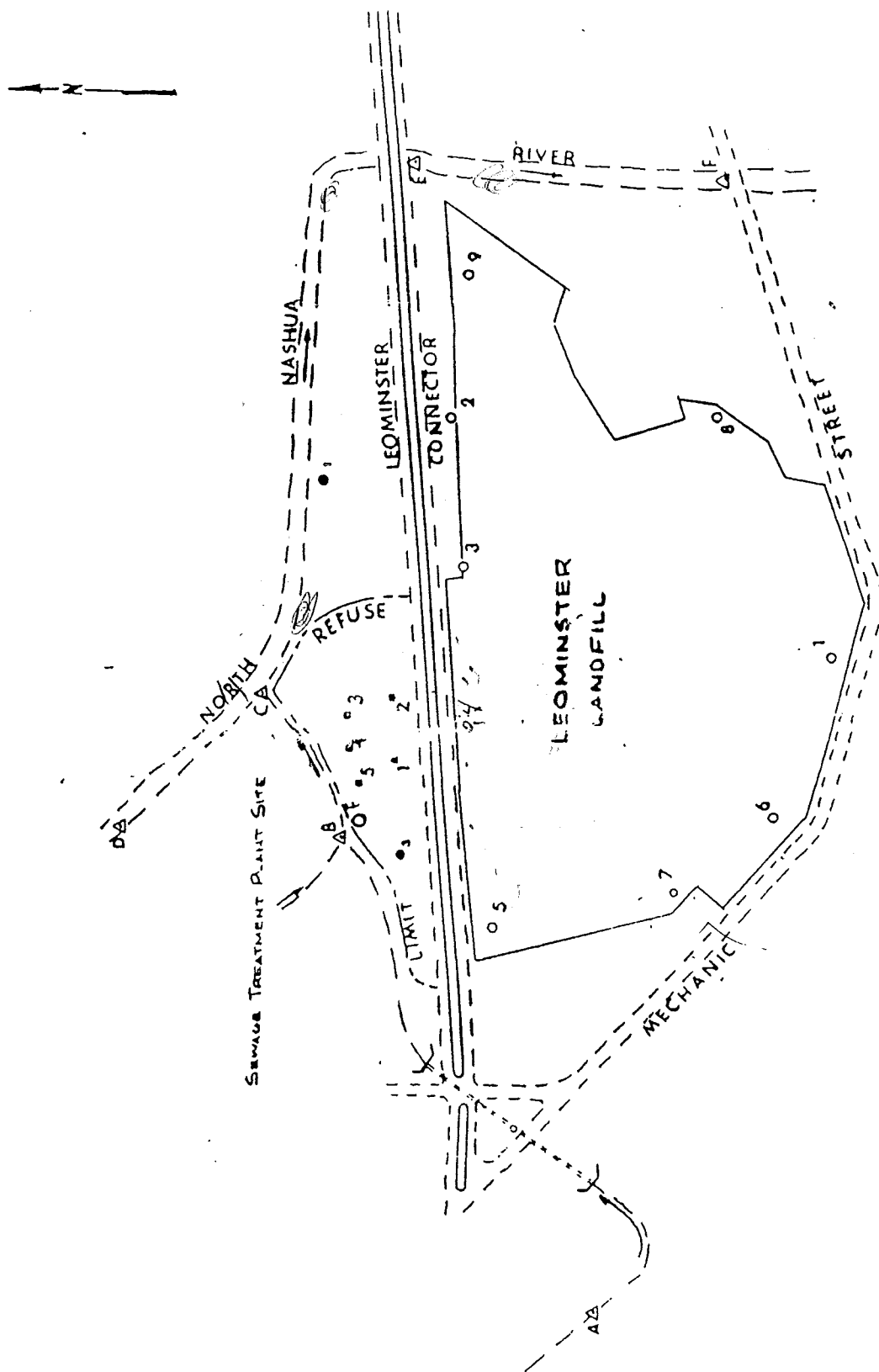
The following conclusions were made concerning the environmental conditions at the landfill and surrounding environment:

- The D.L. Maher Co. boring logs (Appendix E) indicated that the soil strata consists of refuse overlying fine to medium sands with some localized veins of gravel and clay'
- The soil is "non-cohesive and will allow water to pass readily";
- Varying depths of soils cover refuse layers of as much as 19 feet in thickness and refuse is present at or below the groundwater table in some locations;
- Groundwater beneath the landfill flows in a north-northeast direction with an average gradient of 3%;
- Groundwater quality was better in upgradient monitoring wells (Nos. 1, 6, and 7) than the other wells, however, many parameters (iron, manganese, hardness) were elevated in these wells also; and
- Surface water quality was poor at upgradient and downgradient locations.

2.4 Nearby Property Studies

A Site Assessment was performed in 1986 at the property which abuts the landfill to the east by BSC Engineering (BSC) on behalf of Abraham Sack Realty Trust. The property is comprised of two separate parcels of land. This evaluation is summarized in a report entitled *Site Assessment Summary* (December 1986). The study consisted of a site reconnaissance conducted on November 20, 1986 and research of the property and vicinity. The findings of the study included:

- The property was undeveloped and had been used as a dairy farm;
- The City of Leominster obtained 5.5 acres of the property by eminent domain in order to expand the municipal landfill;
- The City of Leominster decided not to expand the municipal landfill and transmitted the land back to the property owner in 1978;
- Parcel 1 borders the landfill. Test pitting indicated construction rubble and plastic refuse in the subsurface along the lot line bordering the landfill. The remainder was characterized as naturally occurring dense gray glacial till;



LEGEND

- △ Surface Water Sample
- Test Boring
- Monitoring Well
- Indicates Flow
- Test Pits

Figure 2.1

Locus Plan for Leachate Study
E.J. Flynn Engineers, Inc.
December 10, 1981

RUST

Rust Environment & Infrastructure

- Parcel 2, located further to the east, was characterized as clean, fine, silty sand (fill) over natural material. A municipal sewer line installed in 1985 runs along the western edge;
- Based on water level data, the proximity of the Nashua River, and topographic data, groundwater flow is generally toward the east-northeast; and
- There was no evidence of spills or releases of oil or hazardous materials at the property. However, pentachlorophenol was found in the groundwater at 660 µg/l (ppb).

On March 10, 1987, BSC collected groundwater samples from five monitoring wells located on Parcel 1, adjacent to the landfill, and submitted them for analysis of soluble metals, alkalinity, chloride, pH, total solids, ammonia, nitrate, specific conductivity, sulfate and chemical oxygen demand. In addition two of the samples (monitoring wells OW-5 located on the southeast corner of the parcel and OW-7 located on the northwest corner of the property bordering the landfill) were submitted for analysis of volatile organic chemicals (VOCs) via EPA Method 624 and semi-volatile organic chemicals (SVOCs) via EPA Method 625 (OW-7, only). The following results were obtained:

- Evidence of landfill leachate was observed in groundwater directly adjacent to the landfill;
- No VOCs were detected in site groundwater; and
- Low levels of phenol (390 ppb) and di-n-butylphthalate (110 ppb) were present in site groundwater adjacent to the landfill.

