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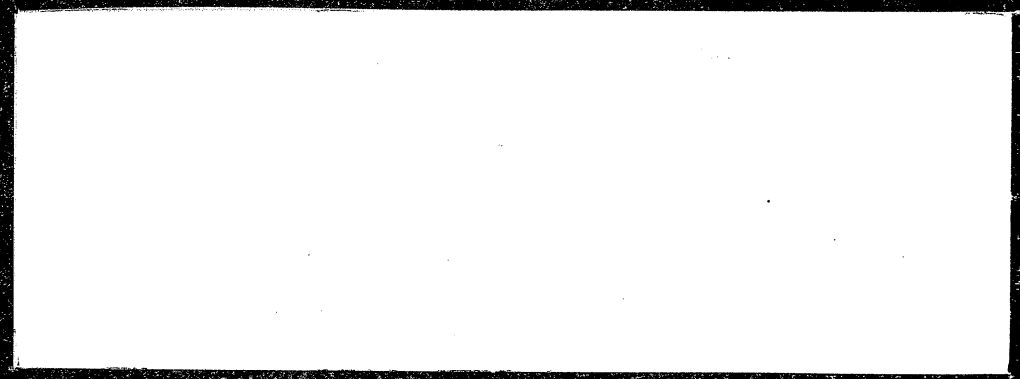

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

RELEASE ABATEMENT MEASURE PLAN
PROPOSED MAXWELL DWORKIN BUILDING
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS

by

Haley & Aldrich, Inc.
Boston, Massachusetts

for

Harvard University
Cambridge, Massachusetts

File No. 12056-020
January 1998

HALEY & ALDRICH

UNDERGROUND
ENGINEERING &
ENVIRONMENTAL
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HALEY & ALDRICH

22 January 1998
File No. 12056-020

Department of Environmental Protection
Northeast Regional Office
10 Commerce Way
Woburn, Massachusetts 01801

Attention: Mr. Richard Chalpin

Subject: Release Abatement Measure Plan
Proposed Maxwell Dworkin Building
Harvard University
Cambridge, Massachusetts
RTN 3-15931

Ladies and Gentlemen:

As part of construction of the proposed Maxwell Dworkin Building, soil will need to be excavated and removed from the subject site. In preparation for this work, Harvard University (under the guidance of Haley & Aldrich) conducted a soil precharacterization program. The purpose of this program was to characterize subsurface conditions and provide data sufficient to assess options for treatment or disposal of contaminated soil which may be encountered during excavation for the basement of the proposed building.

The results of the soil precharacterization program indicated that the existing on-site fill soils contain concentrations of total petroleum hydrocarbons (TPH), semivolatile organic compounds (SVOCs) and total lead which generally exceed the applicable RCS-1 reportable concentrations contained in the Massachusetts Contingency Plan (MCP). The results of this program are summarized in a 17 December 1997 report prepared by Haley & Aldrich entitled "Report on Soil Precharacterization Program, Proposed Maxwell Dworkin Building, Harvard University, Cambridge, Massachusetts" which is enclosed.

Since the volume of contaminated soil to be removed from the site is anticipated to be approximately 3,000 cubic yards, management of the contaminated soil will need to be performed under a Release Abatement Measure (RAM) Plan. Consequently, H&A is submitting this RAM Plan on behalf of the President and Fellows of Harvard College (c/o Faculty of Arts and Sciences, Division of Engineering and Applied Sciences) in compliance with the Massachusetts Contingency Plan (MCP). A copy of the Release Abatement Measure (RAM) Transmittal Form BWSC-106 is provided in Appendix A.

The site has not been tier classified under the MCP; therefore, in accordance with 310 CMR 4.00, a one-time RAM submittal fee of $500.00 is required. A check for $500.00 payable to "The Commonwealth of Massachusetts" and a copy of the first page of the BWSC-106 Form for the subject site have been mailed to the MA DEP by certified mail/return receipt requested. A photocopy of the $500.00 submittal fee check is included with BWSC-106 in Appendix A.

Since this RAM Plan proposes the excavation and off-site removal of over 1,500 cubic yards of contaminated soils, the responsible party undertaking this response action is required to provide a Certification of Financial Assurance as part of the RAM Plan. A copy of this certification is provided in Appendix B.

SITE CONDITIONS

As shown on Figure 1, the site of the proposed Maxwell Dworkin Building is located on the campus of Harvard University immediately west of Oxford Street approximately one block south of Everett Street. More specifically, the proposed building will be located south of Child, Richards and Perkins Halls; north of Pierce Hall; and east of Hauser Hall.

The site of the proposed building currently consists of an open excavation in the area of the now demolished Aiken Building and a paved parking lot area to the east. Existing grades across the site range from approximately El. 29 within the Aiken Building basement excavation to approximately El. 33 immediately north of the demolished building. Elevations in this report reference Cambridge Base Datum.

PROPOSED CONSTRUCTION

Redevelopment of the site includes demolition of an existing structure, which is now complete, and construction of the new Maxwell Dworkin Building. The proposed building will occupy a footprint area of approximately 16,000 sq. ft., and will include four above-grade floor levels and one basement level. The top of the basement slab is to be located at approximately El. 19.

Basement and foundation construction will require excavation to approximately El. 15 (i.e., up to 18 ft below ground surface). It is anticipated that excavation activities will generate approximately 3,000 cubic yards of contaminated soil "urban fill" and approximately 7,000 cubic yards of uncontaminated naturally-deposited sands requiring off-site removal. Based on the results of the soil precharacterization program, only the contaminated fill soils require management under this RAM Plan.

COMPONENTS OF THE RELEASE ABATEMENT MEASURE PLAN

The following sections include the Massachusetts Contingency Plan (MCP) requirements for submittal of a RAM Plan under 310 CMR 40.0444.

