COMMONWEALTH OF MASSACHUSETTS

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IN THE MATTER OF MADISON WOBURN HOLDING, LLC'S REDEVELOPMENT OF 369 WASHINGTON STREET, WOBURN, MASSACHUSETTS

BROWNFIELDS COVENANT NOT TO SUE AGREEMENT

MassDEP RTNs 3-0001423; RTN 3-0000479

I. STATEMENT OF PURPOSE

A. This Agreement is made and entered into by and between the Office of the Attorney General (the "OAG") on behalf of the Commonwealth of Massachusetts (the "Commonwealth") and Madison Woburn Holdings, LLC ("MWH"). Collectively, the OAG and MWH are referred to as the "Parties."

B. This Agreement is entered into pursuant to the Massachusetts Oil and Hazardous Material Release Prevention and Response Act, as amended and codified in Massachusetts General Laws Chapter 21E ("G.L. c. 21E"), and the OAG's Brownfields Covenant Not to Sue Agreement Regulations at 940 CMR 23.00 ("Brownfields Covenant Regulations"), with reference to the Massachusetts Contingency Plan, 310 CMR 40.0000 (the "MCP"). This Agreement relates to an approximate 12-acre parcel of property located at 369 Washington Street in Woburn, Massachusetts (the "Property"), and its redevelopment (the "Project").

C. The Parties intend to set forth in this Agreement their respective duties, obligations, and understanding so that the Project can contribute to the physical and economic revitalization of an area of Woburn, Massachusetts. The Parties agree that this Agreement, pursuant to G.L. c. 21E, § 3A(j)(3), addresses potential claims by the Commonwealth as to MWH and is predicated upon the MWH's compliance with the terms and conditions of this Agreement.

D. The Parties agree that MWH's ability to conduct the Project may be contingent upon independent approval processes of other departments, agencies, and instrumentalities of the federal, state, and local governments. Nothing in this Agreement should be construed as an endorsement by the OAG of the proposed project for such approval processes. MWH's failure to secure independent governmental approvals for the Project shall not excuse MWH from performance of any requirements of G.L. c. 21E and the MCP.

E. The Commonwealth believes that this Agreement is fair, consistent with G.L. c. 21E, and in the public interest, and has entered into this Agreement as part of an effort to revitalize an area of Woburn, Massachusetts.

II. THE PARTIES

A. D.

A. The OAG is a duly constituted agency of the Commonwealth of Massachusetts charged with the legal representation of the Commonwealth and maintains offices at One Ashburton Place, Boston, Massachusetts 02108. Included within the OAG's authority is the authority to enter into Brownfields Covenant Not to Sue Agreements pursuant to G.L. c. 21E, \S 3A(j)(3).

B. MWH is a limited liability company with its principal place of business in Boston, Massachusetts. MWH shall undertake the Project as discussed in Section IV.A.2. of this Agreement.

III. STATEMENT OF FACT AND LAW

A. The Commonwealth enters into this Agreement pursuant to its authority under G.L. c. 21E, § 3A(j)(3), and the Brownfields Covenant Regulations.

B. Unless otherwise expressly provided, terms used in this Agreement which are defined in the Brownfields Covenant Regulations shall have the meaning assigned to them under such regulations. Terms not defined in the Brownfields Covenant Regulations, but defined under G.L. c. 21E and/or the MCP, shall have the meaning assigned to them under G.L. c. 21E and/or the MCP. Terms used in this Agreement which are defined in the Brownfields Covenant Regulations, G.L. c. 21E, the MCP, as well as those defined in this Agreement, are capitalized.

The Property is an approximate 12-acre parcel located at 369 Washington Street C. in Woburn, Massachusetts, and is located within the 330-acre Wells G & H Superfund Site ("Wells G & H Site"). The Property was formerly used by W.R. Grace for manufacturing and distributing stainless steel equipment. Manufacturing operations occurred at the Property between 1960 and 1987. Prior to the purchase of the Property by W.R. Grace, the Property was farmland. Starting in the late 1970s, the Massachusetts Department of Environmental Quality Engineering and the Environmental Protection Agency (EPA) began investigations related to contaminated groundwater in two municipal water wells located to the southwest of the Property. The Property was identified as one of several source areas for volatile organic compound (VOC) contaminated groundwater in the Wells G&H Site. The Property is more fully described in Exhibit A, which is attached and incorporated into this Agreement. The contaminants of concern at the Wells G&H Site include: trichloroethene (TCE), total 1-2,-dichloroethene (total-1,2-DCE), tetrachloroethene (PCE), vinyl chloride (VC), 1,1-dichloroethene (1,1-DCE), chloroform, and 1.2-dichloroethane (1.2-DCA). In addition to VOCs, polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) have also been detected in Wells G&H Site soil.

D. The Massachusetts Department of Environmental Protection ("MassDEP") has received notice of Releases of Oil and/or Hazardous Materials ("OHM") at the Property. The areas where OHM have come to be located as a result of the Releases were assigned RTN 3-0001423. The Releases associated with the entire Wells G&H Site were assigned RTN 3-0000479. The Wells G&H Site constitutes the "Site," as that term is defined at 310 CMR 40.0006, for the purposes of this Agreement. The Wells G&H Site is also the "property addressed" by this Agreement as the term "property addressed" is used at 940 CMR 23.08(1) in

the Brownfields Covenant Regulations. The Wells G&H Site is more fully described in <u>Exhibit</u> <u>B</u>, which is attached and incorporated into this Agreement. Exhibit B describes the environmental conditions in detail, including the nature and extent of contamination detected at the Wells G&H Site, as well as the remediation undertaken at the Wells G&H Site.