A comprehensive hazardous waste assessment was performed on Parcel 1, above, by Whitman & Bingham Associates, Inc. on behalf of the current property owner, Peter Zichelle. The purpose of the study was to evaluate the limits of hazardous waste contamination discovered on the site which may have been generated from the Leominster Municipal Landfill. The results of this investigation are presented in the report *Hazardous Waste Investigation at Lot-1A, Mechanic Street, Leominster, Massachusetts 01453, July 19, 1994* and include the following:

- The property is undeveloped and no discoloration or visual contamination of surface soils was observed;
- Based on the general topography, apparent trash disposal is evident on the property;
- Strong odors from the observed trash within the test pits was evident;
- Indicators of landfill leachate (manganese, copper, zinc and beryllium), SVOCs (diethylphthalate) and VOCs (1,1-dichloroethene and vinyl chloride) were elevated in OW-7, located at the northwest corner of the property, at levels up to 6 times the Reportable Quantities set forth in the Massachusetts Contingency Plan 310 CMR 40.03); and
- Groundwater flow is generally in a northerly direction, consistent with the surrounding topography.

2.5 Current Site Inspection Prioritization

In a telephone conversation with Sharon Hayes, Region 1, EPA, CERCLA Program, Rust E&I became aware that Roy F. Weston, Burlington, MA is currently performing a Site Inspection Prioritization (SIP) assessment at the landfill on behalf of the EPA under the CERCLA program.

This evaluation involves:

- A review of existing EPA and DEP files;
- A site reconnaissance (performed in October 1995);
- Collection of sediments from an unnamed stream on the northwest portion of the former landfill area to the north of Leominster Connector and from the North Nashua River in this area (upstream and downstream) (collected in May 1996); and
- Scoring of the site under the EPA's Hazard Ranking System.

A draft SIP report is expected to be available in August 1996, with the final report due in November 1996.

3.0 HYDROGEOLOGIC DESCRIPTION

3.1 Surficial Geology

A surficial geology map was unavailable for the Leominster area. According to the NUS/FIT *Final Screening Site Inspection*, the area underlying the North Nashua River has been mapped as stratified or sorted deposits of sand, gravel, boulders and clay. The soil mapped adjacent to the landfill on the east and south sides consists of Hinckley sandy loam formed on esker ridges (rapid to very rapid permeability).

Nine monitoring wells were installed on the landfill in 1981 as part of the *Leachate Study*. Characterization of soils during the wells installations indicate that the surficial materials were described as fine to medium sands with veins of gravel and clay.

Rust E&I conducted test pit excavations throughout the landfill on April 17 and 19, 1996 in order to estimate the horizontal limits of refuse and determine soil types. Test pit excavations were performed along the western, southern and eastern property lines. Test pits could not be conducted along the northern property line (Leominster Connector) due to access easements and the existing chain link fence. Instead, hand augering was performed to delineate the limit of solid waste along this portion of the landfill boundary. Copies of the test pit logs are included in Appendix B of this report.

The test pit and hand augering excavations indicated that on the northern portion of the landfill solid waste extends to the toe-of-slope along the Leominster Connector. In addition, solid waste was deposited off-site along the eastern and western property lines. Solid waste was also found within the 100-year flood plain on the northeastern corner of the site.

3.2 Bedrock Geology

Bedrock geology maps are included in Appendix D of this report. The bedrock underlying the landfill has been mapped as metamorphosed calcareous siltstone and quartzofeldspathic granofels of the Oakdale Formation. The Wekepeke Fault is located approximately 1.3 miles east of the landfill.

3.3 Hydrology

A hydrology map was unavailable for the landfill area. According to the *Final Screening Site Inspection*, the landfill is located in an area mapped as an aquifer in unconsolidated materials. The aquifer follows the valleys along the North Nashua River. Well yields for the aquifer are projected to be between 0 and 100 gallons/minute, with transmissivity of between 0 and 1,350 feet²/day.

Depth to groundwater data collected from monitoring wells as part of the *Leachate Study* indicated that the depth to groundwater ranges from approximately 5 feet below ground surface (bgs) at monitoring Well No. 9 (northeast corner of landfill near North Nashua River) to approximately 42 feet bgs at monitoring Well No. 1 (near the on-site building off Mechanic Street). The direction of groundwater flow based on the obtained groundwater elevations is expected to the northeast towards the North Nashua River.

The landfill is located within the Nashua River Basin. Based on the slope of the landfill and proximity to the North Nashua River, runoff from the landfill is expected to flow directly to the River. The North Nashua River flows into the Nashua River approximately 9 miles downstream of the landfill. The average discharge of the North Nashua River is approximately 192 feet³/second based on measurements at a gauging station 9,000 feet downstream of the landfill.

4.0 ENVIRONMENTAL MONITORING

4.1 Groundwater Monitoring

4.1.1 Groundwater Monitoring Well System

The existing groundwater monitoring system consists of wells installed in 1981 as part of the *Leachate Study*. The boring logs for the monitoring wells are included in Appendix E. As part of the site walk, these wells were inspected to determine condition and to verify construction. Their approximate locations are indicated on Figure 2.1 Locus Plan for Leachate Study. The existing groundwater monitoring well system is described in Table 4.1 below.

Table 4.1
Existing Groundwater Monitoring Well System

Well Number	Installation Date	Well Construction	Elevation	Data (bgs)
			Well Depth	Screen
1	8/17/81	10 slot screen 1½" PVC No ground seal No locking pipe box or vented cap Protective casing bent - Not usable	66'7"	58'-68'
2	8/19/81	10 slot screen 1½" PVC No locking pipe box or vented cap No ground seal Well cap rusted to protective casing	23'7½"	14'-24'
3	8/18/81	10 slot screen 1½" PVC - protruding 3" above casing No locking pipe box or vented cap No ground seal Venting methane when opened	39'	28'-38'
4	8/18/81	10 slot screen 1½" PVC - protruding 3" above casing No locking pipe box or vented cap Ground seal 1' above ground Venting methane when opened	47'5½"	30'-50'
5	9/2/81	Well Not Located 10 slot screen 1½" PVC	28'	11'-21'
6	9/1/81	Well Not Located 10 slot screen 1½" PVC	28'	18'-28'

7	9/1/81	10 slot screen 1½" PVC No locking pipe box or vented cap No ground seal Venting methane when opened	28'	18'-28'
8	9/3/81	Well Not Located 10 slot screen 1½" PVC	50'	27'-42'
9	9/3/81	Well Not Located 10 slot screen 1.5" PVC	21'	4'-14'

4.1.2 Groundwater Monitoring Results

As part of the *Leachate Study* and sporadic sampling at the landfill, several groundwater samples have been collected between 1981 and 1985. NUS/FIT also collected groundwater samples from existing monitoring wells in 1990 as part of the *Final Screening Site Inspection*. The following table presents an overview of the groundwater sampling results at the landfill.

Table 4.2
Summary of Previous Groundwater Monitoring

Date	Firm	Description
9/29/81 10/26/81	E.J. Flynn (Oliveira Labs)	<i>Leachate Study</i> sampling. Analyzed Well Nos. 1-9 for general water quality/chemistry parameters, only. - Color, pH, iron, manganese, chloride and copper exceeded SMCLs. - Downgradient Well No. 9 had highest levels.
10/10/84	DEP	One sample from unknown sample location. Analyzed for VOCs (Method 624). Benzene 24 ppb, toluene 730 ppb, ethylbenzene 1,400 ppb.
10/84	P. Gioioso & Sons (Erco Labs)	One sample from unknown sample location. Analyzed for VOCs, SVOCs, and pesticides/PCBs. - Benzene 54 ppb, toluene 1050 ppb, ethylbenzene 3514 ppb. - SVOCs and pesticides/PCBs were not detected.
6/19/90	NUS/FIT	<i>Final Screening Site Inspection</i> sampling. Three samples (Well Nos. 2, 3, and 4) analyzed for VOCs, SVOCs, pesticides/PCBs and inorganics. - VOCs, SVOCs, pesticides/PCBs not detected above MMCLs. - Aluminum, arsenic, barium beryllium, chromium, iron, lead, manganese, nickel and thallium detected above MMCLs or SMCLs.

