



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

May 24, 2004

REMEDIAL DECISION LETTER

Case No. 2004-014 (Formerly part of Case No. 97-030)

Ms Susan Rittscher
President and CEO
YMCA of Greater Providence
222 Richmond Street
Providence, RI 02903

RE: Providence YMCA – Parcel C (Formerly a portion of the Gorham/Textron Dump site)
333 Adelaide Avenue, Providence, RI

Ms. Rittscher:

On 24 February 2004, the Rhode Island Department of Environmental Management (the Department) enacted the amended Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases, (the Remediation Regulations). A Remedial Decision Letter is a formal Department approval of a conceptual remedy proposed by the performing party as a result of the findings of the Site Investigation.

The Department's Office of Waste Management (OWM) has received the following documents, submitted on behalf of the YMCA of Greater Providence (YMCA), for the purpose of completing the Site Investigation of Parcel C:

1. Site Investigation Report – Additional Assessment Tasks, Providence YMCA – Parcel C, Providence, Rhode Island, prepared by GZA GeoEnvironmental, Inc., (GZA), dated 9 January 2002;
2. Site Investigation Report – Additional Assessment Tasks, Providence YMCA – Parcel C, Providence, Rhode Island, prepared by GZA, dated 29 May 2003, received 27 August 2003;
3. Letter from GZA to the Department, Re: Former Gorham Property, Site Investigation Report, YMCA Development, Providence, Rhode Island, dated 9 February 2004, received 17 February 2004;
4. Letter from GZA to the Department, Re: Response to Comments, Site Investigation Report – Additional Assessment Tasks (Revised), Former Gorham Site (Providence YMCA – Parcel C), Providence, Rhode Island, dated 21 April 2004; and

5. Letter from GZA to the Department, Re: Abutter Notification, Former Gorham Site (Providence YMCA – Parcel C), Providence, Rhode Island, dated 29 April 2004.

In accordance with Section 7 (Site Investigation) of the Remediation Regulations, OWM personnel have reviewed these documents in conjunction with the previously submitted site wide Site Investigation Reports prepared for former property owner, Textron, Inc. (Textron), by Harding Lawson Associates (HLA):

6. Supplemental Site Investigation Report, Proposed Park Subdivision, Former Gorham Manufacturing Property, Adelaide Avenue, Providence, Rhode Island, prepared by HLA, dated 1 December 1998; and
7. Site Investigation Summary Report and Risk Assessment, Former Gorham Manufacturing Property, 333 Adelaide Avenue, Providence, Rhode Island, prepared by HLA, dated 29 July 1999.

These documents fulfill the requirements of a Site Investigation Report (SIR), as described in Section 7 of the Remediation Regulations, for the “main” portion of Parcel C. It is the Department’s understanding that the YMCA intends to complete the SIR for the “campground” portion of Parcel C separately at a later date. Furthermore, given that appropriate public notice for a Site Investigation has been conducted pursuant to Rule 7.07 (Public Notice), as well as appropriate public review and comment pursuant to Rule 7.09 (Remedy Selection), the Department offers its conceptual concurrence with the proposed Remedial Action for the “main” portion of Parcel C.

It is the Department’s understanding that the proposed Remedial Action will incorporate the following items:

- 1) Encapsulation of all regulated site soils through the installation of Department approved engineered controls (including the building foot print, side walks, asphalt parking areas, landscaped areas, or other engineered caps). All engineered controls will provide a level of protection equivalent to a minimum of two feet of clean soil. All engineered controls over areas known or suspected to be subject to the Rules and Regulations for Composting Facilities and Solid Waste Management Facilities (Solid Waste Regulations), and under the jurisdiction of the Solid Waste Program, will consist of a minimum of two feet of clean soil;
- 2) Installation and continuous operation of an active sub-slab ventilation (SSV) system designed to extract soil vapor from under the building, and to prevent the accumulation and/or buildup of methane gas. The SSV system shall also be equipped with an alarm system, and system operation and maintenance will include periodic monitoring of methane levels below the building and in the extracted soil vapor;
- 3) Preparation and submission of a Remedial Action Closure Report documenting the work performed, and including, as applicable, all original laboratory analytical data results from

the remedial activities, disposal documentation, compliance and confirmation sampling, and clean fill sampling;

- 4) An Institutional Control in the form of an Environmental Land Usage Restriction (ELUR) will be recorded in the City of Providence Land Evidence Records at the time of this project's completion and will specify all of the site conditions, restrictions and emergency provisions in order to meet the appropriate Remedial Objectives as defined in the Remediation Regulations. A recorded copy of the Department approved ELUR will be forwarded back to the Office of Waste Management (OWM) within 15 days, prior to the issuance of the No Further Action Letter; and
- 5) Maintenance and annual inspection and certification of the engineered controls and portions of the property subject to the institutional controls by an environmental professional.