E. On September 14, 1989, EPA, with MassDEP concurrence, selected a remedy for the Wells G&H Site, which required the implementation of a groundwater remedy at the Wells G&H Site pursuant to a Record of Decision ("ROD") and further prescribing the response actions taken at the Wells G&H Site which shall be deemed "adequately regulated" under 310 CMR 40.0111(1)(b). A groundwater extraction and treatment system was installed at the Property and began operation in 1992, which included the treatment building currently located on the southeastern portion of the Property. This extraction and treatment system remediates VOC-contaminated groundwater in the shallow bedrock and unconsolidated deposits that originated at the Property, under the Wells G&H Site. A deep bedrock extraction well located on the nearby UniFirst property collects VOC-contaminated groundwater in deeper bedrock originating from both said Property and the nearby Unifirst property, under the Wells G&H Site. The operation of the groundwater extraction and treatment systems is being undertaken by a group of Potentially Responsible Parties ("PRPs") pursuant to a Consent Decree (the "Consent Decree") entered in United States v. Wildwood Conservation Corporation, (D. Mass.), Civil Action No. 91-11807-MA, which became effective on October 10, 1991, and between and among EPA, the U.S. Department of Justice, and the PRPs.

The ROD can be viewed at the following website: http://cumulis.epa.gov/superrods/index.cfm?fuseaction=data.siterods&siteid=0100749

The ROD and the Consent Decree address contamination at only a portion of the F. Wells G & H Site known as OU-1. OU-1 includes the five properties within the Wells G & H Site that were identified as source areas for groundwater contamination. EPA also has designated another portion of the Wells G & H Site as OU-2. OU-2 is comprised of properties located southwest and down-gradient from the Property and the other source area properties and includes what is called the Southwest Properties.¹ Several of the PRPs, including Grace, which entered into the Consent Decree to perform the remedy at OU-1, also agreed to investigate the nature and extent of contamination at the OU-2 portion of the Wells G & H Site. The investigation found, among other things, that contaminants of concern at OU-1, including contaminants associated with the release at the Property, also are located at the OU-2 area. In June, 2014, EPA notified Grace and other PRPs of their potential liability for the cleanup of the OU-2 area. EPA is expected to issue a Record of Decision for OU-2 in the near future. Grace and other PRPs are expected to enter into another consent decree with the United States which would obligate Grace and others to perform the remedy EPA will select for OU-2. The remedy for OU-2 is expected to include the remediation of groundwater contaminated with some or all of the same contaminants of concern at OU-1.

In accordance with 310 CMR 40.0111(10), the PRPs will be considered to have achieved a Permanent Solution for purposes of G.L. c. 21E and the MCP for those hazardous substances

¹ The Southwest Properties are shown on the figure located at Exhibit B.

subject to such remedial actions when the PRPs complete the remedial actions in accordance with the Consent Decree and the ROD for OU-1, when the PRPs or EPA complete remedial actions for OU-2 and for any additional operable units EPA may designate in the future, all pursuant to subsequent design, construction, and other pertinent plans approved by EPA, and EPA has certified completion of all remedial actions required for the Wells G & H Site.

IV. COMMITMENTS AND OBLIGATIONS

In consideration of the representations made and promises exchanged by and between the Parties, each of them covenants and agrees to the terms and conditions which follow.

A. REPRESENTATIONS AND COMMITMENTS BY MWH

- 1. MWH represents that:
 - a. it is an Eligible Person;

b. it is not at the time of execution of this Agreement a person with potential liability for the Wells G&H Site pursuant to G.L. c. 21E;

c. it is not now nor has it ever been previously affiliated with any person having potential liability for the Wells G&H Site pursuant to G.L. c. 21E, except as set forth below;

d. its involvement with the Wells G&H Site has been limited to:

i. evaluating the Property for purposes of acquiring the Property;

ii. negotiating an agreement to acquire the Property;

iii. communicating with the Commonwealth and local authorities with respect to the remediation and redevelopment of the Property;

iv. acquiring the Property in December, 2014; and

v. evaluating the Property for purposes of constructing the Project.

e. none of MWH's activities has caused or contributed to the Release or Threat of Release of OHM at the Wells G&H Site under G.L. c. 21E and/or the MCP; and

f. MWH is not at the time of execution of this Agreement subject to any outstanding administrative or judicial environmental enforcement action arising under any applicable federal, state or local law or regulation. 2. MWH agrees to the following terms and conditions:

a. MWH acquired the Property in December 2014 and, as Owner and/or Operator, shall endeavor to undertake the Project. The Project consists of the development of two limited service hotels (to be co-located in a single building) and three restaurants. The project is expected to provide over 100 full-time jobs and over \$1 million in annual revenue to the City of Woburn. The project will put back into productive use a site which has been conspicuously vacant for the past 25 years.

b. As Owner and/or Operator, MWH shall cooperate fully with the PRPs and EPA in achieving and maintaining any Permanent Solution, as described in 310 CMR 40.0111(10), at the Property and the Wells G & H Site as a whole, in accordance with the remedial requirements described herein above in Sections III. E. and F., the Standard of Care defined in G.L. c. 21E, and the MCP without incurring any obligation or liability, hereunder, to assume or undertake any responsibility or obligation of the PRPs with respect to the Wells G & H Site and without derogation of any kind of the PRPs' obligations and liabilities thereunder and without derogation of MWH's obligations under the law. As Owner and/or Operator, MWH shall also cooperate fully with MassDEP.

c. To cooperate fully includes, without limitation:

i. providing prompt and reasonable access to the portion of the Wells G&H Site owned or operated by MWH to MassDEP for any purpose consistent with G.L. c. 21E and the MCP;

ii. complying with the Release notification provisions established by G.L. c. 21E and the MCP;

iii. responding in a timely manner to any request with respect to the Property made by the MassDEP or OAG to produce information as required pursuant to CERCLA and/or G.L. c. 21E;

iv. taking reasonable steps to prevent the Exposure of OHM to people at the Property, such as (1) by fencing or otherwise preventing access to the Wells G&H Site if appropriate and/or necessary to prevent Exposure, or (2) by taking action as otherwise required by CERCLA, G.L. c. 21E, the MCP or MassDEP;

v. containing any further Release or Threat of Release of OHM from a structure or container under MWH's control, to the extent necessary under, and in accordance with, CERCLA, G.L. c. 21E and MCP, upon obtaining knowledge of a Release or Threat of Release of OHM; and

vi. to the extent MWH conducts, or causes to be conducted, Response Actions at the Property, doing so in accordance with CERCLA, the ROD, any future Records of Decision issued by

-5-

EPA for the Wells G & H Site, and, if applicable, G.L. c. 21E, the Standard of Care defined in G.L. c. 21E, and the MCP.

d. MWH shall operate the Property consistent with any Activity and Use Limitation ("AUL") and/or Grant of Environmental Restriction and Easement ("GERE") as required by the Consent Decree and the ROD, and any additional consent decrees and Records of Decision for the Wells G & H Site, recorded for the Property.

e. MWH shall provide a copy of this Agreement to any successors, assigns, lessees or licensees of MWH's ownership or operational interests in any portion of the Property ("Subsequent Owners and/or Operators").