Party Assuming Responsibility for Conduct of the RAM and the Project Team

The President and Fellows of Harvard College (c/o Faculty of Arts and Sciences, Division of Engineering and Applied Sciences) is responsible for conducting the RAM Plan. Haley & Aldrich, Inc. will provide consulting and monitoring services and serve as the Licensed Site Professional (LSP) of Record. The names, addresses and telephone numbers of the parties who will coordinate site activities with the contractor during execution of the RAM Plan are:

- President and Fellows of Harvard College
  c/o Faculty of Arts and Sciences, Division of Engineering and Applied Sciences
  29 Oxford Street
  Cambridge, Massachusetts 02138
  Dr. Albert Gold, Associate Dean
  (617) 495-2809

- Haley & Aldrich, Inc.
  465 Medford Street, Suite 2200
  Boston, Massachusetts 02129-1400
  Mr. Keith E. Johnson, LSP
  (617) 886-7318

Objectives and Specific Plans

The objective of this RAM Plan is to manage the excavation and off-site removal of approximately 3,000 cubic yards of contaminated fill soils, which contain concentrations of TPH, SVOCs and total lead in excess of RCS-1 reportable concentrations (contaminated soil), during construction of the Maxwell Dworkin Building. The excavated contaminated fill soils may be temporarily stockpiled on-site prior to off-site removal. Contaminated fill soils that are stockpiled on-site will be placed on and covered with protective polyethylene sheeting. Material required to backfill new foundation walls will likely consist of either on-site, excavated, natural marine sand or imported, "clean" granular fill.

During construction, the Contractor will be required to employ dust control measures to minimize the creation of airborne dust. At a minimum, standard dust control techniques such as watering down the site or spreading hygroscopic salts will be required where heavy equipment will be traveling.

Prior to the start of work, the Contractor will be given the available test information and will be required to prepare a Health & Safety (H&S) Plan in accordance with all local, state and federal laws as well as the requirements of Specification Section 02210 (Health & Safety Requirements). The Contractor will also be responsible for notifying workers involved with on-going construction activities of the project specific H&S Plan and protocols for handling potentially contaminated soils (i.e., appropriate personal protection equipment).

Excavation and off-site removal of contaminated fill soils will be monitored by both the Contractor and a representative of Haley & Aldrich. Removal of contaminated fill soils from the site will comply with the requirements of MCP Section 40.0030 and Specification Section 02220 (Excavated Soil Management Plan). Furthermore, construction equipment which comes in contact with heavily contaminated soil will be cleaned of visible soil prior to being removed from the work area.

Site History

The site is located in a urban area of Cambridge on the campus of Harvard University. Based on our review of Sanborn Maps, the site has been part of Harvard University's property (i.e., Holmes Field area) dating back to at least 1888. During the period 1888 through 1995, at least three different buildings are known to have occupied the site. The buildings consisted of: (1) a small hospital from sometime before 1888 to approximately 1935, (2) the Cambridge Museum for Children during the approximate period of 1935 to 1950, and (3) the Aiken Building during the approximate period of 1950 to the present day. The Aiken Building was demolished during the Summer and Fall of 1997 to make way for the proposed Maxwell Dworkin Building. Currently, the site is an open parcel of land consisting of an approximately 4 ft deep open excavation where the Aiken Building once stood and a parking lot east of the demolished building.

Results of Previous Subsurface Explorations, Sampling and Testing

Previous subsurface explorations for which chemical analyses were conducted on fill soils include: (1) the aforementioned soil precharacterization program; and (2) sampling performed during a Limited Removal Action (LRA). Details regarding each of these programs follow:

- **Soil Precharacterization Program** - A three-phase subsurface exploration program was conducted to collect soil samples for chemical testing as part of the precharacterization program. Phase I of the program consisted of two test pits, designated TP97-1 and TP97-2, excavated in the parking lot area east of the demolished Aiken Building (i.e., east end of the proposed building). Phase II of the program consisted of seven test pits, designated TP1 through TP7, excavated within the footprint area of the demolished Aiken Building (i.e., west end of the proposed building). Phase III of the program consisted of five test borings, designated B101 through B105, drilled primarily in the parking lot area east of the demolished Aiken Building. One test boring B105 was located immediately west of the demolished Aiken Building.

  Locations of the Phase I through III explorations with respect to the proposed Maxwell Dworkin Building are shown on Figure 2. Additional information regarding these explorations are provided in our aforementioned soil precharacterization report.

  Twenty nine soil samples (15 fill and 14 natural sand) were submitted to Matrix Analytical of Hopkinton, Massachusetts for chemical testing. The samples were analyzed for one or more of the following: total petroleum hydrocarbons (TPH-IR and GCFID), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), RCRA 8 total metals,

polychlorinated biphenyls (PCBs), pesticides, waste characteristic parameters and toxicity characteristic leaching procedure (TCLP). The results of these tests are summarized in Tables I through III.

Based on the results of this program, the existing on-site fill soils exhibit concentrations of TPH, SVOCs and total lead which exceed applicable RCS-1 concentrations. Additionally, the soil samples analyzed indicate that the existing fill (except the fill located at test pits TP2 and TP5) and natural sand meet the acceptance criteria for reuse at Massachusetts unlined or lined landfills as outlined in applicable DEP Policy. Due to the elevated SVOC and TPH concentrations of the fill soils at test pits TP2 (Grab Sample G2 location just west of TP2) and TP5, respectively, these materials require excavation, management and off-site disposal separate from the remainder of the contaminated fill soils.