Please submit a Remedial Action Work Plan (RAWP) to the Department for review and approval. Once the Department's review for consistency with Sections 8 and 9 of the Remediation Regulations is complete, any written comments generated as a result of the review will be forwarded to you immediately. Upon finalization of the RAWP the Department will issue an Order of Approval Letter (Order) signifying that the Department approved RAWP may be implemented. Pursuant to Rule 10.02 of the Remediation Regulations, the application fee for Remedial Action Approvals is one thousand (\$1,000) dollars. Please remit a check in that amount to this office made out to the State of Rhode Island General Treasurer.

As the Performing Party, the YMCA will be responsible for properly conducting the above-listed activities.

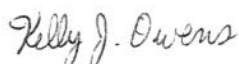
All correspondences should be sent to my attention. If you have any questions regarding this letter or if you would like the opportunity to meet with Department personnel, please contact me by telephone at (401) 222-2797 x7109 or by e-mail at jmartell@dem.state.ri.us.

Sincerely,



Joseph T. Martella II, Senior Engineer
Office of Waste Management
Department of Environmental Management

Authorized by:



Kelly J. Owens, Supervising Engineer
Office of Waste Management
Department of Environmental Management

cc: John Langlois, Esq., RIDEM/OLS
Jeffrey Crawford, RIDEM/OWM
Frank Gally, RIDEM/OWM
Susan Kaplan, RIEDC
Christopher Walusiak, RIDEM/OWM
Judith Crowley, YMCA
Robert Nicoloro, MACTEC (f.k.a. Harding ESE & HLA)

David M. McCabe, Textron
John P. Hartley, GZA
Gregory Benik, Esq., H&K

File



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-831-5508

REMEDIAL DECISION LETTER

June 15, 2001

Mr. Mark Salvetti
Harding ESE
107 Audubon Road
Suite 301
Wakefield MA 01880

RE: Former Gorham Manufacturing
Providence RI
Case No 97-030

Dear Mr. Salvetti:

In August 1996, the Rhode Island Department of Environmental Management (the Department) amended the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (the Remediation Regulations). The purpose of these regulations is to create an integrated program requiring reporting, investigation and remediation of contaminated sites in order to eliminate and/or control threats to human health and the environment in a timely and cost-effective manner. A Remedial Decision Letter is a formal Department approval of a remedy proposed by the performing party as a result of the findings of the Site Investigation.

In the matter of the above referenced site, the Department has received and reviewed:

1. Site Investigation Summary Report (SIR) for the Former Gorham Manufacturing submitted by Harding Lawson Associates (HLA) on behalf of Textron received September 2, 1999.
2. Responses to RIDEM Comments on Site Investigation Report and Risk Assessment received June 6, 2000
3. Notification to Abutters of Completion of Site Investigation Activities dated October 30, 2000 and received May 1, 2001.

These documents collectively fulfill the requirements of a Site Investigation Report (SIR) as described in Section 7 of the Remediation Regulations. Furthermore, given that appropriate public notice has been conducted pursuant to Rule 7.07 (Public Notice), the Department offers its concurrence with the proposed remedial alternative which includes excavation and asphalt batching

NATURE SAVER™ FAX MEMO 01616		Date 6/21/01	# of pages 3
To Dave McCabe	From Mark Salvetti		
Co./Dept.	Co.		
Phone #	Phone #		
Fax #	Fax #		

of soils containing petroleum and metal, treatment of groundwater, placement of a soil, asphalt, and/or buildings cover, groundwater-monitoring and an Environmental Land Usage Restriction (ELUR) and soil management plan.

In accordance with Section 9.0 of the Remediation Regulations, the Department has received and is reviewing a Remedial Action Work Plan associated with the implementation of this remedy. Upon approval of the ELUR, the Department will issue an Order of Approval signifying that the remedial action can begin.

If you have any questions or are in need of any clarification regarding this document, please contact me at (401) 222-2797 ext. 7107.

Sincerely,



Garry C. Waldeck
Acting Principal Engineer
Office of Waste Management

cc: Leo Hellested, Chief, RI DEM, Office of Waste Management
John Langlois, Esq, RI DEM Office of Legal Services
Dave McCabe, Textron



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

PROGRAM LETTER

January 20, 2015

File No. SR-28-0549D

(Formerly Case No. 2005-059 - Associated with Case No. 97-030)

Mr. Gregory L. Simpson, Project Manager
Textron, Inc.
40 Westminster Street
Providence, RI 02903

RE: Former Gorham Manufacturing Site
Phase II Area- Mashapaug Pond and Cove, Phase III Area - Northeast Upland and Parcel C
333 Adelaide Avenue, Providence, Rhode Island

Dear Mr. Simpson:

On November 9, 2011, the Rhode Island Department of Environmental Management's (the Department) Office of Waste Management (OWM) enacted the amended Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (the Remediation Regulations). The purpose of these regulations is to create an integrated program requiring reporting, investigation and remediation of petroleum and hazardous material contaminated sites in order to eliminate and/or control threats to human health and the environment in an efficient manner. A Program Letter is a document used by the Department to signify that a Site Investigation has been completed and that a Performing Party must conduct public notice in accordance with Rules 7.07(A)(ii) and 7.09 of the Remediation Regulations concerning the findings of the investigation and the proposed remedial alternatives.