B. COVENANT NOT TO SUE BY THE COMMONWEALTH

1. MWH

Pursuant to G.L. c. 21E, § 3A(j)(3), in consideration of the representations and commitments by MWH set forth in Section IV.A. of this Agreement, and subject to MWH's compliance with the terms and conditions of this Agreement and the Termination for Cause provisions described below in Section IV.B.5., the Commonwealth covenants not to sue MWH for Response Action costs, contribution, property damage, natural resource damages or injunctive relief under G.L. c. 21E, or for property damage under the common law, relating to any Release of OHM at the Property covered by the ROD, the Consent Decree, any future consent decrees and Records of Decision for the Wells G & H Site all as described herein at Sections III. E. and F., and the RTNs described herein above in Section III. D. and E. of this Agreement (the "Covered Releases").

2. Subsequent Owners and/or Operators

The Commonwealth also covenants not to sue Eligible Persons who are Subsequent Owners and/or Operators, as defined in Section IV.A.2.e. of this Agreement, for Response Action costs, contribution, property damage, natural resource damages or injunctive relief under G.L. c. 21E, or for property damage under the common law, related to the Covered Releases. The liability relief available to Subsequent Owners and/or Operators shall be subject to the same terms and conditions as those that apply to MWH and the Subsequent Owner's and/or Operator's covenant not to sue the Commonwealth in Section IV.C. of this Agreement.

3. Applicability of the Agreement

After the applicable Effective Date, as set forth in Section IV.E.5., the Commonwealth's covenant not to sue MWH or Subsequent Owners and/or Operators for Response Action costs, contribution, property damage or injunctive relief under G.L. c. 21E, or for property damage under the common law, relating to Covered Releases shall remain in effect unless and until the statutory protections available to MWH or Subsequent Owners and/or Operators pursuant to G.L. c. 21E, § 5C are in effect. Protections in this Agreement from claims for natural resource damages shall not be affected if the statutory protections available under G.L. c. 21E, § 5C are in effect. This Agreement is subject to the Termination for Cause provisions described below in Section IV.B.5. 4. Reservations of Rights

The Commonwealth's covenants in this Agreement shall not apply to:

a. any Release of OHM at or from the Property that first occurs after the date of execution of this Agreement;

b. any Release of OHM which MWH or any Subsequent Owner and/or Operator causes, contributes to, or causes to become worse, but if the cause or contribution is that of a Subsequent Owner and/or Operator, such reservation shall affect the liability protection applicable only to such Subsequent Owner and/or Operator and shall not affect MWH's liability protection under this Agreement;

c. any Release of OHM not discovered at the time that EPA certifies completion of the remedial action that would have been discovered if an assessment of the Property or portion of the Property covered by or addressed in such certification had been performed consistent with the applicable CERCLA, ROD, and Consent Decree requirements;

d. any Release or Threat of Release of OHM from which there is a new Exposure that results from any action or failure to act pursuant to G.L. 21E by MWH or a Subsequent Owner and/or Operator during MWH's or a Subsequent Owner's and/or Operator's ownership or operation of the Property, but if the action or failure to act is that of a Subsequent Owner and/or Operator, such reservation shall affect the liability protection applicable only to such Subsequent Owner and/or Operator and shall not affect MWH's liability protection under this Agreement;

e. any Release of OHM not expressly described as one of the Covered Releases in Section IV.B.1. of this Agreement;

f. any claims (i) for damages for injury to, destruction of, or loss of natural resources due to a Release of Oil and/or Hazardous Material occurring after the execution of this Agreement, (ii) for exacerbation of injury to, destruction of, or loss of natural resources occurring after the execution of this Agreement, where original injury, destruction or loss of natural resources was due to a Release of Oil and/or Hazardous Material occurring either before or after the execution of this Agreement, (iii) for the costs of any natural resource damage assessment relating to conditions first caused or exacerbated after the execution of this Agreement, and (iv) for damages for injury to, destruction of, or loss of natural resources due to a Release of Oil and/or Hazardous Material that is not a Covered Release. If, however, injury to, destruction of, or loss of natural resources, or the exacerbation of such conditions, is caused by a Subsequent Owner and/or Operator, this reservation shall affect the liability protection applicable only to such Subsequent Owner and/or Operator, and shall not affect MWH's liability protection.

5. Termination for Cause

a. If the OAG or MassDEP determines that MWH submitted materially false or misleading information as part of its Application to Enter into a Brownfields Covenant Not to Sue Agreement, the OAG may terminate the liability protection offered by this Agreement for the offending party in accordance with Section IV.B.5.c. of this Agreement. A

-7-

statement made by MWH regarding the anticipated benefits or impacts of the proposed Project will not be considered false or misleading for purposes of this section if the statement was asserted in good faith at the time it was made.

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b. If the OAG or MassDEP determines that MWH or a Subsequent Owner and/or Operator has violated the terms and conditions of this Agreement, including, but not limited to, failure to cooperate with the PRPs in accordance with Section IV.A.2.b. of this Agreement, G.L. c. 21E and the MCP, or a Certificate of Completion is not issued by EPA or a Permanent Solution is not achieved and maintained for the Wells G&H Site in accordance with 310 CMR 40.0111(10), the OAG may terminate the liability protection offered by this Agreement in accordance with Section IV.B.5.c. of this Agreement. In the event that the liability protection is terminated solely because of a violation by a Subsequent Owner and/or Operator of one or more of the conditions set forth in Section IV.A.2.c.i. through Section IV.A.2.c.vi. of this Agreement, such termination shall affect the liability protection applicable only to the Subsequent Owner and/or Operator and shall not affect MWH's liability protection.

c. Before terminating the liability relief provided by this Agreement, the OAG will provide MWH or a Subsequent Owner and/or Operator, as appropriate, with written notice of the proposed basis for, and a 60-day opportunity to comment on, the proposed termination. If the OAG, in its sole reasonable discretion, deems it appropriate, the notice from the OAG shall provide a reasonable period of time for MWH or a Subsequent Owner and/or Operator, as appropriate, to cure an ongoing violation in lieu of termination of the liability relief provided by this Agreement.

d. Termination of liability relief pursuant to this section shall not affect any defense that MWH or a Subsequent Owner and/or Operator might otherwise have pursuant to G.L. c. 21E.