MMCL - Massachusetts Maximum Contaminant Level
VOCs - Volatile Organic Chemicals

SMCL - Secondary Maximum Contaminant Levels
SVOCs - Semi-Volatile Organic Chemicals

As indicated in Table 4.2, the October 1984 groundwater samples collected by the DEP and P. Gioioso & Sons, Inc. were from an unspecified location. These samples were probably collected from within the excavation trench during the construction of the City sewer line between the Leominster Connector and the landfill. Based on the 1991 groundwater monitoring well sampling results, the presence of these gasoline-related VOCs are likely due to the vehicular traffic on the Leominster Connector rather than the infiltration of landfill leachate into the excavation trench.

4.2 Surface Water Sampling

Surface water samples were collected by E.J. Flynn from four (4) upstream and two (2) downstream locations on September 17 and October 26, 1981 as part of the *Leachate Study*. The samples were submitted to Oliveira Labs for analysis of general water quality/chemistry parameters. This evaluation indicated generally poor water quality from all sample locations. Upstream sample results were similar to downstream water quality indicating contamination from upstream sources.

4.3 Landfill Gas Sampling

As discussed previously, observations made by Rust E&I during the site visit indicated evidence of gas emissions as demonstrated by dead trees along the southern Mechanic Street property line between Third Avenue and Fourth Avenue. Numerous gas vents were installed on the landfill in 1987. Following numerous complaints to the City's Board of Health in February 1988, the basements of six homes were found to contain elevated levels of methane as demonstrated by readings on a combustible gas meter of 0% to 35% of the lower explosive limit (LEL). In addition, the monitoring wells could not be capped at that time because of methane buildup in the wells. As a result, combustible gas meters with alarms were installed in five homes on Mechanic street, one home on Sixth Avenue and one home on St. Cecilia Avenue.

4.4 Soil and Sediment Sampling

Soil sampling performed at the landfill has been limited to the four surface soil samples (including one background sample) collected by NUS/FIT during the *Final Screening Site Inspection*. The locations of the soil samples were based on field observations of stressed vegetation or soil staining. The soil samples were submitted for laboratory analysis of VOCs, SVOCs, pesticides/PCBs and inorganics. With the exception of bis(2-ethylhexyl)phthalate, no organics or inorganics were detected at concentrations significantly above the background soil sample.

No sediment samples have been collected in the immediate area of the landfill. However, the ongoing SIP being performed for the EPA involves the collection of upstream and downstream sediment samples from the North Nashua River and nearby unnamed stream to the north of the former landfill area north of the Leominster Connector.

5.0 PROPOSED CSA SCOPE OF WORK

5.1 Task 2.1, ISA Summary

The Leominster Landfill is an approximately 31.6 acre former municipal landfill which may have received solid waste beginning somewhere between 1890 and 1940. The landfill has not received municipal waste since at least January 1982 and ceased to accept sludge from the Leominster Waste Water Treatment Plant by July 1989. A wetland area and the North Nashua River are located downgradient (i.e., northeast) of the landfill property.

Groundwater sampling of monitoring wells installed in 1981 on the perimeter of the landfill (1981 and 1991) have not indicated the presence of VOCs, SVOCs, or pesticides/PCBs in groundwater beneath the landfill property. Routine landfill monitoring parameters have been elevated above MMCLs or SMCLs, especially in the downgradient groundwater monitoring wells. As stated previously, the October 1984 groundwater samples collected by the DEP and P. Gioioso & Sons, Inc. were probably collected from within the excavation trench during the construction of the City sewer line between the Leominster Connector and the landfill. Based on the 1991 sampling results by NUS/FIT of the monitoring wells along the northern perimeter of the landfill, the vehicular traffic on the Leominster Connector is likely responsible for the presence of these gasoline-related VOCs in the groundwater samples collected in October 1994.

Five (5) of the nine (9) monitoring wells could not be located during the site walk. The integrity of one (1) groundwater monitoring well (Well No. 2) could not be determined since the protective casing of the well was sealed by a screw cap which could not be opened (rusted closed). Of the located wells, the surface seal was either absent or was damaged, there was no locking protective pipe/road box, and no vent holes were present (despite the notation by the driller that many wells were venting large amounts of methane gas). Upon opening Wells No. 3 and No. 4, the 1½" PVC pipe rose approximately 3" above the well casing making it impossible to re-close the wells. None of the located wells had locking pipe/road box and vented caps, and none were constructed with 2" PVC. Further, the well construction details could not be accurately determined from the *Leachate Report* and boring logs to evaluate their compliance with current DEP requirements outlined in *Standard References for Monitoring Wells, January 1991*, such as:

- Filter Pack presence/absence and characteristics;
- Divider Seal presence/absence and characteristics;
- Annular Seal presence/absence and characteristics; and
- Surface Seal presence/absence and characteristics.

Surface water samples collected from the North Nashua River in 1981 and analyzed for general water quality/chemistry indicated relatively poor water quality at upstream and downstream locations.

5.2 Task 2.2, Mapping

The existing Site Plan will be updated to include the new monitoring well locations (refer to Section 5.3), the surface water and sediment sampling locations (refer to Section 5.5), and the gas monitoring locations (refer to Section 5.5).

5.3 Task 2.3, Drilling Program

The well integrity and construction details discussed previously in Sections 4.1.1 and 5.1, indicate that many of the existing wells are damaged/unusable and the existing groundwater monitoring wells do not meet current DEP requirements for monitoring well construction. As such, the existing monitoring well network is not recommended for future sampling and should be abandoned in entirety.

The wells installed in 1981 as part of the *Leachate Study* were damaged or could not be located, and may not meet current MADEP monitoring well requirements outlined in the *Standard References for Monitoring Wells, January 1991* (i.e., the presence/absence/characteristics of seals and filter pack). As such, these wells are not recommended for future monitoring and will be abandoned during the CSA according to the procedures outlined in the *Standard References for Monitoring Wells, January 1991*. In order to characterize groundwater quality characteristics around the landfill and define groundwater flow properties of the overburden aquifer, it is recommended that seven (7) monitoring well locations be included in the monitoring system (2 upgradient, 2 cross-gradient and 3 downgradient locations). These locations should include three (3) well couplets in the overburden. Each couplet includes a shallow well screened across the water table surface, if possible, as well as a deep well screened near the bedrock surface. Of the three (3) couplets, one (1) each will be located upgradient, cross-gradient, and downgradient. In addition, fifteen (15) landfill gas wells will be installed as discussed in Section 5.5.

Table 5.1 below provides the anticipated well identifiers, a description of the anticipated “hydraulic location” of the well, and comments concerning the approximate well drill locations.

Table 5.1
Recommended Groundwater Monitoring Network

Description	Well Identifier	Comments/Description
Existing Wells	1 through 9	Abandon and decommission.
Upgradient	MW-1	Overburden well located near Mechanic Street in approximate location of former Well #6.
	MW-2S	Shallow overburden well centrally located on the western side of the landfill.
	MW-2D	Deep overburden well centrally located on the western side of the landfill. This well is <u>optional</u> , depending on results of field investigation. See methodology for screen placement later in this section.
Downgradient	MW-3	Overburden well located on north side of landfill in approximate location of former Well #4.
	MW-4	Overburden well located on north side of landfill between locations of former Well #3 and Well #2.