In the matter of the above-referenced property (the Site), the Department's OWM is in receipt of the following documentation submitted pursuant to the Remediation Regulations in response to the reported release at the Site:

1. Site Investigation Report, Former Gorham Manufacturing Site, Phase II Area – Mashapaug Pond and Cove, Phase III Area – Northeast Upland and Parcel C, 333 Adelaide Avenue, Providence, Rhode Island, received by the Department on November 12, 2013, and prepared by AMEC Environment & Infrastructure, Inc. (AMEC);
2. Site Investigation Report, Former Gorham Manufacturing Site, Phase II Area – Mashapaug Pond and Cove, Phase III Area – Northeast Upland and Parcel C, 333 Adelaide Avenue, Providence, Rhode Island, received by the Department on December 19, 2014, and prepared by AMEC; and

3. Response to RIDEM Review Comments, December 17, 2014 Risk Memo, Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island, received by the Department on January 19, 2015, and prepared by AMEC.

The Department regards the information provided in these reports as meeting the requirements pursuant to Rule 7.08 of the Remediation Regulations. The preferred remedial alternative proposes the following remedy:

The Phase II Area Remedial Alternative is removal of approximately two (2) feet of impacted inner cove sediment by either Option A (dredging via hydraulic pumping) or Option B (placement of a Porta Dam between the inner cove and outer cove, dewatering the inner cove and mechanical excavation of the sediment). The excavated and dewatered sediment will be placed in the former Carriage House portion of the Phase III Area, under an engineered cap. After the sediment removal is completed, the remaining inner cove sediments will be capped by one foot of clean soil, followed by wetland restoration activities.

The Phase III Area Remedial Alternative is capping of the existing impacted soils in place and capping the excavated and dewatered sediment from the inner cove in the former Carriage House area. The proposed engineered cap will be constructed of a permeable high-visibility marker fabric, placed over the compacted surface soil and impacted sediments, overlain by 12 inches of clean imported topsoil, which will be seeded and maintained.

The Parcel C Area Remedial Alternative is an engineered cap consistent with what is proposed for the Phase III Area, constructed of a permeable high-visibility marker fabric, placed over the compacted surface soil and overlain by 12 inches of clean imported topsoil, which will be seeded and maintained.

The Department acknowledges that the site investigation activities are complete. The Department is not yet able to formally approve the SIR, however, due to the necessity to first allow the public to comment on the technical feasibility of the preferred remedial alternative. Rules 7.07(A)(ii) and 7.09 of the Remediation Regulations outline the requirements for public notice after the SIR is deemed complete to all abutting property owners, tenants, easement holders, the municipality and the Environmental Justice Focus Area, regarding the substantive findings of the completed investigation and the opportunity for public review and comment on the technical feasibility of the preferred remedial alternative. Please submit a draft notification to the Department via E-mail for review and approval prior to distribution. A boilerplate notification to be distributed can be found online at <http://www.dem.ri.gov/programs/benviron/waste/topicrem.htm>. The Department will require a copy of the approved public notice letter and a list of all recipients upon issuance.

The Department will formally approve the SIR in the form of a Remedial Decision Letter (RDL) once Public Notice is completed and upon Department approval of all final responses to relevant public comments. At that point, the Department will require submission of the draft Remedial Action Work Plan (RAWP), Environmental Land Usage Restriction (ELUR), and Soil Management Plan (SMP), for review and approval in accordance with Sections 8.00 and 9.00 of the

Remediation Regulations. Upon receipt of the RDL, be prepared to submit the Remedial Action Approval Application Fee of one thousand dollars (\$1,000.00) in check form made payable to General Treasurer - State of Rhode Island directly to the Office of Management Services.

If you have any questions regarding this letter or would like the opportunity to meet with Department personnel, please contact me by telephone at (401) 222-2797, ext. 7109, or by E-mail at joseph.martella@dem.ri.gov.

Sincerely,



Joseph T. Martella II
Senior Engineer
Office of Waste Management

cc: Terrence D. Gray, P.E., Assistant Director, RIDEM/AW&C
Kelly J. Owens, RIDEM/OWM
Susan Forcier, Esq., RIDEM/OLS
Elizabeth Scott, RIDEM/OWR
Alisa Richardson, RIDEM/OWR
Charles Horbert, RIDEM/OWR/Freshwater Wetlands Program
Richard Enander, PhD, RIDEM/OC&TA
Hon. Jorge Elorza, Mayor, City of Providence
Senator Juan M. Pichardo, District 2
Representative Scott A. Slater
Councilman Wilbur W. Jennings Jr., Ward 8
Robert E. Azar, Providence Planning Department
Robert F. McMahon, Providence Parks Department
David Heislein, AMEC
EJLRI
Knight Memorial Library – Project Repository



RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

April 24, 2006

CERTIFIED MAIL

Ms Susan Rittscher
President and CEO
YMCA of Greater Providence
222 Richmond Street
Providence, RI 02903

RE: Order of Approval, YMCA of Greater Providence – Parcel C
Formerly a portion of the Gorham/Textron Dump site
333 Adelaide Avenue, Providence, RI
Case No. 2004-014 (Formerly part of Case No. 97-030)