C. COVENANT NOT TO SUE BY MWH AND ANY SUBSEQUENT OWNER AND/OR OPERATOR

1. In consideration of the Commonwealth's covenants not to sue in Section IV.B. of this Agreement, MWH covenants not to sue and not to assert any claims or causes of action against the Commonwealth, including any department, agency, or instrumentality, and its authorized officers, employees, or representatives with respect to the following matters as they relate to the Wells G&H Site or this Agreement:

a. any direct or indirect claims for reimbursement, recovery, injunctive relief, contribution or equitable share of response costs or for property damage pursuant to G.L. c. 21E in connection with any of the Covered Releases;

b. any claims for "takings" under the Fifth Amendment to the United States Constitution, under the Massachusetts Constitution, or under G.L. c. 79 based on the argument that, with respect to a Covered Release, the requirements of Chapter 21E, the MCP, or the requirements of this Agreement constitute a taking;

c. any claims for monetary damages arising out of Response Actions at the Wells G&H Site and/or the Property;

d. any claims or causes of action for interference with contracts, business relations or economic advantage based upon the conduct of MassDEP pursuant to Chapter 21E prior to the date of this Agreement concerning any of the Covered Releases; or

e. any claims for costs, attorneys fees, other fees or expenses incurred in connection with the Covered Releases.

2. Subsequent Owners and/or Operators shall be bound by MWH's covenants in this Section IV.C. In the event that, despite these covenants, a Subsequent Owner and/or Operator asserts any claims or causes of action against the Commonwealth, including any department, agency, or instrumentality, and its authorized officers, employees, or representatives with respect to the claims listed in this Section IV.C., such claims or causes of action shall have no effect on the rights, benefits, and protections secured under this Agreement for any other entity.

D. CONTRIBUTION PROTECTION

With regard to the Covered Releases and its status as Owner or Operator of the Property, MWH and any subsequent Owner and/or Operator are entitled to the protections accorded by the provisions of G.L. c. 21E $\S3A(j)(3)$ from claims for contribution, response action costs or for property damage brought by third parties under G.L. c. 21E. \S 4, 4A, and/or 5 or any third party claims brought for property damage under the common law based solely on the status of MWH or any Subsequent Owner and/or Operator as Owner or Operator of the Property provided that MWH has provided Affected Third Parties and the public with notice pursuant to G.L. c. 21E, \$3A(j)(3) and 940 CMR 23.04(2). The Parties hereto acknowledge and agree that MWH has complied with said notice requirements.

E. GENERAL PROVISIONS

1. This Agreement may be modified only upon the written consent of all Parties.

2. If any court of competent jurisdiction finds any term or condition of this Agreement or its application to any person or circumstance unenforceable, the remainder of this Agreement shall not be affected and each remaining term and provision shall be valid and enforceable to the full extent permitted by law.

3. Each Party warrants and represents to the others that it has the authority to enter into this Agreement and to carry out its terms and conditions.

4. This Agreement may be fully executed by all Parties in one or more counterparts, each of which shall be deemed an original but all of which shall constitute one and the same instrument.

5. Effectiveness

The Commonwealth's covenant not to sue MWH or Subsequent Owners and/or Operators for Response Action costs, contribution, property damage or injunctive relief

-9-

under G.L. c. 21E, or for property damage under the common law, relating to any Covered Release, shall be effective as of the date MWH acquires the Property or this Agreement is fully executed by all Parties, whichever is later.

In the matter of Madison Woburn Holdings, LLC Brownfields Covenant Not To Sue Agreement

IT IS SO AGREED:

OFFICE OF THE ATTORNEY GENERAL

By: Mary E. Hayper Nancy E. Harper

Assistant Attorney General Deputy Division Chief Environmental Protection Division Office of the Attorney General One Ashburton Place Boston, MA 02108

Bran net 12/17/15 Date:

Madison Woburn Holding, LLC

By: 🤇 yer

Date:

In the matter of Madison Woburn Holding, LLC Brownfields Covenant Not To Sue Agreement

As to protections for MWH from claims for natural resource damages:

COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS

By:

12

Matthew Beaton Secretary of Energy and Environmental Affairs

Date:

Exhibit A

EXHIBIT A

LEGAL DESCRIPTION OF PROPERTY

A certain parcel of land situated in Woburn, in the County of Middlesex, Commonwealth of Massachusetts, being shown on plan entitled "Plan of Land, Woburn, Mass.", dated May 11, 1957, by Harry R. Feldman Inc., Engineers, recorded with Middlesex South District Registry of Deeds, Book 8957, Page 65, and being further bounded and described as shown on said plan as follows:

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WESTERLY	by said Washington Street, by three bounds totaling five hundred sixty-eight and 36/100 (568.36) feet;
NORTHERLY	by land now or formerly of Carlson, one thousand forty-six and 75/100 (1046.75) feet;
NORTHEASTERLY	by land of owners unknown, two hundred thirty-two (232) feet;
SOUTHEASTERLY	by land of owners unknown, two hundred eight-six and 97/100 (286.97) feet;
NORTHEASTERLY	again, by land of owners unknown, one hundred two (102) feet, said line being through the center line of a brook; and
SOUTHERLY	by land now or formerly of Anderson, by two bounds totaling nine hundred and eighty-three and 10/100 (983.10) feet;

Excepting therefrom the following parcel conveyed by W. R. Grace & Co. to William S. Cummings by Deed dated October 18, 1971, recorded in Book 12113, Page 232:

A triangular parcel of land in Woburn, Middlesex County, Massachusetts bounded and described as follows:

EASTERLY	by land of William S. Cummings and Joyce M. Cummings, one hundred two (102.00) feet, N 23° 35'33" W;
SOUTHWESTERLY	one hundred twenty-eight and 32/100 (128.32) feet, S 87° 37'58" E;
SOUTHWESTERLY	eight and 24/100 (8.24) feet, S 87° 59'29" E; and
NORTHWESTERLY	one hundred twenty-nine and 88/100 (129.88) feet, by land of W. R. Grace & Co.