Description	Well Identifier	Comments/Description
Downgradient (cont.)	MW-5S	Shallow overburden well located on northeast corner of landfill. Exact location will be determined in the field based on accessibility, wetlands area, etc.
	MW-5D	Deep overburden well located on northeast corner of landfill. Exact location will be determined in the field based on accessibility, wetlands area, etc.
	MW-6	Overburden well located on east side of landfill near Test Pit #28 (RTP-28).
Crossgradient/ Downgradient	MW-7S	Shallow overburden well located near Mechanic Street to the east of the existing on-site building.
	MW-7D	Deep overburden well located near Mechanic Street to the east of the existing on-site building. This well is <u>optional</u> , depending on results of field investigation. See methodology for screen placement later in this section.

The drilling program and all monitoring well installations will be in accordance with the DEP's *Standard References for Monitoring Wells, January 1991*. A drilling program for the installation of a monitoring well network during the CSA is attached in Appendix F. The proposed locations are shown on the attached Site Plan (Appendix A). In addition, all of the existing monitoring wells which can be located will be decommissioned. The procedure for decommissioning the wells will be in accordance with the DEP's *Standard References for Monitoring Wells, January 1991*.

Ten (10) foot screens will be installed in all wells. The screen's locations for each well will be determined based on conditions observed during drilling. There is sufficient information available to estimate the depth to groundwater. Therefore, when installing the shallow wells, the top of the screen will be set five feet above the observed groundwater surface.

There is no information available to estimate the depth to bedrock or a subsurface confining layer. Bedrock was not encountered in any of the wells for which well logs are available. Based on conversations with the Board of Health, it is suspected that bedrock is much greater than 100 feet below the ground surface. Therefore, the well screen and depths for the deep overburden wells listed in Table 5.2 will be determined as follows:

1. The well installation program will begin at MW5-D. Borings will be advanced to a depth of 50 feet below the ground surface, or to bedrock or a confining layer, whichever is less deep.
2. If bedrock or a confining layer is encountered in step 1 at a depth of less than 50 feet, the following will occur:
 - a. If bedrock is encountered, the bedrock will be drilled and a well screen installed from 5 to 15 feet below the bedrock surface at MW-5D. If a confining layer is encountered, a well screen will be set just above the confining layer.

- b. Borings will then be advanced for MW-2D and 7-D. In each well, borings will be advanced to a depth of 125 feet. If bedrock is encountered, the bedrock will be drilled and a well screen installed from 5 to 15 feet below the bedrock surface at MW-5. If a confining layer is encountered, a well screen will be set just above the confining layer. If no bedrock or a confining layer is encountered, no well will be installed and the well will be eliminated from the proposed monitoring network.
3. If bedrock or a confining layer is not encountered in step 1 at a depth of less than 50 feet, the following will occur:
 - a. A well screen will be installed in MW-5D from 40 to 50 feet below the surface.
 - b. MW-2D and MW-7D will be eliminated from the proposed monitoring network.

5.4 Task 2.4, Determination of Hydraulic Conductivity

In situ hydraulic conductivity testing will be conducted in the wells included in the groundwater monitoring program. Rising head slug tests will be performed using a pressure transducer and electronic data logger. Resulting groundwater recovery data will be analyzed using analytical solutions developed by Hvorslev or Bouwer and Rice.

5.5 Task 2.5, Sampling and Analysis Plan

A.1/A.2 Groundwater

Four rounds of groundwater monitoring are proposed for all of the newly installed monitoring wells. Monitoring shall be for all parameters required for routine landfill monitoring as indicated in the LAC Manual. No additional groundwater monitoring parameters are recommended since VOCs, SVOCs, and pesticides/PCBs were not detected in the wells located on the northern perimeter of the landfill above MMCLs by NUS/FIT in June 1991. The recommended groundwater monitoring program is described in Table 5.2, below.

Table 5.2
Recommended Groundwater Monitoring Parameters

Category	Description
Routine Landfill Monitoring	• Inorganics (arsenic, barium, cadmium, chromium, copper, cyanide, lead, mercury, selenium, silver and zinc); manganese; iron; chlorides; sulfate; nitrate (as nitrogen); Total Dissolved Solids; Alkalinity; and COD. • VOCs (purgeable) via EPA Method 8260. • pH; Specific Conductance; Temperature; and Dissolved Oxygen (measured in the field).
Additional Parameters Based on ISA Findings	None Recommended

A.1/A.2 Surface Water

Previous surface water sampling at the landfill performed in 1981 indicated generally poor surface water quality in upstream and downstream samples collected from the North Nashua River. No surface water samples have been collected in the wetland located on the northeast border of the landfill. As such, if possible four rounds of surface water sampling are to be performed from this wetland area (refer to Appendix A Site Plan). Surface water samples are to be collected concurrently with groundwater samples.

It is recommended that the surface water samples be analyzed for the parameters recommended for groundwater monitoring, as specified in Table 5.2 above.

A.3 Soil and Sediment

With the exception of the sampling performed as part of the SIP (results currently unavailable), no sediment sampling has been performed at the landfill. It is recommended that one round of sediment samples be collected during the CSA from the surface water sampling location (refer to Appendix A Site Plan). The need for further sampling (additional rounds and/or locations) will be evaluated based on the results of the first round.

A.4 Landfill Gas Monitoring

With the exception of readings collected in the basements of residences along Mechanic Street in 1988 due to public concerns/complaints, no landfill gas monitoring has been conducted at the site. Therefore, four rounds of landfill gas monitoring are recommended as part of the CSA. Combustible gases (% LEL and % by volume if necessary, calibrated for methane), hydrogen sulfide, total VOCs (using a photoionization detector - PID), and oxygen (%) will be measured in the field from 15 landfill gas wells located along Mechanic Street (south) at 100 foot intervals. The procedures for landfill gas monitoring are described in the attached QA/QC Plan (Appendix F).

B. Field QA/QC Plan

A field QA/QC Plan has been developed for this project and is included in Appendix F of this report.

5.6 Task 2.6, Health and Safety Plan

A site-specific Health and Safety Plan has been developed for field work performed in this project and is included in Appendix G. All field work will begin in Level D personal protection, with contingencies to upgrade based on atmospheric monitoring, as specified in the Health and Safety Plan.

5.7 Task 2.7, Project Schedule

The DEP issued an Administrative Consent Order dated April 3, 1996 which requires the City to complete construction of the landfill closure (i.e., cap) by June 17, 1996. Therefore, closure activities will occur concurrently with the CSA. The closure activities are expected to be complete by December 1996. It is anticipated that CSA activities will begin in the Fall 1996 with all environmental sampling completed by October 1997. The final CSA report is expected to be submitted to the DEP in July 1998. However, the exact schedule is contingent on the time of approval and possible modifications the DEP may suggest to the CSA Scope of Work. A detailed project schedule was submitted to DEP under separate cover.

5.8 Task 2.8, Draft CSA Report Submittal

Once all tasks in the Scope of Work are completed, a draft report summarizing the results of CSA activities will be prepared. A draft CSA report is expected to be available for DEP review in March 1998. An interim CSA draft report may also be submitted to the DEP after two rounds of environmental sampling is completed. The CSA Report should include the information outlined as follows.