- **Limited Removal Action** - A Limited Removal Action (LRA) was conducted as an early site work package to excavate and remove the contaminated fill soils at TP2 (Grab Sample G2 location just west of TP2) and TP5 prior to the start of "bulk" basement excavation. The purpose of the LRA was to segregate these contaminated fill soils, which could not be disposed of at unlined or lined Massachusetts landfills. Under this LRA, approximately 60 cubic yards of contaminated fill soils were excavated and will be removed from the site within the next week. The contaminated fill soils excavated during the LRA will be taken to American Reclamation Corporation (Amrec) in Charlton, Massachusetts where they will asphalt batched. Transportation of these soils to Amrec will be documented using a Bill-of-Lading executed by the undersigned LSP. Three confirmatory samples of fill were obtained from each of the LRA excavation sidewalls. It should be noted that each LRA excavation was extended down to the top of the "clean", natural marine sand deposit.

  The result of these tests, which are summarized on Table IV, indicate that the SVOC and TPH impacted soils were adequately removed from the site. Locations of the two LRA excavations are shown on Figure 2.

- **Groundwater Monitoring and Testing** - Groundwater levels, as measured by Haley & Aldrich during the test boring portion of the soil precharacterization program, ranged from approximately 13 to 15.5 ft below grade, corresponding to approximately El. 17.7 to 18.7 (Cambridge City Base Datum). Lowering of groundwater levels by up to approximately 4 ft will be required to construct the basement of the proposed building.

  Effluent generated during temporary construction dewatering will be discharged into two new, on-site dry wells to be installed for the proposed building. In the event that the capacity of the dry wells is exceeded during dewatering, the effluent will be discharged into existing MWRA sewers. Haley & Aldrich is currently in the process of obtaining a discharge permit from the MWRA and City of Cambridge. To meet the requirements of the permit application process, Haley & Aldrich obtained four groundwater samples from previously installed observation wells for laboratory chemical testing to assess the groundwater quality. These samples were submitted to Camp Dresser & McKee of Cambridge, Massachusetts and tested for one or more of the following: Volatile Organic

Compounds (VOCs), TPH, 13 Priority Pollutant Metals, Acid/Base Neutral Compounds (ABNs), pH and total suspended solids. The results of these tests, which are summarized in Table V, indicate that RCGW-2 concentrations were not exceeded for any of the tested constituents.

Environmental Monitoring Plan

Although the RAM will be executed within an urban setting, residential structures (i.e., college dormitories) are located within 500 ft of the proposed excavation areas and the immediate campus area will remain open during construction. However, access to the construction site will be restricted to authorized persons only during execution of RAM activities. A perimeter chain-link fence has already been constructed around the entire project site.

Haley & Aldrich will periodically obtain and screen samples of the contaminated fill soils during basement excavation. This screening will be conducted using a HNu photoionization detector (PID). No air monitoring is currently planned at the perimeter of the excavation. Haley & Aldrich will also be monitoring concentrations of air-borne dust generated during RAM earthwork activities.

A RAM Status Report or a RAM Completion Statement will be submitted in accordance with the schedule indicated in 310 CMR 40.0440. A RAO Statement will be submitted upon completion of the work.

Required Permits for the RAM

All work will be undertaken on the property, which is owned by Harvard University, as part of on-going construction of the proposed Maxwell Dworkin Building. There are no other Federal, State, or local approvals or permits likely to be required for execution of the RAM. As previously discussed, Haley & Aldrich is in the process of obtaining a temporary construction dewatering permit from the MWRA and City of Cambridge in the event that discharge of groundwater into existing MWRA sewer lines is necessary during construction.

Financial Assurance

The proposed RAM involves the excavation and off-site removal of more than 1,500 cubic yards of existing on-site fill soils with concentrations of TPH, SVOCs and total lead which exceed applicable RCS-1 reportable concentrations. Therefore, in accordance with Section 40.0442(4) of the MCP, acknowledgment of the financial impacts and demonstration of sufficient financial reserves is required. The President and Fellows of Harvard College (c/o Faculty of Arts and Sciences, Division of Engineering and Applied Sciences) has been informed of the costs to complete the work described in the RAM. These costs are estimated to be approximately $86,000. Monies to adequately cover the costs associated with the implementation of the RAM are available. In the event the costs are found to exceed $86,000, additional assurance will be

provided by the President and Fellows of Harvard College (c/o Faculty of Arts and Sciences, Division of Engineering and Applied Sciences). A statement providing the certification of knowledge and financial resources executed by the President and Fellows of Harvard College (c/o Faculty of Arts and Sciences, Division of Engineering and Applied Sciences) is attached to BWSC-106. A copy of this certification is also included in Appendix B.

Please call if you have questions or require additional information.

Sincerely yours,
HALEY & ALDRICH, INC.

John T. Difini	Keith E. Johnson, LSP	for Thomas K. Liu
Senior Engineer	Senior Engineer	Principal

cc: Dr. Albert Gold (Harvard University)
Mr. Thomas Murray (The Casali Group, Inc.)

Enclosures: Table I - Summary of Soil Quality Data - Phase I Explorations
Table II - Summary of Soil Quality Data - Phase II Explorations
Table III - Summary of Soil Quality Data - Phase III Explorations
Table IV - Summary of Soil Quality Data - Limited Removal Action
Table V - Summary of Groundwater Quality Data
Figure 1 - Project Locus
Figure 2 - Subsurface Exploration Location Plan
Appendix A - Release Abatement Measure Plan Transmittal Form BWSC-106
Appendix B - Certification of Financial Assurance

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TABLE I SUMMARY OF SOIL QUALITY DATA - PHASE I EXPLORATIONS

PROPOSED MAXWELL DWORKIN BUILDING (RTN 3-15931)
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS
FILE NO. 12056-020