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EXHIBIT B

U.S. ENVIRONMENTAL PROTECTION AGENCY



Waste Site Cleanup & Reuse in New England

Serving Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont & 9 Tribal Nations

<u>EPA Home > EPA New England > Cleanup > Find NE Sites ></u> WELLS G & H

Table of Contents:

EPA NE Home A-Z Index Cleanup Home

Superfund Home Brownfields Home Corrective Action Home Other Cleanups Home Find New England Sites

Advanced Search

Site Type: Long Term/National Priorities List (NPL) ?

WELLS G & H

Woburn, Massachusetts Middlesex County Street Address: ABERJONA RIVER VALLEY

Zip Code:01801CongressionalDistrict(s):07EPA ID #:MAD980732168Site ID #:0100749Site Aliases:



Map this site in Cleanups in My CommunitySite Responsibility:Federal, Potentially Responsible Parties

NPL LISTING HISTO	RY	the share of the state of the s
Proposed Date	12/30/1982	
Final Date	09/08/1983	

Site Description

[Back to Top]

Wells G & H were two municipal wells developed in 1964 and 1967 to supplement the water supply of the City of Woburn. The wells supplied 30 percent of the city's drinking water. In 1979, city police discovered several 55-gallon drums of industrial waste abandoned on a vacant lot near the wells; subsequently these drums were removed. As a result of this discovery, the nearby wells were tested and found to be contaminated. Both of the wells were shut down in 1979 and a supplemental water supply arranged for the city. Five separate properties on the site were found to be the contributing sources of contamination to the aquifer that supplied the water to these two municipal wells. The total Superfund site covers an area of 330 acres. The population of Woburn is approximately 36,600 people. The area surrounding the site is predominantly light industrial and residential. Some nonresidential properties involved in the cleanup are fenced to limit unauthorized access. The site includes commercial and industrial parks, as well as recreational areas and some residential gardens. The Aberjona River flows through the middle of the site. Surface water run-off from the site is directed through drainage systems toward the river and its tributaries.

Threats and Contaminants

[Back to Top]

The groundwater is contaminated with volatile organic compounds (VOCs) including trichloroethylene (TCE) and tetrachloroethylene (PCE). Sediments in the Aberjona River are contaminated with heavy metals such as arsenic. Soil is contaminated with PAHs,

polychlorinated biphynels (PCBs), VOCs, and pesticides. People are at risk if they accidentally touch or swallow contaminated groundwater, soil, or sediments in the Aberjona River. The site is located on land that serves as a recharge area for the aquifer from which the Woburn Municipal Wells G & H historically drew water.

Cleanup Approach

[Back to Top]

The site is being addressed in four stages: immediate actions and three long-term remedial phases focusing on source control and contaminant migration, and cleanup of the aquifer and the Aberjona River.

Response Action Status

[Back to Top]

Immediate Actions One of the potentially responsible parties for site contamination secured their own property with a fence and a guard. Drums containing PCB sludge and soil were removed to an approved facility. One of the potentially responsible parties was required to investigate and remove the pure PCE found in a well on their property.

Under the 1989 Record of Decision (ROD), EPA's selected remedy Source Control and included excavating and incinerating 2,100 cubic yards of Contaminant Migration, Operable contaminated soils on site and backfilling the excavated areas; Unit 1 treating additional contaminated soil in place by extracting soil vapors for treatment and pumping contaminated groundwater from the five source areas and removing the contaminants for treatment. Under the 1991 Consent Decree, EPA negotiated with the potentially responsible parties from four of the five source area properties (UniFirst Corporation, W.R. Grace Company, New England Plastics, and Wildwood Conservation source area properties) to design and construct the remedy at each of their properties. Currently, over 540 million gallons of groundwater has been pumped from the contaminated aquifer and treated, and over 4,700 pounds of contaminants have been removed by the treatment systems. Approximately 200 tons of contaminated soil has also been removed from the site. Treatment technologies conducted on site have included UV-chemical oxidation, catalytic oxidation and carbon adsorption. No on-site incineration was ever performed.

Only low-level volatile organic contaminants remain in soil. A soil vapor extraction system is being used to treat that soil in-place. In March 2003, EPA negotiated an Administrative Order by Consent (AOC) with the potentially responsible party for the fifth source area (Olympia Nominee Trust source area property) for the removal of PCB contaminated soils from the Former Drum Disposal Area (FDDA) portion of their property (west side of river). In 2003, Olympia removed 56 cubic yards of soils contaminated with PCBs, and 5 cubic yards of soils contaminated with PAHs (originally identified in the 1989 ROD). In June 2004, EPA negotiated another AOC with the potentially responsible party of the fifth source area for the cleanup of subsurface soils contaminated with TCE. Under the 2004 AOC, TCE contaminated subsurface soils will be treated in place at the Former Drum Disposal Area by injecting sodium permanganate, a material which destroys TCE by chemical reaction (the treatment is also known as in-situ chemical oxidation), monitor the progress of treatment, document successful cleanup, and revegetate and grade the treatment area.

Central Area, Operable Three of the five potentially responsible parties agreed to investigate the Central Area and the underlying aquifer. Three Unit 2 industrial properties, known as the Southwest Properties (Murphy Waste Oil property, former Whitney Barrel property, and former Aberiona Auto Parts property), are called out as a focus for additional assessment within the Central Area. In February 2006, EPA prepared and released the revised Southwest Properties Baseline Risk Assessment (Southwest BRA). A summary of the contaminants primarily driving risks at the Southwest Properties are summarized as follows: PCBs, Hydrocarbons and Chlorodanes in soil drive human health risks at the former Whitney Barrel property; PCBs in sediments drive human health risks at the Murphy Wetland (includes portions of Murphy Waste Oil and Whitney Barrel properties) and PCBs, Chromium and Lead drive ecological risks at the Murphy Wetland; and TCE, Vinyl Chloride and 1,1,2-Trichloroethane drive human health risks in groundwater throughout the Southwest Properties. A more detailed description of risks can be found in Section 3, 4 and 5 of the Southwest BRA.