A. Data Interpretations and Presentations

1. Evaluation of groundwater and surface water quality on-site with respect to background quality.
2. Evaluation of site hydrogeology with respect to local geology:
 - (a) How does local geology affect groundwater flow patterns.
3. Identification of possible surface water flow paths.
4. Interpretation of geologic stratigraphy:
 - (a) Soil type, overburden deposits, lateral and vertical continuity/ discontinuity of stratigraphy, evidence of filling.
 - (b) Porosity, permeability.
 - (c) Bedrock type and hydraulic characteristics and structures.
5. Interpretation of trends observed in piezometric and analytical data:
 - (a) Groundwater range of elevation, vertical gradient, hydraulic gradient, changes or fluctuations in vertical and hydraulic gradients.
 - (b) Surface water fluctuation.
 - (c) Groundwater/surface water interaction, gaining and losing rivers, streams, brooks, etc.
 - (d) Exceedences of Massachusetts and federal Maximum Contaminant Levels (MCLs) and Secondary Maximum Contaminant Levels (SMCLs) for groundwater/surface water data.
 - (e) Trends in contaminant concentrations.
 - (f) Identification of plumes (horizontal and vertical extent), hot spots, or anomalies.
 - (g) Presence and thickness of non-aqueous phase liquids.
 - (h) All analytical data sheets shall be included in an appendix.
6. Calculation of mass water balance to determine potential volumes of leachate and surface water runoff.
7. Calculation of Hydraulic Conductivities (methodology of test, data sheets, calculations, and analysis of data).
8. Evaluation of landfill gas data:
 - (a) Did the landfill gas data collected meet the following objectives:

- Ensured that methane gas does not exceed 10% of the LEL for methane in facility structures.
 - Determined if landfill gas has the potential to migrate beyond the perimeter of the site.
 - Ensured landfill gas migration is not occurring beyond the property line of the site, as required by 310 CMR 19.132(4).
 - Identified the locations where permanent landfill gas monitoring wells shall be installed (if applicable).
 - Collected sufficient information to determine if the landfill will require additional testing (i.e., landfill gas grid survey immediately above the solid waste disposal site and/or ambient air quality testing).
- (b) The following information regarding landfill gas sampling shall be provided:
- Methodology and depth of sample collection. Include data sheets.
 - Sampling locations on base plan.
 - Calibration logs for equipment.
 - Lateral extent of landfill gas migration.
 - Evidence of off-site migration and concentrations at site property lines.
 - Indicate proximity of off-site migration to buildings, homes, sewers, water pipes, underground utilities (any closed systems where landfill gases could accumulate), identify areas of elevated combustible gases (5-15% methane) or greater than 10% of the LEL.
- (c) Landfill Gas Questionnaire filled out.
9. Identification of potential migration pathways.
 10. Recommendations for additional CSA Work.

B. Maps, Plans, and Figures

1. Locus Map.
2. Site Plan; scale between 1" to 40' and 1" to 100'.
3. Bedrock contour map and/or aquitard map (with DEP approval) with thickness of the aquitard.
4. Geologic Cross-Sections; minimum of two at right angles; typically one should be parallel to the groundwater flow and one perpendicular to groundwater flow (Cross-sections must have vertical and horizontal scales).
5. Compilation of water table and piezometric data on site maps contoured to indicate equipotential flow lines for both seasonal high and low groundwater elevations. Vertical equipotential and flow lines should be shown on geologic cross-sections for both seasonal high and seasonal low groundwater elevations.
6. Survey all new monitoring wells, test pits, surface water and landfill gas/probe sampling locations utilized during the CSA and indicate their location on an updated site map.

C. Summaries, Table, and Forms

1. Geologic Logs of all borings and test pits.
 - (a) PID screening data from split-spoons should be indicated on boring logs.
2. Tabulation of all soil boring, piezometers and monitoring well construction data (well screened interval, depth of boring, etc.).
3. As-built schematic designs for all monitoring wells.

4. Tabulation of all analytical and field screening data.
 - (a) Landfill gas probe/well data.
 - (b) Landfill gas characterization data.
 - (c) Laboratory data from all groundwater and surface water sapling (exceedence(s) of Massachusetts and federal MCLs and SMCLs should be indicated).
 - (d) Laboratory and field screening data from soil samples (comparison with typical elemental soil concentrations).
 - (e) Laboratory and field screening data from sediment samples.
5. Tabulation of all water table and piezometric elevation data.
6. Table of hydraulic conductivity test results.
 - (a) Indicate on cross-section the hydraulic conductivity of all units tested.

D. Baseline Risk Assessment

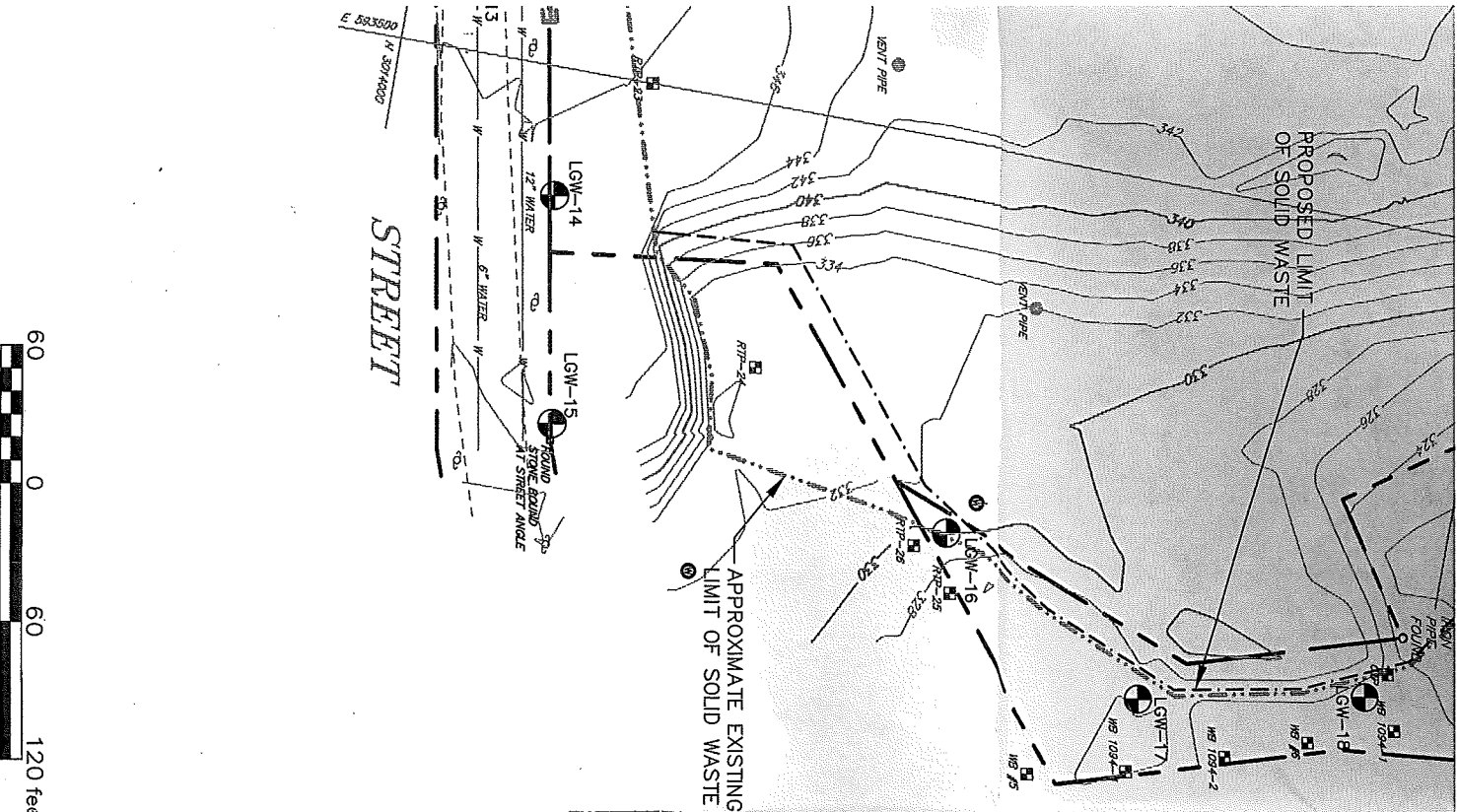
1. Identification of potential human and environmental sensitive receptors (from ISA).
2. Summary of contaminants and levels of contamination (from sampling program). Any contamination exceeding MCLs must be highlighted. Ambient field measurements should be compared to Ambient Air Levels (AALs).
3. Summary of all pathways (in groundwater, surface water or air by which existing contamination may reach identified public health or sensitive receptors.
4. A recommendation for a qualitative risk assessment, as appropriate.