Dear Ms. Rittscher:

Enclosed please find the Order of Approval (Order) for the proposed remediation plan for the above referenced facility. Please review the stipulations of this Order thoroughly to ensure your compliance with the requirements. This Order places primary responsibility for the construction, operation, maintenance and monitoring of the approved Remedial Action Work Plan (RAWP) on the YMCA of Greater Providence (YMCA). In order to enable the Department to monitor the YMCA's compliance with the RAWP, the Order requires the YMCA to notify the Department of any condition that is non-compliant with the Order or that constitutes an interruption of the RAWP. In order to maintain compliance with the Order and the RAWP, the YMCA's responsibilities under the Order necessarily include the responsibility to respond to and correct non-compliant conditions in a timely and professional manner that minimizes non-compliance with the Order and RAWP, and protects human health and the environment.

Please notify this office 48 hours prior to the beginning of any work related to the remediation of the property. If you have any questions regarding this matter, please contact me at (401) 222-2797 x7109.

This Order shall be recorded in the land evidence records of the City of Providence as required by law, and a recorded copy must be returned to the Department within 7 days of recording.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph T. Martella II".

Joseph T. Martella II
Senior Engineer, Office of Waste Management



30% post-consumer fiber

cc: Terrence D. Gray, P.E., Assistant Director, RIDEM/AW&C
Leo Hellested, P.E., Chief, RIDEM/OWM
Kelly J. Owens, RIDEM/OWM
Sarah Destefano, RIDEM/OWM
Brian Wagner, Esq., RIDEM/OLS
Christopher Walusiak, RIDEM/OWM
Dorrie Paar, USEPA
Dr. Robert Vanderslice, PHD, RIDOH
Hon. David N. Cicilline, Mayor, City of Providence
Senator Juan M. Pichardo, District 2
Representative Thomas Slater
Providence City Councilman Ronald Allen
John J. Lombardi, City of Providence
Thomas Deller, City of Providence
Gerald Petros, Esq., Hinkley Allen
John P. Hartley, GZA
Tracy C. Baran, Esq. PS&H
Sara Rapport, Esq., City of Providence
James Ryan, Esq, PS&H
Timothy Regan, EA
Gregory Simpson, Textron
Steven Fischbach, Esq., RILS

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

**In the matter of Remedial Action Approval at:
The YMCA of Greater Providence – Parcel C
(Formerly a portion of the Gorham/Textron Dump site)
333 Adelaide Avenue, Providence, RI, Plat 51, Lot 324 (the Site)**

Case No. 2004-014

ORDER OF APPROVAL

In the above entitled matter wherein, the **YMCA of Greater Providence (YMCA)**, in its capacity as a **Performing Party for the remediation of property located at 333 Adelaide Avenue, Providence**, has filed the following documents with the Rhode Island Department of Environmental Management (the Department):

1. Remedial Action Work Plan, Providence YMCA – Parcel C, Providence, Rhode Island, prepared by GZA GeoEnvironmental, Inc., (GZA), dated February 9, 2005;
2. Memo from GZA to the Department, Re: Stockpile Testing – Gorham Property – Parcel C, dated September 7, 2005; and
3. Response to Comments, Providence YMCA – Parcel C, prepared by GZA, dated February 16, 2006.

Subject to the conditions herein, these documents fulfill the requirements of Section 9.00 (Remedial Action Work Plan) of the Department's Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases (Remediation Regulations), effective March 31, 1993 and amended February 24, 2004, and describe a plan to remediate existing contamination pursuant to 23-19.14-1 et seq. and Department's Remediation Regulations, amended February 24, 2004 in accordance therewith.

This Order of Approval (Order) places primary responsibility for the construction, operation, maintenance and monitoring of the approved Remedial Action Work Plan (RAWP) on the YMCA. In order to enable the Department to monitor the YMCA's compliance with the RAWP, the Order requires the YMCA to notify the Department of any condition that is non-compliant with the Order or that constitutes an interruption of the RAWP. In order to maintain compliance with the Order and the RAWP, the YMCA's responsibilities under the Order necessarily include the responsibility to independently and proactively respond to and correct non-compliant conditions in a timely manner.

The intent and purpose of this Order is to clarify and reinforce the YMCA's obligations under the Order, including its responsibility to address non-compliant site conditions (e.g. equipment malfunctions or exceedances of established contaminant limits). As the performing party, the YMCA is expected to implement the RAWP semi-autonomously; i.e. with Department oversight but without the need for constant Department direction or approval of the YMCA's activities. Upon identifying any non-compliant condition, the YMCA is expected to act accordingly to develop and implement an appropriate response to re-establish compliance. The YMCA's response(s) to non-compliant conditions must be implemented in an expeditious and professional manner that minimizes non-compliance with the Order and RAWP, and protects human health and the environment.