SAMPLE DESIGNATION	TP97-1(S1)	TP97-1(S2)	TP97-2(S1)		
SAMPLING DATE	10-Jul-97	10-Jul-97	10-Jul-97	REUSE CRITERIA (mg/kg)	
SAMPLE DEPTH (feet)	3 - 7	11 - 13	1 - 5	LANDFILL TYPE	
SAMPLE TYPE	Fill	Marine Sand	Fill	LINED	UNLINED
TOTAL METALS (mg/kg)					
Arsenic	1.6	ND	1.3	40	40
Barium	12	8	17	NA	NA
Chromium	3	ND	ND	1000	1000
Lead	6.6	2.1	10	2000	1000
Mercury	ND	ND	0.5	10	10
VOCs (mg/kg)					
Naphthalene	ND	ND	0.074		
Tetrachloroethene	ND	0.016	ND		
TOTAL VOCs (mg/kg)	ND	0.016	0.074	10	4
SVOCs (mg/kg)					
Benzo (b) Fluoranthene	ND	ND	0.13		
2-Methyl Naphthalene	ND	ND	0.22		
1-Methyl Naphthalene	ND	ND	0.18		
Naphthalene	ND	ND	0.76		
TOTAL SVOCs (mg/kg)	ND	ND	1.29	100	100
TPH-IR (mg/kg)	32	28	60	5000	2500

NOTES AND ABBREVIATIONS:

1. Laboratory chemical testing performed by Matrix Analytical, Inc. of Hopkinton, Massachusetts.
2. VOC: volatile organic compounds; SVOC: semi-volatile organic compounds; TPH: total petroleum hydrocarbons.
3. This table includes only those compounds with test results above applicable test detection limit.
4. mg/kg: milligrams per kilogram or parts per million.
5. "ND" indicates compound not detected above applicable test detection limit.
6. "NA" indicates not applicable.

TABLE II SUMMARY OF SOIL QUALITY DATA - PHASE II EXPLORATIONS

PROPOSED MAXWELL DWORKIN BUILDING (RTN 3-15931)
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS
FILE NO. 12056-020

SAMPLE DESIGNATION	TP1 (G1)	TP2 (G2)	TP1&2	TP3	TP4	TP3&4	TP5	TP6	TP7	TP6&7		
SAMPLING DATE	02-Sep-97	02-Sep-97	02-Sep-97	02-Sep-97	02-Sep-97	02-Sep-97	02-Sep-97	02-Sep-97	02-Sep-97	02-Sep-97	REUSE CRITERIA (mg/kg)	
SAMPLE DEPTH (feet)	2-3 (*)	2-3 (*)	3-5	0.5-1	2-5	4-10	0.5-1	0-1	2-3	4-10	LANDFILL TYPE	
SAMPLE TYPE	Fill	Fill	Marine Sand	Fill	Fill	Marine Sand	Fill	Fill	Fill	Marine Sand	LINED	UNLINED
VOCs (mg/kg)												
Methylene Chloride	ND	ND	0.006	0.085	0.029	0.006	ND	ND	0.032	ND		
TOTAL VOCs (mg/kg)	ND	ND	0.006	0.085	0.029	0.006	ND	ND	0.032	ND	10	4
SVOCs (mg/kg)												
Acenaphthene	ND	11	ND	ND	0.13	ND	0.16	0.17	ND	ND		
Anthracene	ND	16	ND	1.1	0.22	ND	0.33	0.36	0.16	ND		
Benzo(a)anthracene	0.28	23	ND	2	0.54	ND	0.74	0.76	0.39	ND		
Benzo(b)fluoranthene	0.4	20	ND	2	0.61	ND	0.93	1	0.51	ND		
Benzo(k)fluoranthene	0.15	8.7	ND	0.79	0.24	ND	0.3	0.31	0.19	ND		
Benzo(a)pyrene	0.31	15	ND	1.5	0.47	ND	0.65	0.68	0.33	ND		
Benzo(g,h,i)perylene	0.2	ND	ND	ND	0.24	ND	0.27	0.28	0.16	ND		
Chrysene	0.29	21	ND	1.9	0.53	ND	0.67	0.74	0.39	ND		
Fluoranthene	0.53	49	ND	3.9	1.1	ND	1.6	1.5	0.77	ND		
Fluorene	ND	10	ND	ND	ND	ND	0.14	0.15	ND	ND		
Indeno(1,2,3-cd)pyrene	0.18	6.6	ND	0.76	0.23	ND	0.28	0.28	0.16	ND		
2-Methyl Naphthalene	ND	6.1	ND	ND	ND	ND	ND	ND	ND	ND		
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	0.15	ND		
Phenanthrene	0.29	54	ND	3.9	0.82	ND	1.2	1.3	0.72	ND		
Pyrene	0.48	41	ND	3.2	0.97	ND	1.3	1.4	0.7	ND		
TOTAL SVOCs (mg/kg)	3.11	281.4	ND	21.05	6.1	ND	8.57	8.93	4.63	ND	100	100
TOTAL METALS (mg/kg)												
Arsenic	3.1	9.1	1.5	26	5.2	1.6	3.3	3.7	2.7	1.3	40	40
Barium	18	52	5	50	76	6	22	34	32	4	NA	NA
Chromium	7	6	2	4	12	3	6	10	10	ND	1000	1000
Lead	140	64	2	31	330	3.6	66	94	120	1.8	2000	1000
Mercury	0.4	0.2	ND	0.2	0.5	ND	0.4	0.3	0.6	ND	10	10
Selenium	ND	ND	ND	0.8	ND	ND	ND	ND	ND	ND	NA	NA
TOTAL PCBs (mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2	<2
PESTICIDES (mg/kg)												
Chlordane	ND	0.2	ND	ND	ND	ND	ND	0.49	ND	ND	1	1
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	0.21	ND	30	30
FLASH POINT (deg. F)	>165	>165	>165	>165	>165	>165	>165	>165	>165	>165		
pH	6.1	11.4	7.2	8.5	7.9	6.9	7.9	7.6	7.0	7.7		
CYANIDE/SULFIDE (mg/kg)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
TCLP (mg/l)												
Lead	0.066	—	—	—	0.552	—	—	0.045	0.044	—	5.0	5.0
TPH-GCFID (mg/kg)	390	1000	ND	190	770	21	2600	790	290	8	5000	2500
Carbon Range	C14-C40	C8-C40	C8-C40	C8-C40	C8-C40	C8-C40	C8-C40	C8-C40	C8-C40	C8-C40		