5.9 Task 2.9, Final CSA Report Submittal

A final CSA Report will be prepared after receiving the DEP's comments on the draft report. It is expected that the final CSA Report will be submitted to the DEP in July 1998.

6.0 REFERENCES

- BOH. 1988. Leominster Board of Health Complaint Report File concerning landfill gas migration in private residences along Mechanic Street. February 19, 1988 to March 10, 1988.
- Borden. 1981. Letter from N.M. Blackman, Environmental Affairs Manager, Borden Chemical to Steven J. Whitman, Department of Public Works, City of Leominster regarding PVC sludge. October 2, 1981.
- BSC. 1986. *Site Assessment Relative to Oil and Hazardous Material, Sack Property, Mechanic Street, Leominster, Massachusetts*. The BSC Group, Boston, MA. December 1986.
- Casella. 1979-1980. M.A. Casella Inspection Reports of the Leominster Sanitary Landfill to the Massachusetts Department of Environmental Quality Engineering. February 7, 1979 to June 10, 1980.
- DEP. 1996. *Administrative Consent Order, Leominster Municipal Landfill, File # ACO-CE-96-4003*. Commonwealth of Massachusetts, Executive Office of Environmental Affairs, Department of Environmental Protection, Central Regional Office. April 12, 1996.
- DEP. 1994. *Solid Waste Facility Management Regulations*. Commonwealth of Massachusetts, Executive Office of Environmental Affairs, Department of Environmental Protection, Boston, MA. Updated December 1994.
- DEP. 1993. *Landfill Technical Guidance Manual*. Commonwealth of Massachusetts, Executive Office of Environmental Affairs, Department of Environmental Protection, Boston, MA. Revised September 1993.
- DEP. 1991. *Standard References for Monitoring Wells*. The Massachusetts Department of Environmental Protection, Boston, MA. DEP Publication # WSC-310-91. January 1991.
- DPH. 1971a. *Citation, Leominster-Solid Waste Violation of Regulations*. Commonwealth of Massachusetts, Department of Public Health, Central Health District. December 7, 1971.
- DEP. 1971b. Letter from T.C. McMahon, Massachusetts Water Resource Commission to G. Joly, Massachusetts Department of Public Health. May 28, 1971.
- DeProfio. 1996. Personal communication by T.F. Markey with Betsy DeProfio, Site Leader, Roy F. Weston regarding the Site Inspection Prioritization assessment. June 11, 1996.
- E.J. Flynn. 1981-1982. E.J. Flynn Engineers, Inc. Inspection Reports of the Leominster Municipal Landfill to the Massachusetts Department of Environmental Quality Engineering. April 23, 1981 to March 2, 1982.



LEGEND

EXISTING FEATURES

- 340 10' CONTOUR
- 5 10' CONTOUR
- W SANITARY SEWER LINE
- W WATER LINE
- D STORM DRAIN
- G GAS LINE
- X CHAIN LINK FENCE
- PROPERTY BOUNDARY
- APPROXIMATE LIMIT OF SOLID WASTE
- EDGE OF WETLANDS
- 100 YEAR FLOOD PLAN
- EDGE OF PAVEMENT
- GAS COLLECTION/VENTING TRENCH
- ③ SANITARY SEWER MANHOLE
- ③ DRAINAGE MANHOLE
- ③ ELECTRIC MANHOLE
- ③ MONITORING WELL
- W WATER GATE
- W GAS GATE
- W HYDRANT
- W CATCH BASIN
- W UTILITY POLE
- W FOUND BOUND
- W TEST PIT LOCATION

PROPOSED FEATURES

- LIMIT OF SOLID WASTE
- ⊕ LGW-14 LANDFILL GAS MONITORING WELL
- ⊕ MW-1 GROUNDWATER MONITORING WELL
- SW-1/SD-1 SURFACE WATER/SOIL SEDIMENT SAMPLING LOCATION

NOTE: CONSTRUCTION OF THE LANDFILL CAP BEGAN ON 07/18/96 AND IS EXPECTED TO BE COMPLETED BY 12/03/96. LANDFILL GAS MONITORING WELLS LGW-1 THROUGH LGW-15 TO BE INSTALLED AS PART OF THE CAPPING PROJECT. THE RELOCATION OF SOLID WASTE TO OCCUR AS PART OF THE CAPPING PROJECT.

FAST ENVIRONMENT & INFRASTRUCTURE

SIGNATURE	DATE	REV.	DATE	DESCRIPTION	SCALE	DRN BY	APP BY
			JULY 1996	PROJECT NO. 37207.030	AS SHOWN		
		DES BY	RSM	PROJECT: CITY OF LEOMINSTER MUNICIPAL LANDFILL			
		DRN BY	RSM	INITIAL SITE ASSESSMENT			
		CHK BY	DCH	SHEET TITLE:			
		REV BY	TM	EXISTING CONDITIONS AND PROPOSED MONITORING NETWORK			
		APP BY	AAB				

CITY OF
LEOMINSTER, MASSACHUSETTS

SITE PLAN

SHEET 1 OF 1
DRAWING NO.

CADD PRODUCED DRAWING

APPENDIX B

**RUST E&I TEST PIT LOGS
(APRIL 24 & 26, 1996)**

Project: <u>City of Leominster, Landfill Closure</u>	Date Started: <u>4/24/96</u>	Date Completed: <u>4/24/96</u>
Project No.: <u>37207-010</u>	Method Of Excavation: <u>Backhoe (Ford 555D Rubber Tire)</u>	
Trench Or Pit No.: <u>KTP-1</u>	Depth To Groundwater: <u>N/A</u>	
Approximate Dimensions: <u>25' L x 4' wide</u>	Logged By: <u>Ron St. Michel</u>	

Depth ()	Field Sketch and Soil Description	Depth ()	Notes
5'	MSW		Edge of MSW 25' from toe.
9'	SILTY FILL MAT'L		
10'			

Project: <u>City of Leominster, Landfill Closure</u> Project No.: <u>37207-010</u> Trench Or Pit No.: <u>RTP-2</u> Approximate Dimensions: <u>8' x 4'</u>		Date Started: <u>4/24/96</u> Method Of Excavation: <u>Backhoe (Good 555D Rubber tire)</u> Depth To Groundwater: <u>NA</u> Logged By: <u>Ron St. Michael</u>		Date Completed: <u>4/24/96</u>	
Depth ()	Field Sketch and Soil Description	Depth ()	Notes		
	CLEAN FILL 7' -----				