Aberjona River Study, Operable Unit 3 The Industri-plex Superfund Site is situated in North Woburn, approximately 1 mile upstream of the Wells G&H Superfund Site. The two Superfund sites are hydraulically connected by the Aberjona River, which begins in Reading, flows south through the Industri-Plex Site, under Route 128, through Wells G&H Site, and continues south eventually discharging into the Mystic Lakes. EPA completed historical aerial analyses of the Industri-plex Superfund Site Operable Unit 2 (North of Route 128) and Wells G&H Superfund Site Operable Unit 3 Aberjona River Study (South of Route 128) in 1998 and 2002, respectively, and evaluated preliminary sediment and surface water data from Industri-plex to the Mystic Lakes. EPA found that the primary contaminants of concerns in surface water and sediments are metals in both the North and South of Route 128. Based upon this information, EPA decided to merge the Wells G&H OU-3, Aberiona River Study data, with the Industri-Plex OU-2 Multiple Source Groundwater Response Plan (MSGRP), and form one comprehensive RI/FS for the entire river system from the Industri-Plex Site to the Mystic Lakes (approximately 6 miles of river). In September 2004, EPA completed the Wells G&H OU-3 Revised Aberjona River Study Baseline Risk Assessment, which identifies potential human health and ecological risks along Wells G&H 38 acre wetland (River Reach 1) and the former Cranberry Bog (portion of River Reach 2) immediately south of the Wells G&H Site due to potential exposures to sediments contaminated with metals (e.g. arsenic). In March 2005, EPA completed the Industri-Plex OU-2 (including Wells G&H OU-3) MSGRP RI. This comprehensive RI describes the contamination and risks along the Halls Brook Holding Area (HBHA) and Aberiona River from Industri-Plex Site to the Mystic Lakes, and how contamination is migrating along the river system. The March 2005 RI merged and refined the baseline risk assessments from Industri-plex to the Mystic Lakes along the Aberiona River. The following summarizes the baseline risks presented to the public and environment: Arsenic and benzene (as well as ammonia) plumes beneath the Industri-plex OU-1 Superfund Site boundary (groundwater) may cause future health risks to people who might come in contact with the water (future industrial/ commercial/ construction worker) within Reach 0; Arsenic and benzene (as well as ammonia) plumes from Industriplex OU-1 contribute to significant environmental risks in the HBHA Pond sediment and deep surface water within Reach 0; High concentrations of arsenic in both surface and deep soils in the Former Mishawum Lake Bed area may cause future health risk to people who come in contact with the soils within Reach 0; High concentrations of arsenic in shoreline sediments in three distinct areas along the Wells G&H Wetland and Cranberry Bog Conservation Area present a current and/or future health risk to people recreating along the shoreline (east side of the 38 acre Wells G&H wetland within Reach 1 near former production well H, west side of the 38 acre Wells G&H wetland within Reach 1 near the railroad tracks and Olympia Source Area Property, and west-central area of the Cranberry Bog Conservation Area within upper Reach 2); and High concentrations of arsenic in deeper interior wetland sediments presents a future risk to people who might come in contact with the sediments (future dredger/ construction worker)

within Reach 0 and 1.

In June 2005, EPA prepared and released the Industri-plex OU-2 (including Wells G&H OU-3) Feasibility Study, and Proposed Plan. Public comment period was held and extended from July 1, 2005 -August 31, 2005. In October, EPA prepared and released a Technical Memorandum - Evaluation of Ammonia and Supplemental Soil Data, a Fact Sheet Supplementing the June 2005 Proposed Plan, and re-opened the public comment period from October 20, 2005 to November 18, 2005. Copies of all the above documents are attached below under the "Reports and Studies" links.

On January 31, 2006, EPA prepared and released Industri-plex OU-2 Record of Decision. The major components to the Industri-plex OU-2 remedy include:

• Dredging and off-site disposal of contaminated sediments in the southern portion of the HBHA Pond; dredging and off-site disposal of contaminated near shore sediments at the Wells G&H Wetland and Cranberry Bog Conservation Area; and restoration of all disturbed areas. This component will address sediments posing unacceptable human health risks for near shore sediments and unacceptable ecological risks for the southern portion of HBHA Pond.

• Use of the northern portion of HBHA Pond as a sediment retention area (primary and secondary treatment cells) that will intercept contaminated groundwater plumes (including arsenic, benzene, ammonia, 1,2-dichloroethane, trichloroethene, naphthalene) from Industri-plex OU-1, treat/sequester contaminants of concern (including arsenic, benzene, ammonia), and minimize downstream migration of contaminants (including arsenic, benzene, ammonia). The primary treatment cell will intercept the contaminated groundwater plumes discharging in the HBHA Pond. The effluent from northern portion of the HBHA Pond (secondary treatment cell outlet) will serve as the surface water compliance boundary, and achieve National Recommended Water Quality Criteria (NRWQC). Sediments which accumulate in the northern portion of the HBHA Pond will be periodically dredged and sent off-site for disposal. Portions of storm water from Halls Brook, which may interfere with the natural treatment processes occurring within the northern portion of the HBHA Pond, will be diverted to the southern portion of HBHA Pond.

• If necessary, In-situ Enhanced Bioremediation of contaminated

groundwater plumes (e.g., benzene) at the West Hide Pile (WHP).

• Construction of an impermeable cap to line stream channels (e.g. New Boston Street Drainway), and to prevent the discharge of contaminated groundwater plumes, contamination of stream sediments, downstream migration of contaminants of concern, and potential impacts to other components of the selected remedy.

• Construction of a permeable cap to prevent contaminated soil erosion (e.g. Area A6), downstream migration of contaminants of concern, and potential impacts to other components of the selected remedy.