NOTES AND ABBREVIATIONS:

1. Laboratory chemical testing performed by Matrix Analytical, Inc. of Hopkinton, Massachusetts.
2. VOC: volatile organic compounds; SVOC: semi-volatile organic compounds; PCB: polychlorinated biphenyls; TPH: total petroleum hydrocarbons; TCLP: toxicity characteristic leaching procedure.
3. This table includes only those compounds with test results above applicable test detection limits.
4. mg/kg: milligrams per kilogram or parts per million.
5. "ND" indicates compound not detected above applicable test detection limit.
6. "NA" indicates not applicable.
7. "(*)" indicates sample obtained from sidewall of basement excavation adjacent to test pit. Depth references existing ground surface adjacent to basement excavation which was approximately 4 ft higher than the excavated basement elevation.
8. "—" indicates parameter not tested.

TABLE III SUMMARY OF SOIL QUALITY DATA - PHASE III EXPLORATIONS

PROPOSED MAXWELL DWORKIN BUILDING (RTN 3-15931)
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS
FILE NO. 12056-020

SAMPLE DESIGNATION	B101(S1/S2)	B101(S3/S4/S5)	B101(S9)	B102(S1)	B102(S2)	B102(S3/S4)	B-102(S5)	B103(S1)	B103(S2)	B103(S5)	B104(S1)	B104(S2/S3)	B104(S5)	B105(S1)	B105(S2/S3)	B105(S5)	REUSE CRITERIA (mg/kg)	
SAMPLING DATE	20-Oct-97	20-Oct-97	20-Oct-97	21-Oct-97	21-Oct-97	21-Oct-97	22-Oct-97	20-Oct-97	20-Oct-97	21-Oct-97	21-Oct-97	21-Oct-97	21-Oct-97	22-Oct-97	22-Oct-97	22-Oct-97	LANDFILL TYPE	
SAMPLE DEPTH (feet)	0.5 - 4.5	4.5 - 10.5	20.0 - 22.0	0.5 - 2.5	2.5 - 4.5	4.5 - 12.0	14.0 - 16.0	0.5 - 2.5	2.5 - 4.5	14.0 - 16.0	0.5 - 2.5	2.5 - 7.0	14.0 - 16.0	0.0 - 2.0	4.0 - 12.0	17.0 - 19.0		
SAMPLE TYPE	Fill	Marine Sand	Marine Sand	Fill	Marine Sand	Marine Sand	Marine Sand	Fill	Fill	Marine Sand	Fill	Marine Sand	Marine Sand	Fill	Marine Sand	Marine Sand	LINED	UNLINED
VOCs (mg/kg)																		
Benzene	ND	ND	ND	ND	ND	ND	ND	0.042	ND	ND	ND	ND	ND	ND	ND	ND		
Methylene Chloride	0.044	0.008	0.009	0.09	0.008	0.008	0.01	0.078	0.046	0.009	0.008	0.008	0.009	0.039	0.007	0.009		
TOTAL VOCs (mg/kg)	0.044	0.008	0.009	0.09	0.008	0.008	0.01	0.12	0.046	0.009	0.008	0.008	0.009	0.039	0.007	0.009	10	4
SVOCs (mg/kg)																		
Bis(-2-Ethyl Hexyl) Phthalate	1.7	—	—	ND	—	—	—	ND	—	—	1.6	—	—	2.7	—	—		
Fluoranthene	ND	ND	—	ND	ND	ND	—	ND	ND	—	ND	ND	—	1.5	ND	—		
Phenanthrene	ND	ND	—	ND	ND	ND	—	ND	ND	—	ND	ND	—	1.7	ND	—		
Pyrene	ND	ND	—	ND	ND	ND	—	ND	0.12	—	ND	ND	—	1.2	ND	—		
TOTAL SVOCs (mg/kg)	1.7	ND	—	ND	ND	ND	—	ND	0.12	—	1.6	ND	—	7.1	ND	—	100	100
TOTAL METALS (mg/kg)																		
Arsenic	2.1	1.5	—	5	0.7	1.0	—	3.5	1.3	—	5.0	0.9	—	5.5	1.0	—	40	40
Barium	16	6.5	—	26	3	5.7	—	39	17	—	28	11	—	34	5.6	—	NA	NA
Chromium	10	2.2	—	5.1	2.8	ND	—	7.7	7.4	—	5.4	3.9	—	4.8	2.5	—	1000	1000
Lead	140	ND	—	78	ND	ND	—	170	36	—	78	ND	—	250	ND	—	2000	1000
Mercury	0.6	ND	—	0.6	ND	ND	—	1.0	0.2	—	0.8	0.1	—	2.2	ND	—	10	10
Silver	ND	ND	—	ND	ND	ND	—	ND	ND	—	ND	ND	—	2.3	ND	—	NA	NA
TOTAL PCBs (mg/kg)	ND	ND	—	ND	ND	ND	—	ND	ND	—	ND	ND	—	ND	ND	—	<2	<2
PESTICIDES (mg/kg)																		
4,4-DDT	ND	ND	–	ND	ND	ND	–	ND	ND	–	ND	ND	–	0.14	ND	–	2	2
Methoxychlor	ND	ND	–	0.65	ND	ND	–	ND	ND	–	ND	ND	–	ND	ND	–	30	30
FLASH POINT (deg. F)	>165	>165	—	>165	>165	>165	—	>165	>165	—	>165	>165	—	>165	>165	—		
pH	6.4	6.7	—	7.3	5.7	6.0	—	7.5	6.9	—	7.7	5.8	—	7.3	6.9	—		
CYANIDE/SULFIDE (mg/kg)	ND	ND	—	ND	ND	ND	—	ND	ND	—	ND	ND	—	ND	ND	—		
TCLP (mg/l)																		
Lead	0.596	—	—	—	—	—	—	0.21	—	—	—	—	—	1.07	—	—	5.0	5.0
TPH-GCFID (mg/kg)	130	8.7	—	680	23	15	—	1300	59	—	110	22	—	68	7	—	5000	2500
Carbon Range	C8-C40	C8-C40	—	C8-C40	C8-C40	C8-C40	—	C8-C40	C8-C40	—	C8-C40	C8-C40	—	C8-C40	C8-C40	—	NA	NA