It is the Department's intent that this Order implement clear and specific timelines for deliverables that must be met by the YMCA with respect to the on-site monitoring, reporting and operation & maintenance requirements necessary to maintain the Remedy in a state of compliance. Upon consideration thereof, and in accordance with Rule 10.1 (Remedial Action Approvals) of the Remediation Regulations, the Department conditionally approves said RAWP through this Order, provided that:

- 1) All work, operations, activities and schedules shall be performed in accordance with the terms and conditions of this Order, the Department approved RAWP, and all other applicable federal, state and local laws and regulations.
- 2) The YMCA shall prepare and distribute a community notice to the residents in the reservoir triangle neighborhood and to other interested parties (e.g. community groups and local elected officials). The notice shall be printed in English and Spanish and shall include an estimated schedule for remedial activities and construction, a brief description of the work to be performed and the precautions to be taken to protect the community, and relevant contact information for the YMCA and its on-site contractors (name, phone, e-mail ... etc.) for questions and complaints.
- 3) In order to meet the requirements for the Rhode Island Brownfields Cleanup Revolving Loan Fund (RIBCRLF), the following conditions must be met **prior** to commencing the remedial action at Site:
 - a) Satisfactorily address the Department's comments on the proposed RAWP, Sampling & Analysis Plan (SAP) / Quality Assurance Project Plan (QAPP), and Health & Safety Plan (HASP) for the above referenced property, issued via email by Sarah DeStefano on February 7, 2006, to John Hartley of GZA on behalf of the YMCA;
 - b) Receive Department and EPA approval for the site-specific Quality Assurance Project Plan (QAPP). The QAPP is applicable for all samples collected and analyzed during the performance of the Remedy, including samples collected for both field screening and laboratory analysis;
 - c) Receive Department approval for the Health and Safety Plan, submitted in accordance with OSHA requirements (29 CFR 1910), for the proposed Remedial Action; and
 - d) Receive Department, EPA and EDC approval of the finalized remediation budget analysis for the selected Remedial Alternative. This budget should show itemized costs for components of the remedy, the costs to be paid for by the YMCA and the costs proposed for reimbursement from the grant. The YMCA may be required to demonstrate that it has sufficient funds to cover its costs.
- 4) Upon the YMCA completing the above-mentioned RIBCRLF requirements, the Department will issue a letter to the YMCA, confirming that the RIBCRLF requirements have been met and that the YMCA may implement the Department approved RAWP in accordance with this Order. **Please be advised that the YMCA's eligibility to receive and utilize funding from the Rhode Island**

Brownfields Cleanup Revolving Loan Fund to perform the proposed environmental response actions at the site is contingent upon all of the above items being satisfied prior to the implementation of the remedy.

- 5) Work shall be initiated at the Site within thirty (30) days of the Department issuing the above-mentioned approval letter indicating that the YMCA has sufficiently addressed the RIBCRLF requirements in items 3 and 4 above.
- 6) No hazardous waste shall be accepted from any off-site sources for treatment or disposal at the Site.
- 7) Sampling and analysis of all media involved in the Remedial Action shall be conducted in accordance with the requirements of the RAWP and this Order.
- 8) The Site remedy as described in the RAWP shall incorporate the following:
 - a) All work, operations, and activities shall be performed to ensure the applicable remedial objectives for the site are achieved for all hazardous substances at the site, so as to manage actual or potential risks to human health and the environment.
 - b) Encapsulation of all regulated site soils through the installation of Department approved engineered controls (including the building foot print, side walks, asphalt parking areas, landscaped areas, or other engineered caps). A Department approved engineered control shall cover every portion of Parcel C up to the "barrier to prevent access to the Park Parcel" described in the March 29, 2006 Superior Court Consent Order (Parcels B & C). All engineered controls shall provide a level of protection equivalent to a minimum of two feet of clean soil. Any additional proposed engineered control design, not previously described in the RAWP and approved through this RAL, must be submitted to the Department for approval prior to installation. Engineered control caps consisting of concrete pavement or walkways shall be completed with a minimum six (6) inch base of appropriate clean material covered with a minimum of four (4) inches of concrete. All engineered controls over areas known or suspected to be subject to the Solid Waste Regulations, and under the jurisdiction of the Solid Waste Program, shall consist of a minimum of two feet of clean soil. All regulated site soils and engineered controls shall be subject to an Environmental Land Usage Restriction (ELUR).
 - c) Construction, installation, maintenance and continuous operation of an active sub-slab ventilation (SSV) system designed to extract soil vapor from under the building, and to prevent the accumulation and/or buildup of methane gas or volatile organic compounds (VOCs), and to ensure levels of methane and or VOCs are maintained below applicable "Action Levels." The SSV system shall also be equipped with an alarm system, and system operation and maintenance will include periodic monitoring of methane and VOC levels below the building and in the extracted soil vapor.
 - d) In order to determine if treatment, a permit, or registration for the SSV system is required under Air Pollution Control (APC) Regulation No. 9, a submission to the Department's Office of Air

Resources (OAR) shall be made concurrent with the implementation of the RAWP, which shall include a calculated estimate of the amount of contaminant vapor to be discharged based upon the design specifications of the SSV system. Following the installation of the sub-slab ventilation system, its proper operation shall be tested to demonstrate compliance with the Department approved performance criteria in the final RAWP, and to verify actual emission values.