• Establishing institutional controls to restrict contact with soils, groundwater, or deeper interior wetland sediments with concentrations above cleanup standards and protect the remedy.

• Construction of compensatory wetlands for any loss of wetland functions and values associated with the selected remedy (e.g. northern portion of HBHA Pond, Halls Brook storm water by-pass, capped stream channels) nearby in the watershed.

• Long-term monitoring of the groundwater, surface water, and sediments, and periodic Five-year Reviews of the remedy.

All the above "Groundwater" response actions are associated with Industri-plex Operable Unit 2 under the 2006 Record of Decision, which is attached below under "Decision Documents" links.

See <u>Industri-plex Superfund Site Update</u> for further information and links.

EPA signed a Consent Decree with the potentially responsible parties in 1991. Four potentially responsible parties agreed to conduct the remedy at their respective properties (addressing four of the five source area properties at the Site). Three of the potentially responsible parties agreed to conduct a study of contamination in the aquifer beneath the Central Area of the site and to assess if other sources exist.

The potentially responsible party for the fifth source area removed 12 and 5 drums under Administrative Orders by Consent (AOC) in 1986 and 1987, respectively. This area of the property is known as the Former Drum Disposal Area (FDDA). In 2003, the potentially responsible party removed approximately 56 cubic yards of PCB contaminated soils from the FDDA under a third AOC, as well as approximately 5 cubic yards of soils contaminated with PAHs. In 2004, the potentially responsible party implemented an EPA

Enforcement Highlights approved work plan to treat subsurface soils contaminated with TCE at the FDDA under a fourth AOC.

In September 2006, EPA issued special notice letters to potentially responsible parties for the cleanup of Industri-plex OU-2 (including Wells G&H OU-3) in accordance with the January 2006 Record of Decision. In February 2008, EPA and U.S. Department of Justice lodged the Industri-plex OU-2 Consent Decree with Bayer CropScience and Pharmacia Corporation. On November 24, 2008, U.S. District Court entered the Industri-plex OU-2 Consent Decree.

Environmental Progress

[Back to Top]

Millions of gallons of contaminated groundwater has been cleaned up. Tons of contaminated soil has been removed from the site for treatment. Treatment of groundwater and low-level soil contamination continues. Fencing of one portion of the Wells G & H site has reduced the potential for exposure to hazardous materials at the site while final cleanup activities are being conducted.

Current Site Status

[Back to Top]

Source Control and Contaminant Migration: Remedial action is well underway in Operable Unit 1. Three groundwater pump-and-treat systems draw contaminated groundwater from the aquifer at three of the source area properties. Two of the systems (UniFirst and W.R. Grace source area properties) are in their eighteenth year of operation and treat groundwater using carbon adsorption. The third system (Wildwood Conservation Corporation (Wildwood) source area property), in its twelfth year of operation, uses a combined pumpand-treat/air sparging/ soil vapor extraction system with carbon adsorption treatment. Another soil vapor extraction system was operated at the fourth source area property (New England Plastics (NEP)) for over a year and successfully cleaned up contaminated soil. Groundwater in that area is being monitored to determine if additional cleanup is needed. In addition to the continuation of cleanup at these four source area properties, PCBs and PAHs contaminated soils were removed from the fifth source area property in 2003. In 2004, EPA reached an agreement with the owner of the fifth source area property (Olympia Nominee Trust (Olympia)) to cleanup subsurface soils contaminated with TCE at the Former Drum Disposal Area of the property. This TCE subsurface soil cleanup continues today. In May 2009, EPA issued draft comments to the WR Grace, UniFirst, NEP and Wildwood source area properties to optimize cleanup efforts. In September 2009, EPA also completed a Five Year Review of the remedy selected under the 1989 ROD that deferred a statement of

protection until addition data is collected near the WR Grace, UniFirst and NEP source area properties. The Settling Defendants are working cooperatively with EPA to address concerns outlined in the May 2009 draft comments and September 2009 Five Year Review Report. In 2010, the Settling Defendants installed shallow monitoring wells near the WR Grace, UniFirst and NEP source area properties to initially evaluate groundwater quality and the potential pathway for vapor intrusion (release of vapors from groundwater upwards towards buildings). In January 2011, EPA released the shallow groundwater results and recommended additional sampling in some buildings near two of the source area properties to evaluate potential risks from intrusion of vapors. In 2011, the Settling Defendants collected two rounds of indoor air and sub-slab soil gas samples from various buildings near UniFirst and WR Grace Source Area properties. In 2012, EPA prepared a Five Year Review Addendum (April 2012) and determined the remedy for operable unit 1 to be protective of human health and the environment. The Five Year Review Addendum concluded: no vapor intrusion pathway risk to nearby residential and commercial properties; continue annual indoor air and sub-slab soil gas sampling at commercial building adjacent to UniFirst Source Area property; expand annual groundwater monitoring by Grace and UniFirst Source Area properties, and design and implement the In-situ Soil Volatilization remedy at UniFirst Source Area property. In summer 2012, 894 tons of soils above the cleanup action levels were removed from WR Grace Source Area Property, as documented in the "Soil Response Action Completion Report," dated July 3, 2013. In May 2014, UniFirst designed the SVE system (dated May 1, 2014), and installed and began SVE operations in November 2014. The UniFirst SVE system continues to operate. In support of future reuse of the WR Grace Source Area property, EPA approved a Soil and Groundwater Management Plan in April 2015 which will help ensure the remedy remains protective during redevelopment.

12

Central Area Aquifer: In February 2006, EPA prepared and released the revised Southwest Properties Baseline Risk Assessment (BRA). In May 2009, EPA issued draft comments to the Settling Defendants outlining the additional data needs and RI/FS progress at the Central Area and Southwest Properties. The Settling Defendants are working cooperatively with EPA to address concerns outlined in the May 2009 draft comments regarding the Southwest Properties. In November 2010, EPA approved a work plan for the Settling Defendants to conduct a focused Supplemental Remedial Investigation at the Southwest Properties. In March 2014, EPA released a final baseline risk assessment for the Southwest Properties. EPA anticipates finalizing the RI/FS in 2015. EPA anticipates further Central Area coordination in 2015.