NOTES AND ABBREVIATIONS:

1. Laboratory chemical testing performed by Matrix Analytical, Inc. of Hopkinton, Massachusetts.
2. VOC: volatile organic compounds; SVOC: semi-volatile organic compounds; PCB: polychlorinated biphenyls; TPH: total petroleum hydrocarbons; TCLP: toxicity characteristic leaching procedure.
3. This table includes only those compounds with test results above applicable test detection limits.
4. mg/kg: milligrams per kilogram or parts per million.
5. "ND" indicates compound not detected above applicable test detection limit.
6. "NA" indicates not applicable.
7. "—" indicates parameter not tested.

TABLE IV SUMMARY OF SOIL QUALITY DATA - LIMITED REMOVAL ACTION

PROPOSED MAXWELL DWORKIN BUILDING (RTN 3-15931)
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS
FILE NO. 12056-020

SAMPLE DESIGNATION	GS-1	GS-2	GS-3	GS-4	GS-5	GS-6		
SAMPLING DATE	09-Jan-98	09-Jan-98	09-Jan-98	09-Jan-98	09-Jan-98	09-Jan-98	REUSE CRITERIA (mg/kg)	
SAMPLE DEPTH (feet)	1-1.5	3-4	3-4	0-1.5	0-1.5	0-1.5	LANDFILL TYPE	
SAMPLE TYPE	Fill	Fill	Fill	Fill	Fill	Fill	LINED	UNLINED
SVOCs (mg/kg)								
Acenaphthene	<1.9	<0.6	<0.59	---	---	---		
Acenapthylene	<1.9	<0.6	<0.59	---	---	---		
Anthracene	<1.9	<0.6	<0.59	---	---	---		
Benzo(a)anthracene	<1.9	0.74	<0.59	---	---	---		
Benzo(b)fluoranthene	<1.9	<0.6	<0.59	---	---	---		
Benzo(k)fluoranthene	<1.9	<0.6	<0.59	---	---	---		
Benzo(a)pyrene	<1.9	0.67	<0.59	---	---	---		
Benzo(g,h,i)perylene	<1.9	<0.6	<0.59	---	---	---		
Chrysene	<1.9	0.82	<0.59	---	---	---		
Dibenz(a,h)anthracene	<1.9	<0.6	<0.59	---	---	---		
Fluoranthene	<1.9	1.7	1.1	---	---	---		
Fluorene	<1.9	<0.6	<0.59	---	---	---		
Indeno(1,2,3-cd)pyrene	<1.9	<0.6	<0.59	---	---	---		
2-Methyl Naphthalene	<1.9	<0.6	<0.59	---	---	---		
Naphthalene	<1.9	<0.6	<0.59	---	---	---		
Phenanthrene	<1.9	1.6	1	---	---	---		
Pyrene	<1.9	1.5	0.96	---	---	---		
TOTAL SVOCs (mg/kg)	<32.3	<13.63	<11.32	---	---	---	100	100
TPH-GCFID (mg/kg)	880	<86	<87	340	<85	<86	5000	2500
Carbon Range	C10-C28+	NONE	NONE	C10-C28+	NONE	NONE		

NOTES AND ABBREVIATIONS:

1. Laboratory chemical testing performed by Camp Dresser & McKee Inc. of Cambridge, Massachusetts.
2. SVOC: semi-volatile organic compounds; TPH: total petroleum hydrocarbons.
3. mg/kg: milligrams per kilogram or parts per million.
4. "---" indicates compound not tested for.
5. "NA" indicates not applicable.

TABLE V SUMMARY OF GROUNDWATER QUALITY DATA

PROPOSED MAXWELL DWORKIN BUILDING (RTN 3-15931)
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS
FILE NO. 12056-020

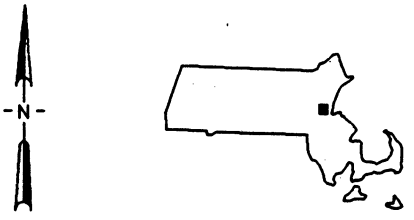
SAMPLE DESIGNATION	B101(OW)	B103(OW)	B103(OW)	B105(OW)
SAMPLING DATE	27-Oct-97	27-Oct-97	15-Jan-98	27-Oct-97
VOC (ug/L)				
Bromodichloromethane	ND	2.1	---	ND
2-Butanone	ND	42	---	ND
Chloroform	ND	6.4	---	ND
cis-1,2-Dichloroethene	1.1	2.6	---	ND
Tetrachloroethene	40	55	---	9.9
Trichloroethene	1.0	1.0	---	ND
Acetone	ND	130	---	ND
TPH (mg/L)	ND	ND	---	ND
TSS (mg/L)	2500	2400	---	2700
ABN (ug/L)	---	---	ND	---
METALS (ug/L)				
Antimony	---	---	ND	---
Arsenic	---	---	ND	---
Cadmium	---	---	ND	---
Chromium	---	---	ND	---
Copper	---	---	5.9	---
Lead	---	---	ND	---
Mercury	---	---	ND	---
Nickel	---	---	8.3	---
Selenium	---	---	ND	---
Silver	---	---	ND	---
Zinc	---	---	54	---
pH	---	---	6.36	---

NOTES AND ABBREVIATIONS:

1. Laboratory chemical testing performed by Camp Dresser& McKee of Cambridge, Massachusetts.
2. VOC: volatile organic compounds; TPH: total petroleum hydrocarbons; TSS: total suspended solids; and ABN: acid base neutral compounds.
3. This table includes only those VOCs with test results above applicable test detection limits.
4. mg/L: milligrams per liter; ug/L: micrograms per liter.
5. "ND" indicates compound not detected above applicable test detection limit.
6. "---" indicates compound not tested for.