[illegible]

Project: <u>City of Leominster Landfill Closure</u>	Date Started: <u>4/24/96</u>	Date Completed: <u>4/24/96</u>
Project No.: <u>37257.010</u>	Method Of Excavation: <u>Backhoe (ford 555D Rubber tire)</u>	
Trench Or Pit No.: <u>RTP-4</u>	Depth To Groundwater: <u>NA</u>	
Approximate Dimensions: <u>25' L x 4' Wide</u>	Logged By: <u>Ron St. Michel</u>	

Depth ()	Field Sketch and Soil Description	Depth ()	Notes
5'	SILTY MATERIAL		
	MSW (EAST EDGE)		
9'	MSW (WEST EDGE)		
10'			

[illegible]

Project: City of Westminster Landfill Closure	Date Started: 4/24/96	Date Completed: 4/24/96
Project No.: S-1207.00	Method Of Excavation: Backhoe (Ford 555 D Rubber Tire)	
Trench Or Pit No.: RTP-6	Depth To Groundwater: NA	
Approximate Dimensions: 10' L x 4' Wide	Logged By: Ron St. Michel	

Depth ()	Field Sketch and Soil Description	Depth ()	Notes
2'	MSW (NORTH EDGE)		
-12'	CLEAN FILL (SOUTHERN EDGE)		

Project: <u>City of Lemmonster Landfill Closure</u> Project No.: <u>37207.010</u> Trench Or Pit No.: <u>RTP-7</u> Approximate Dimensions: <u>5' deep</u>	Date Started: <u>4/24/96</u> Method Of Excavation: <u>Backhoe (Good 555D Rubber tire)</u> Depth To Groundwater: <u>NA</u> Logged By: <u>Ken St Michel</u>	Date Completed: <u>4/24/96</u>
Depth ()	Field Sketch and Soil Description	Notes
2' - MSW 5' -		MSW ends at gas venting trench.

Project: <u>City of Leominster Landfill Closure</u> Project No.: <u>37207.010</u> Trench Or Pit No.: <u>RTP-8</u> Approximate Dimensions: <u>8' x 4'</u>	Date Started: <u>4/24/96</u> Method Of Excavation: <u>Backhoe (Ford 555 D Rubber tire)</u> Depth To Groundwater: <u>NA</u> Logged By: <u>Ron St. Michel</u>	Date Completed: <u>4/24/96</u>
Depth () Field Sketch and Soil Description CLEAN FILL 8'	Depth () Notes NO MSW	

[illegible]

[illegible]

Project: <u>City of Westminster landfill closure</u> Project No.: <u>37207.010</u> Trench Or Pit No.: <u>RTP-11</u> Approximate Dimensions: <u>8' L x 4' wide</u>	Date Started: <u>4/24/96</u> Method Of Excavation: <u>Backhoe (Ford 555 D Rubber-tire)</u> Depth To Groundwater: <u>NA</u> Logged By: <u>Ken St. Michel</u>	Date Completed: <u>4/24/96</u>	
Depth ()	Field Sketch and Soil Description	Depth ()	Notes

Project: <u>City of Leominster</u> Project No.: <u>37207.010</u> Trench Or Pit No.: <u>RTP-12</u> Approximate Dimensions: _____	Date Started: <u>4/24/96</u> Method Of Excavation: <u>Backhoe (Ford 555D Rubber tire)</u> Depth To Groundwater: <u>NA</u> Logged By: <u>Don St. Michel</u>	Date Completed: <u>4/24/96</u>
Depth ()	Field Sketch and Soil Description	Notes
3'	CLEAN FILL	HIT MSW 40' OFF PAVEMENT

[illegible]

Project: <u>City of Leominster Landfill Closure</u> Project No.: <u>37207.010</u> Trench Or Pit No.: <u>RTP-14</u> Approximate Dimensions: <u>8' deep</u>		Date Started: <u>4/24/96</u> Date Completed: <u>4/24/96</u> Method Of Excavation: <u>Backhoe (Ford 555 D Rubber tire)</u> Depth To Groundwater: <u>NA</u> Logged By: <u>Ren. St. Michel</u>	
Depth ()	Field Sketch and Soil Description	Depth ()	Notes
8' -----	CLEAN FILL		

Project: <u>City of Leominster Landfill Closure</u> Project No.: <u>37207-010</u> Trench Or Pit No.: <u>RTP-15</u> Approximate Dimensions: _____		Date Started: <u>4/24/56</u> Method Of Excavation: <u>Backhoe</u> Depth To Groundwater: <u>NA</u> Logged By: <u>Ron St. Michel</u>	Date Completed: <u>4/24/56</u> (Ford 55SD Rubber Tire)
Depth ()	Field Sketch and Soil Description	Depth ()	Notes
2'	CLEAN FILL		
6'	BURN, MATERIAL METAL, SOME GLASS		

[illegible]

Project: City of Leominster Landfill Closure		Date Started: 4/24/96	Date Completed: 4/24/96
Project No.: 37207-010		Method Of Excavation: Back hoe	Ford 555 Rubber tire
Trench Or Pit No.: RIP-17		Depth To Groundwater: NA	
Approximate Dimensions: 4' x 12', 8' deep		Logged By: Ron St. Michel	

Depth ()	Field Sketch and Soil Description	Depth ()	Notes
2'	CLEAN FILL		
	BURN MATERIAL FINE MATERIAL GLASS		
10'			

[illegible]

Project: City of Beemster Landfill Closure
 Project No.: 31207.010
 Trench Or Pit No.: RTP-19
 Approximate Dimensions: _____

Date Started: 4/26/96
 Method Of Excavation: Backhoe (Ford 55D Rubber tire)
 Depth To Groundwater: N/A
 Logged By: Ron St. Michel

Date Completed: 4/26/96

Depth () _____ Field Sketch and Soil Description

Notes

Depth () _____

No MSW

CLEAN FILL

6'

List Sample Contents In Decreasing Relative % By Volume

[illegible]

Project: City of Beaumont Landfill Closure		Date Started: 4/26/96	Date Completed: 4/26/96
Project No.: 37207-010		Method Of Excavation: Backhoe	(Ford 555 D Rubber tire)
Trench Or Pit No.: RTP-22		Depth To Groundwater: NA	
Approximate Dimensions:		Logged By: Ron St. Michel	

Depth ()	Field Sketch and Soil Description	Depth ()	Notes
6"	TOP SOIL		
1'	CLEAN FILL		
	TILL		
3'			
	MSW + BURN MAT'L		
6'			

[illegible]

Project: City of Westminster landfill Closure
 Project No.: 37207.010
 Trench Or Pit No.: RTP-24
 Approximate Dimensions:

Date Started: 4/26/96
 Method Of Excavation: Backhoe (Ford 555 D Suburban Trc)
 Depth To Groundwater: NA
 Logged By: Ron St Michel

Date Completed: 7/26/96

Depth () Field Sketch and Soil Description

Notes

Depth ()

TOP SOIL

MSW

4' ---

6" ---

BWP DATA MANAGEMENT - SOLID WASTE INPUT FORM

Due By Close of Business Friday on the Week of the Performed Action
A Completed Form is Required for Each Individual Performed Action