Aberjona River Study: EPA merged Wells G&H OU-3 Aberjona River Study with the Industri-plex OU-2 comprehensive RI/FS from Industri-plex to the Mystic Lakes. In January 2006, EPA prepared a Record of Decision for Industri-plex OU-2 (including Wells G&H OU-3 Aberjona River Study). In February 2008, EPA and U.S. Department of Justice lodged the Industri-plex OU-2 Consent Decree with Bayer CropScience and Pharmacia Corporation. On November 24, 2008, U.S. District Court entered the Industri-plex OU-2 Consent Decree. In January 2009, EPA approved the Industri-plex OU-2 Surface Water Monitoring Plan. On March 24, 2011, EPA approved the Industri-plex OU-2 Remedial Design Work Plan. Currently, the Industri-plex OU-2 Settling Defendants implemented Lower South Pond sediment removal and restoration in 2014, will implement 100% RD Part 1 in 2015 and 2016, implement 100% RD Part 2 in 2016. (See also the Industri-Plex site)

Site Photos

[Back to Top]

Links to Other Site Information

[Back to Top]

Disclaimer Instructions about PDF

Newsletters & Press Releases:

Press Releases about this project

EPA Merges Two Aberjona River Studies, Spring 2002

EPA Releases Draft Baseline Human Health Risk Assessment for the Aberjona River Study Area, Spring 2003 (887KB) 凸

Aberiona River Study Ecological Risk Assessment, June 2003 (2,424KB) [과

EPA Releases Revised Baseline Risk Assessment for the Aberjona River Study Area, October 2004, (729KB)

Aberjona River Study Comprehensive Multiple Source Groundwater Response Plan Remedial Investigation, April 2005 (3,797KB)

Industri-plex Superfund Site Comment Period Extended to August 31, 2005 Dewey & Olympia Avenue Neighborhood Notice for May 2010 Well Installation Program and May 6, 2010 Public Meeting, April 25, 2010 (610

KB) 2

Public Meeting Presentation Handout, May 6, 2010 (1.08 MB)

Public Meeting Presentation, Recent Groundwater Results and Next Steps at Dewy and Olympic Ave Neighborhood (1.72 MB)

Fact Sheet: June 2012 Site Update, June 13, 2012 (1.14 MB)

Fact Sheet: Soil Vapor Extraction (SVE) Pilot Test at Unifirst Source Area

Property, October 2012 (3.47 MB) 凶

Site Update: Southwest Properties Assessment, May 2014 (1.5 MB) 凸

Federal Register Notices:

Final NPL Listing

Administrative Records:

Administrative Record Index, OU 01 Record of Decision (ROD), September 14, 1989 (1,580 KB)

Administrative Record File for the Record of Decision (ROD), Industriplex Operable Unit 02 (Including Wells G & H Operable Unit 03), January 31, 2006 (index with links to 117 AR documents)

Reports and Studies:

Baseline Human Health and Ecological Risk Assessment Report, Aberjona River Study, September 2004 (opening file is 1.5 MB with links to external PDF files) 凶

Industri-Plex Site Multiple Source Groundwater Response Plan Remedial Investigation Report, Operable Unit 2, March 2005 (opening file is 3,551KB with links to 217 additional PDF files) 凸

Fact Sheet Supplementing the June 2005 Proposed Plan, October 2005 (1.8MB) 凸

Draft Final Feasibility Study (FS) Report, June 2005 (opening file is 1.2MB with link to nine additional PDF files)

Indoor Air Quality and Vapor Intrusion Assessment (VIA), June 1, 2010 (26 MB)

Northeast Quadrant Vapor Intrustion Assessment (VIA) Work Update, October 15, 2010 (549 KB) 凸

Fact Sheet: Vapor Intrusion (VI) Investigation, January 2011 (797 KB) 凸 Soil Management Evaluation and Response Plan, Revision 1, June 19, 2012 (2.69 MB) 凸

Revised Vapor Extraction Pilot Test Work Plan and Quality Assurance Project Plan (QAPP), July 31, 2012 (7.13 MB) 凶

Soil Response Action Completion Report, Revision 1, July 3, 2013 (8.49 MB)

Southwest Properties Baseline Human Health and Ecological Risk Assessment, March 2014 (24.7 MB) 凸

Final Soil and Groundwater Management Plan, April 1, 2015, (9.19 MB)EPA Approval of 05/02/2014 Soil Vapor Extraction (SVE) System DesignReport for the UniFirst Source Area Property, June 10, 2014, (698 KB)

Soil Vapor Extraction (SVE) System Design Report for the UniFirst Source Area Property, May 1, 2014, (9.87 MB) 凸

Decision Documents:

View Records of Decision (RODS) on-line (EPA HQ)Record of Decision Industri-Plex OU 02 (including Wells G & H OU 03),January 31, 2006 (22.5 MB)Second Five Year Review Report, September 30, 2004 (14. 18 MB)Third Five Year Review Report, September 24, 2009 (10.3 MB)Addendum to the Third Five Year Review Report, April 23, 2012 (14.9MB)MB)

Other Links:

<u>NPL Site Narrative at Listing:</u> <u>Site Progress Profile</u> <u>Additional Wells G&H Superfund Site Information</u> <u>Time Critical PRP Removal, Wells G&H - Olympia Property</u> <u>Time Critical Removal, Murphy Property, 263 Salem Street Site</u> <u>Time Critical PRP Removal, John J Riley Site, 228-240 Salem Street</u>

Site Repositories

[Back to Top]

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Contacts

[Back to Top

EPA Remedial Project	Joseph LeMay
Manager:	
Address:	US Environmental Protection Agency
	5 Post Office Sq., Suite 100
	Mail Code OSRR07-4
	Boston, MA 02109 - 3912
Phone #:	617-918-1323
E-Mail Address:	lemay.joe@epa.gov
EPA Community	Emily Bender
Involvement Coordinator	
Address:	US Environmental Protection Agency
	5 Post Office Sq., Suite 100
	Mail Code ORA01-1
	Boston, MA 02109 - 3912
Phone #:	617-918-1037
E-Mail Address:	bender.emily@epa.gov

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Attachment 2