Figures

SITE COORDINATES: 42°22'43"N 71°07'05"W



U.S.G.S. QUADRANGLE: BOSTON SOUTH, MA

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

PROPOSED MAXWELL DWORKIN BUILDING
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS

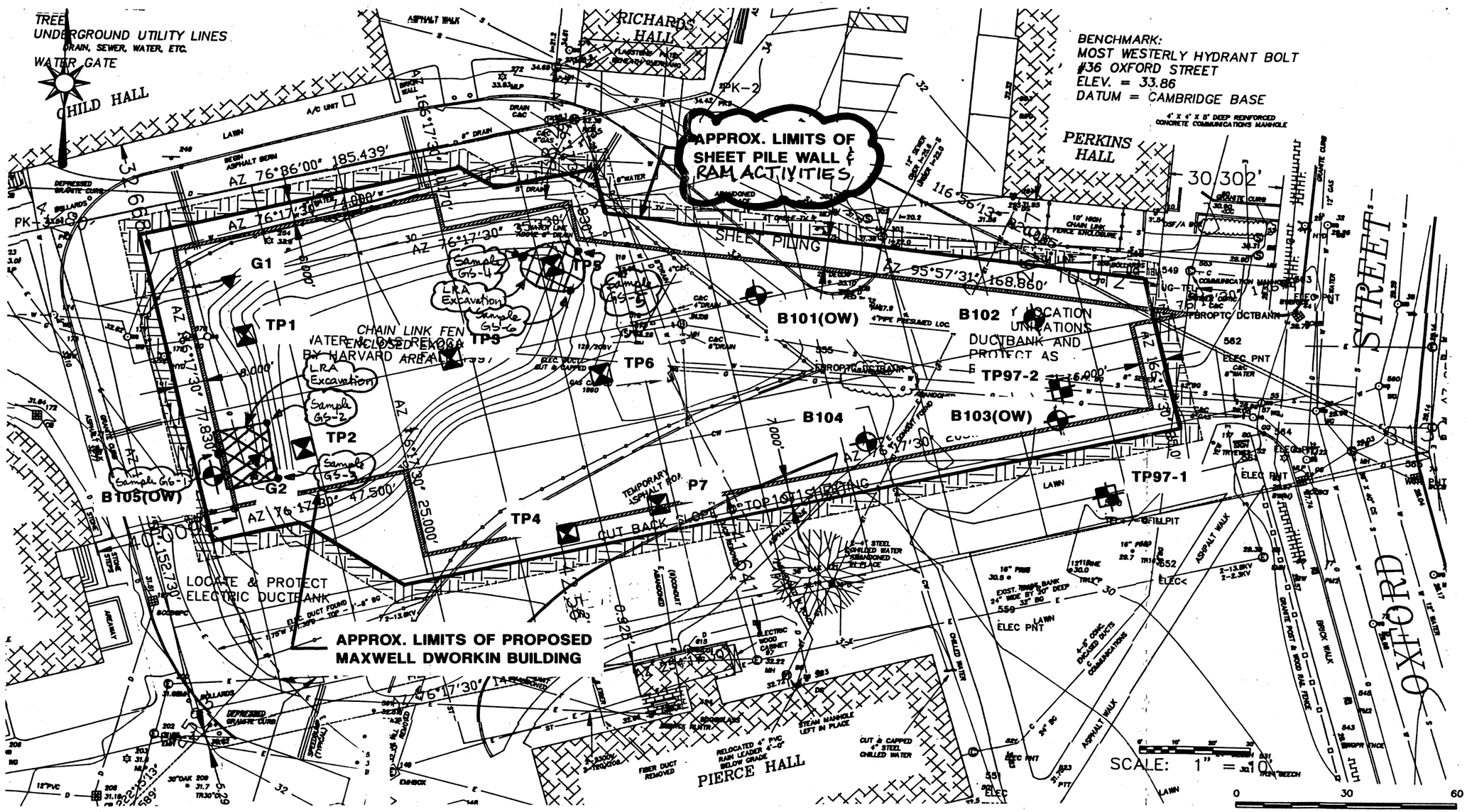
PROJECT LOCUS

APPROXIMATE SCALE: 1:25,000

DECEMBER 1997

12056-000 A01

FIGURE 1



LEGEND:

- TP97-1 — DESIGNATION AND APPROXIMATE LOCATION OF PRELIMINARY TEST PIT EXCAVATED BY JOSEPH P. McCABE, INC. OF SOUTH BOSTON, MASSACHUSETTS ON 10 JULY 1997.
- TP1 — DESIGNATION AND APPROXIMATE LOCATION OF SOIL PRE-CHARACTERIZATION TEST PIT EXCAVATED BY TESTA ON 2 SEPTEMBER 1997.
- G1 — DESIGNATION AND APPROXIMATE LOCATION OF SOIL SAMPLE OBTAINED FROM BASEMENT EXCAVATION SIDEWALL DURING SOIL PRE-CHARACTERIZATION TEST PIT PROGRAM ON 2 SEPTEMBER 1997. REFER TO LOG OF ADJACENT TEST PIT EXCAVATION FOR ADDITIONAL SAMPLING INFORMATION.
- B101 — DESIGNATION AND APPROXIMATE LOCATION OF SOIL PRE-CHARACTERIZATION TEST BORING DRILLED BY CARR-DEE CORP. OF MEDFORD, MASSACHUSETTS DURING THE PERIOD 20 THROUGH 22 OCTOBER 1997.
- (OW) — INDICATES GROUNDWATER OBSERVATION WELL INSTALLED IN COMPLETED TEST BORING.