- e) Implementation of a long term vapor and air-monitoring program sufficient to ensure site conditions are maintained in compliance with the applicable remedial objectives. Said monitoring program shall include at a minimum:
- i) Incorporation of remedial "Action Levels" as follows:
 - (1) Within buildings, the remedial Action Level shall be 1 percent of the methane lower explosive limit (LEL).
 - (2) Under buildings, the remedial Action Level shall be 10 percent of the methane LEL.
 - (3) The remedial Action Level for VOCs shall be the Connecticut Residential Proposed Target Indoor Air Concentrations (TACs). An appropriate analytical method shall be selected with a detection limit sufficiently sensitive to allow proper comparison of detected VOC concentrations to each applicable TAC (e.g. speciated VOCs using EPA method TO-15).
 - ii) The proposed location of each interior methane monitor/alarm (i.e. continuous within the buildings), as well each proposed interior and sub slab sample collection location shall be provided to the Department prior to installation.
 - iii) Performance of baseline ambient air monitoring within the subsurface slab area and the building interior shall be conducted, prior to system start up and any occupancy, to evaluate concentrations of methane and VOCs at the site.
 - iv) The schedule for periodic compliance monitoring shall be weekly from system start-up through the first quarter of system operation, followed by monthly provided that there are no exceedances of the applicable remedial Action Levels. After successfully demonstrating one year of continuously compliant system operation, the YMCA may petition the Department to decrease the required monitoring frequency.
 - v) The air quality of each interior monitoring location shall be sampled by combustible gas indicator (CGI) for comparison to the methane LEL. Each sub slab monitoring location shall be sampled and analyzed for both methane and VOCs. In the event that concentrations of VOCs in the sub slab air are detected at a level which exceeds an Action Level, VOC samples shall immediately be collected and analyzed from each interior monitoring location.
 - vi) In the event that a remedial Action Level is exceeded in a location that is already being addressed by the active sub-slab ventilation system (i.e. indoor air or under a building), the YMCA shall immediately notify the Department by telephone and respond to and correct non-compliant conditions in a timely manner. Written notification to the Department shall follow within seven (7) days with any plans to upgrade or adjust the system to remedy the problem, including steps taken to address the non-compliance. It shall be the YMCA's responsibility to assess immediate threat or emergency situations and to address non-compliant conditions in an

- expeditious and professional manner that minimizes non-compliance with the Order and RAWP, and protects human health and the environment.
- vii) Each of the interior methane monitors shall be operated continuously and be connected to the remote alarm system in such a manner as to trigger the alarm should the concentration of methane in any building exceed the remedial Action Level of 1 percent of the methane LEL. Each interior methane monitor shall be powered in a manner such that operation will not be interrupted during a power failure. In the event that the concentration of methane in any building exceeds the remedial Action Level of 1 percent of the methane LEL, the YMCA shall act accordingly to develop and implement an appropriate response to re-establish compliance, and protect human health and the environment. Response protocols may include, but not necessarily be limited to, building evacuation, notification of the Providence Fire Department via "911", notification of the Department, and other steps, as appropriate, designed to identify and correct any alarm system or SSV system-related problems that may have contributed to site conditions, which caused the methane sensor alarm.
 - viii) All equipment shutdowns (intentional and unintentional) or operational problems shall be reported to the Department immediately. Intentional equipment shutdowns for regular maintenance shall not require immediate notification to the Department provided that the shutdown is for less than twenty-four (24) hours and the maintenance activity is discussed in the next quarterly report.
 - ix) Monitoring of methane and VOCs shall continue at the specified rate as long as a source of contamination exists.
- f) Preparation and submission of quarterly air monitoring reports in accordance with this Order, and including the recording of the following parameters:
- i) The concentrations of methane and VOCs detected in each sample collected and analyzed during monitoring activities for the current reporting period.
 - ii) A summary table of the concentrations of methane and VOCs detected in each sample collected and analyzed during prior reporting periods.
 - iii) The occurrences of any alarm activations during the quarter and the resulting activities performed in response to the alarm activation.
 - iv) The occurrences of any remedial Action Level exceedances during the quarter and resulting activities performed in response to the exceedance.
 - v) The system operational status during the quarter, particularly noting the length of any system shutdown due to power failure, system malfunction, repairs, scheduled maintenance, etc.
 - vi) The anticipated delivery date of the next scheduled monitoring report submittal.
- g) Management of all Site soil in accordance with the requirements of the RAWP and this Order.
- h) Implementation of appropriate procedures to manage, control and monitor regulated soil, asbestos containing material (ACM) and dust in a manner consistent with the asbestos and fugitive dust management precautions employed during the Department-approved Limited Remedial Action Work Plan (LRAWP) for Parcel B, including but not limited to:

- i) All on-site workers must be fitted with ACM monitoring devices during any remedial or construction activity with the potential to generate dust. The monitoring devices shall include vacuum intakes located near the workers' breathing zone to provide results that are representative of the levels within the inhalation area of the workers. Samples shall be collected from the monitoring devices and analyzed regularly with a quick turn-around to ensure the safety of on-site workers.
 - ii) Real-time dust monitoring shall be conducted at the perimeter of the site to ensure that site activities do not create unacceptable impacts to off-site air quality and risks to nearby populations. Portable dust monitoring stations shall be established at upwind and downwind locations and shall be relocated on a regular basis as upwind and downwind locations change based on meteorological conditions. Monitoring equipment shall be equipped with alarms to indicate when site-specific action levels are exceeded. Dust monitoring results must be submitted to the Department on a weekly basis, at a minimum, and be made part of the Operating Log for the RAWP. The Department must be immediately notified of any exceedances of any approved action levels (see above referenced LRAWP), any corrective action that was performed, and the results and effectiveness of corrective action measures.
 - iii) Regular application of water to the work area or any area of soil disturbance to control dust through the use of either a water truck equipped with multiple spray nozzles and a manual hose attachment, or multiple oscillating water sprinklers.
- i) Preparation and submission of a Remedial Action Closure Report documenting the work performed and including at a minimum the following items:
- i) A post remediation survey of the entire site with as-built plans demarcating the exact location (e.g. vertical and horizontal extent and type) of the installed engineered controls, including: geotextile fabric, clean fill, utilities, structures, basins, swales, the storm water detention pond, the SSV system, and all monitoring locations.
 - ii) Analytical results and summary of all post remediation/post construction methane, VOC and air monitoring performed to date, demonstrating compliance with the requirements of this Order.
 - iii) All original laboratory analytical data results from the remedial activities, compliance and confirmation sampling, and clean fill sampling as applicable.
 - iv) A statement from the facility or environmental consultant attesting to the origin of the clean fill and/or loam, and suitability consistent with the RAWP and this Order. Any organic topsoil utilized shall conform to the general vegetated top cover criteria outlined in Rule 2.2.12 of the Solid Waste Regulations.
- j) A draft ELUR shall be submitted to the Department for review and approval at the conclusion of the remedial action, and once approved by the Department, shall be recorded in the City of Providence land evidence records of the subject property.
- k) Long-term maintenance of the engineered controls and portions of the property subject to the ELUR, including annual inspection and certification by an environmental professional.

- 9) The SSV system (including the alarm system) shall be operated and maintained to prevent methane and/or VOC concentrations from reaching or exceeding the remedial Action Levels within any and all occupied structures at the site.
- 10) Any temporarily stockpiled regulated soils shall be placed upon and covered with polyethylene of thickness at least 6mm or greater to prevent tearing, and segregated from clean fill material to prevent cross contamination.
- 11) All excess fill material generated on site, shall have all solid waste and debris removed prior to reuse as closure cap subgrade beneath the filter fabric layer.
- 12) Any material discovered during excavation activities that qualifies as "Solid Waste," as defined by the Department's Solid Waste Regulations, must be disposed of at a licensed Solid Waste Facility. This includes, but is not limited to, any solid waste material removed under the proposed building footprint as well as any solid waste material excavated within the footprint of the proposed storm-water detention pond.
- 13) All RAWP activities shall be performed in compliance with all appropriate Office of Air Resources (OAR) Rules and Regulations, including but not limited to the monitoring and control of any air emissions and the timely acquisition of any required Air Pollution Control Permits (Air Permits).
- 14) Any portion of the RAWP or development project conducted on the Site which falls under the jurisdiction of the Department's Freshwater Wetlands Program must be done in accordance with the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act (the Wetlands Regulations), including but not limited to the timely acquisition of a Wetlands Permit.
- 15) All waste derived from implementation of the RAWP, the repair and maintenance of the Remedy, or the engineered systems shall be managed in accordance with the Department's Remediation Regulations, Rules and Regulations for Hazardous Waste Management, and Solid Waste Regulations, as appropriate. In accordance with Rule 11.07 (Initiator) of the Remediation Regulations, the YMCA must comply with the requirements of the Solid Waste Regulations, as amended, for all solid waste shipments that they initiate, and documentation of disposal shall be provided to the Office of Waste Management (OWM).
- 16) All fill material brought onto the Site and all soil utilized for the engineered control cap must be compliant with the Department's Method 1 Residential Direct Exposure Criteria pursuant to the Remediation Regulations. All clean fill, including sub-grade material and loam, imported to the site must be sampled in accordance with the RAWP and this Order, prior to delivery and placement. Laboratory analytical results must be submitted to the OWM via fax (401) 222-3812. Written approval (via e-mail, fax or letter) to use the fill must be received from the Department prior to use.
- 17) Within sixty (60) days of completion of the Remedial Action described in the RAWP, a Remedial Action Closure Report, detailing the Remedial Action and current site status, and including a draft

ELUR including a Site specific post remediation Soil Management Plan (SMP), and a post remediation survey and as-built plan, shall be submitted to the OWM for review and approval.