FOR DATA ENTRY ONLY

Entered _____

A. Solid Waste Facility Information:

Facility/Site Name: Leominster Landfill			FMF Facility #: 39424	
Street Address: Johnny Appleseed Lane			New Facility?	☐ Yes ☒ No
City/Town: Leominster	Zip: 01453	Phone #:	Ownership Change?	☐ Yes ☒ No
Site Description: Inactive Landfill- Closure Status Unknown			Name Change?	☐ Yes ☒ No
			Location Change?	☐ Yes ☒ No
Mailing Address: 25 West Street			Facility Closed?	☐ Yes ☐ No
Mailing City/Town: Leominster	Mailing State: MA	Mailing Zip: 01453	Inspector: Mary Cushner	
Contact Name: Michelle Powell			Inspection Date: 11/25/2024	
Contact Title: Director, Health Department			Is the Facility Fee Exempt?	
Contact Phone #: 978-962-3563			☐ Yes ☐ No	

B. Was the inspection the result of a complaint? ☐ Yes ☒ No

C. Tag Type: SWI-OPs

D. Determination of the Facility Level Inspection Type:

Select	Type	Description & Annotation	OE Bean
☒	SWINSP	Inspection with Enforcement Potential (use with TAGs SWI-OPS and SWI-PRBCMP)	Yes
☐	SWVIST	Site visit with limited enforcement potential (use with TAGs SWI-CONSTR and SWI-CHKUP)	Yes
☐	SWPRMT	A site visit conducted for the purpose of assessing a facility's permitting needs. [Site entry; Announced or Unannounced]	No

E. Determination of the Regulated Object Level Inspection Type:

(Please Refer to Intersection of Facility & Regulated Object Inspection Types, Regulated Object Level: Solid Waste Inspection Types Descriptions, and Solid Waste Regulated Objects: Types and Classifications on the back of this form for assistance.)

PLEASE NOTE: You must select an RO INS Type inspection type for each Reg Obj Class that you inspected. If the RO Type and/or RO Class are either a correction of existing data or the creation of new data in FMF please indicate that by checking the applicable box.

RO Type	RO Class	Correction	New	RO Inspection Type Conducted			
SLF	CSU-LF	☐	☐	☒ CMPINS	☐ PREAPV		
				☐ CONCHK	☐ WBI		
				☐ SCR-SW	☐		
Select One		☐	☐	☐ CMPINS	☐ PREAPV		
				☐ CONCHK	☐ WBI		
				☐ SCR-SW	☐		
Select One		☐	☐	☐ CMPINS	☐ PREAPV		
				☐ CONCHK	☐ WBI		
				☐ SCR-SW	☐		

F. Comments:

Inspector and Dan Guglielmi met Michelle Powell at 0900 for a scheduled inspection at the Johnny Appleseed Lane site. Weather was sunny, light wind with 40F temperature. The group entered the wooded area across the street from house # 235/251 and proceeded up the hill towards I-190. There were no indications of a landfill observed; the area was heavily wooded with areas of thick under growth. An open drainage structure was noted across the street from 217/235 Johnny Appleseed Lane, Leominster DPW covered structure the following day.

Inspectors offsite 0920.

Intersection of Facility & Regulated Object Inspection**Types (when a only single Class is inspected)**

Facility Level Inspection Type			
RO Inspection Type	SWINSP	SWVIST	SWPRMT
SCR-SW	Yes	Yes	No
PREAPV	No	No	Yes
CONCHK	No	Yes	No
CMPINS	Yes	No	No
WBI	Yes	No	No

SOLID WASTE TAGS	
SWI-OPS	Operation Inspection at any type of facility.
SWI-PRBCMP	Complaints & problems
SWI-CONSTR	Oversee construction activities
SWI-CHKUP	Compliance assistance and/or check-up on facility'

Regulated Object Level: Solid Waste Inspection Types Descriptions

INS Type	Description	Annotation
PREAPV	Inspection prior to a decision on a pending application.	Observe site conditions related to a permit, registration or notification decision <u>before</u> it's issued including but not limited to ISA/CSA scope issues, locating sensitive receptors, siting gas or groundwater monitoring wells.
CMPINS	Compliance inspection (may include waste bans).	Verify compliance with the regulations, and applicable permits, notifications or registrations (where appropriate, may include Waste Bans).
CONCHK	Inspection of Construction/ Demolition activities and compliance activities.	Observe the building or removal of any structures including but not limited to access roads, pads, liners, caps, gas vents, drainage swales, test pits, or landfill mining or disruptions; or observe sampling locations, drilling cores, or other parts of an existing monitoring program. Provide compliance assistance.
WBI	Waste Ban Only inspection.	Verify compliance with Waste Bans only.
SCR-SW	Screening inspection for applicability of SW regulations.	Observe site activities for applicability to the regulations including investigations of possible illegal activities.

Reg Obj Type Code & Description

CLASS	Classification Description	ACF\$	CLASS	Classification Description	ACF\$
TRSTN – Transfer Station/Handling Facility					
BLW-SW	Below Sw Regulated Thresholds		LGHNDL	Large Handling Facility	3,345
NONTFR	Non-Notifier Sw Fac That Is Subj To Regs But Not Permitted		LGTRAN	Large Transfer Station	8,205
CDLG	Large C&D Waste Processing Facility	8,205	SMHNDL	Small Handling Facility	1,485
CDSM	Small C&D Waste Processing Facility	1,975	SMTRAN	Small Transfer Station	1,975
CMPOST	Site Assigned Compost Facility	1,290			
RRF - Combustion Energy Resource Recovery Facility					
BLW-SW	Below Sw Regulated Thresholds		CMBUST	Combustion Facility	8,205
NONTFR	Non-Notifier Sw Fac That Is Subj To Regs But Not Permitted				
Landfills: ASH LF, DEMO, SLF, SLUDGE, STUMP, TIRES					
CLF	Closed Landfill With Env Monitoring Required	1,400	CLSNGLF	Closing Landfill With SW25 For Grading & Shaping	17,495
LF	Operating Landfill >10 Tpd, 3120 Tpy	17,495	CSU-LF	Landfill Closure Status Unknown	0
SMLF	Small Operating Landfill <10 Tpd, 3120 Tpy	1,060	CSU-DG	Dumping Ground Closure Status Unknown	0
CLFNMN	Closed Landfill With No Env Monitoring Required	0			
OPXMPT - Assignment Exempt Operation for Recyclable/Organic Material					
N-ABC	Notified Asphalt Brick & Concrete Recycling		GPDGST	General Permit Aerobic/Anaerobic Digesting	
N-TIRE	Notified Tire Processing		IPRECY	Individual Permit - Recycling RCC	1,700
N-CMPT	Notified Small Composting		IPCMPT	Individual Permit - Composting RCC	1,700
N-FOOD	Notified Municipal Food Material Collection Center		IPCNVR	Individual Permit - Converting RCC	1,700
GPRECY	General Permit Recycling		IPOTHR	Individual Permit - Other Handling RCC	1,700
GPCMPT	General Permit Composting		IPSMTR	Individual Permit - Small Transfer Organic Material	400
RECYCS - Recycler Of Solid Waste					
NONTFR	Non-Notifier Sw Fac That Is Subj To Regs But Not Permitted		BUD	Beneficial Use Determination	
DON	Determination Of Need - Site Assignment Not Required				
GEN-SW - Generator Solid Waste; HAULER - Hauler Solid Waste					
GHWBAN	Generator Or Hauler Subject To Waste Bans				