- 18) Within thirty (30) days of receiving Department approval of the Remedial Action Closure Report and ELUR, the YMCA will have the Department approved ELUR recorded in the Providence land evidence records, and submit a recorded (stamped) copy to the OWM within fifteen (15) days of the date that it is recorded.
- 19) Within ten (10) days of submittal of the recorded (stamped) copy of the Department approved ELUR to the OWM, the YMCA shall notify all abutting property owners, tenants, and interested parties that the ELUR has been recorded.
- 20) The YMCA, its representatives, employees, agents and contractors shall adhere to the following timelines in its management, operation and maintenance of the Site.
 - a) The YMCA shall immediately notify the OWM of any Site or operating condition that results in non-compliance with this Order, or that indicates that the Remedy is not meeting its intended goal of preventing human exposure to hazardous materials contained in the former manufacturing facility site.
 - b) The OWM shall be notified in writing immediately if the YMCA suspects or has reason to believe that any of the remedial objectives will not be met.
 - c) The OWM will be notified a minimum of five (5) working days in advance of any changes in contractors and/or consultants for the remedial activities in this RAWP, and will be promptly supplied with complete contact information for each new contractor or consultant (including but not limited to company name and address, contact name and address, contact telephone number and e-mail address).
 - d) Any RAWP interruptions shall be reported to the OWM by telephone within one (1) working day and in writing within seven (7) days.
 - e) All exceedances of the "Action Levels" established in the Order that are detected during any site monitoring activity (including but not limited to monitoring of sub-slab ventilation systems, or interior methane monitors/alarms) shall be reported to the OWM immediately and responded to immediately by the YMCA.
 - f) All equipment shutdowns (intentional and unintentional) or operational problems shall be reported to the OWM immediately. Intentional equipment shutdowns for regular maintenance shall not require immediate notification to the OWM provided that the shutdown is for less than twenty-four (24) hours and the maintenance activity is discussed in the next quarterly report.
 - g) All repairs or replacements of equipment or other actions taken in response to any non-compliance with the RAWP shall be completed within fourteen (14) days of discovery of the non-compliant

condition. Additional time may be requested from the OWM in writing, provided that the request is supported with a justifiable explanation as to why the work cannot be completed within 14 days and includes a binding timetable for the completion of all work. All requests for additional time shall be submitted to the OWM as soon as the YMCA becomes aware that additional time is necessary, but not later than 14 days from the discovery of the non-compliant condition. Documentation describing the repairs and certifying that the malfunction was corrected and that the equipment is operational must be received by the OWM within 5 (five) days of completion of the repairs.

- h) All deficiencies in the approved engineered cap (including but not limited to sinking, cracking or excavation of soil, asphalt, cement or foundations) shall be reported to the OWM immediately upon discovery and shall be repaired within fourteen (14) days. Until repairs are made, the YMCA shall prevent access to the deficient areas by staff, clients or visitors. Documentation describing the deficiency, the repairs and certifying that the repairs meet the requirements of the Remedy must be received by the OWM within 5 days of completion of the repairs.
- i) Any report or notice required to be submitted to the OWM "immediately," shall require verbal notification to the OWM within twenty-four (24) hours and written notification to the OWM within seventy-two (72) hours. The report or notice shall include a description of: the point of non-compliance (e.g. Action Level exceedance, equipment problems); the known or suspected cause for the non-compliance; any response actions taken as of the time of the report or notice; preliminary concepts for response actions to address, correct and/or prevent recurrence of the non-compliance; and a preliminary timetable for the completion of any further response actions. Final plans and timetables for response actions shall be reported to the OWM as soon as they are developed.

- 21) All notifications or reports required to be made or submitted to the Department under this Order, any other information pertinent to the RAWP, and/or any other notification regarding the YMCA site shall be reported to:

Joseph T. Martella II, Senior Engineer
RIDEM – Office of Waste Management
235 Promenade St., 3rd Floor
Providence, RI 02908-5767

Tel: (401) 222-2797 x7109

Fax: (401) 222-3812

E-mail: joseph.martella@dem.ri.gov

- 22) This Order does not remove the obligation of the YMCA to obtain any other permits, licenses or approvals from any state, local, or federal agencies (including the Department) that may be necessary to comply with this Order.

- 23) It is the YMCA's sole obligation to obtain all necessary approvals and permits required to implement the RAWP in a timely manner consistent with the RAWP schedule and deadlines in this Order.
- 24) The YMCA shall have this Order recorded in the City of Providence, land evidence records of the subject property within thirty (30) days of execution of this Order.
- 25) There shall be no occupation or use of any building, facility or grounds on the Site until all the requirements described in the RAWP and this Order have been met to ensure that the applicable remedial objectives for the site are achieved for all hazardous substances, so as to manage actual or potential risks to human health and the environment for workers, clients, visitors and trespassers at the Site.

Subject to future revisions or amendments by the Department, this Order shall remain in full force and effect for as long as said RAWP shall be operated and maintained in a condition satisfactory to the Department. Failure to comply with all points outlined in the Department approved RAWP and stipulated in this Order shall result in the issuance of a Notice of Violation and Order against the YMCA and the owner of the property.

This Order shall be subject to modification or revocation in accordance with law.

Entered as an approval by the Department this 24th day of April, 2006.

By:



Leo Hellested, P.E.
Chief, Office of Waste Management
Department of Environmental Management