NOTES:

1. SITE AND SUBSURFACE EXPLORATION LOCATION PLAN PREPARED FROM AN UNDATED BASE PLAN ENTITLED "MAXWELL DWORKIN HALL" BY DANIEL O'CONNELL'S SONS OF BOSTON, MASSACHUSETTS.
2. LOCATIONS OF SUBSURFACE EXPLORATIONS WERE ESTABLISHED IN THE FIELD BY HALEY & ALDRICH, INC. BY TAPING TO EXISTING SITE STRUCTURES.
3. ELEVATIONS SHOWN ARE IN FEET AND REFERENCE CAMBRIDGE CITY BASE DATUM.
4. TECHNICAL MONITORING OF SUBSURFACE EXPLORATIONS WAS PROVIDED BY HALEY & ALDRICH, INC.
5. ADDITIONAL INFORMATION REGARDING SUBSURFACE EXPLORATIONS IS PROVIDED IN THE REPORT TEXT AND ON THE LOGS OF INDIVIDUAL EXPLORATIONS CONTAINED IN THE REPORT APPENDICES.
6. LRA EXCAVATIONS EXTENDED TO TOP OF NATURAL MARINE SAND DEPOSIT.

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

PROPOSED MAXWELL DWORKIN BUILDING
HARVARD UNIVERSITY
CAMBRIDGE, MASSACHUSETTS

SITE AND SUBSURFACE EXPLORATION LOCATION PLAN

SCALE: AS SHOWN

DECEMBER 1997

12056-000 B01

FIGURE 2

Appendix A

APPENDIX A

Release Abatement Measure Plan Transmittal Form BWSC-106

Massachusetts Department of Environmental Protection **BWSC-106**
Bureau of Waste Site Cleanup

COPY

RELEASE & UTILITY-RELATED ABATEMENT MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number: 3 - 15931

A. SITE LOCATION:

Site Name: (optional) Maxwell Dworkin Building

Street: 33 Oxford Street Location Aid: Area bounded by Hauser, Child, Pierce & Richards Halls

City/Town: Cambridge ZIP Code: 02138-0000

☐ Check here if a Tier Classification Submittal has been provided to DEP for this Release Tracking Number.

Related Release Tracking Numbers That This RAM or URAM Addresses: _____

B. THIS FORM IS BEING USED TO: (check all that apply)

☑ Submit a **RAM Plan** (complete Sections A, B, C, D, E, F, J, K, L and M).

☐ Check here if this RAM Plan is an update or modification of a previously approved written RAM Plan. Date Submitted: _____

☐ Submit a **RAM Status Report** (complete Sections A, B, C, E, J, K, L and M).

☐ Submit a **RAM Completion Statement** (complete Sections A, B, C, D, E, G, J, K, L and M).

☐ Confirm or Provide **URAM Notification** (complete Sections A, B, H, K, L and M).

☐ Submit a **URAM Status Report** (complete Sections A, B, C, E, J, K, L and M).

☐ Submit a **URAM Completion Statement** (complete Sections A, B, C, D, E, I, J, K, L and M).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. SITE CONDITIONS:

☑ Check here if the source of the Release or Threat of Release is known.

If yes, check all sources that apply: ☐ UST ☐ Pipe/Hose/Line ☐ AST ☐ Drums ☐ Transformer ☐ Boat ☐ Tanker Truck ☐ Vehicle ☑ Other Specify: Urban Fill Soils

Identify Media and Receptors Affected: (check all that apply) ☐ Air ☐ Groundwater ☐ Surface Water ☐ Sediments ☑ Soil ☐ Wetlands ☐ Storm Drain ☐ Paved Surface ☐ Private Well ☐ Public Water Supply ☐ Zone 2 ☐ Residence ☐ School ☐ Unknown ☐ Other Specify: _____

Identify Release and/or Threat of Release Conditions at Site: (check all that apply)

☐ 2 and 72 Hour Reporting Condition(s) ☑ 120 Day Reporting Condition(s) ☐ Other Condition(s)

Describe: Urban Fill soils impacted by TPH, SVOCs and total lead.

RAMs may be conducted concurrently with an IRA only with written DEP approval
URAMs may not be conducted if any 2 or 72 Hour conditions exist at the site.

Identify Oils and Hazardous Materials Released: (check all that apply) ☑ Oils ☐ Chlorinated Solvents ☑ Heavy Metals ☑ Others Specify: SVOCs

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply)

☐ Assessment and/or Monitoring Only

☑ Excavation of Contaminated Soils

☐ Re-use, Recycling or Treatment

○ On Site ○ Off Site Est. Vol.: 0 cubic yards

Describe: _____

☐ Store ○ On Site ○ Off Site Est. Vol.: 0 cubic yards

☐ Deployment of Absorbant or Containment Materials

☐ Temporary Covers or Caps

☐ Bioremediation

☐ Soil Vapor Extraction

☐ Structure Venting System

☐ Product or NAPL Recovery

SECTION D IS CONTINUED ON THE NEXT PAGE.

RELEASE & UTILITY-RELATED ABATEMENT MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number: 3 15931

D. DESCRIPTION OF RESPONSE ACTIONS (continued):

- [x] Landfill (●) Cover ( ) Disposal Est. Vol.: 3000 cubic yards
- [ ] Removal of Drums, Tanks or Containers
  - Describe: _____
- [ ] Removal of Other Contaminated Media
  - Specify Type and Volume: _____
- [ ] Other Response Actions Describe: _____
- [ ] Groundwater Treatment Systems
- [ ] Air Sparging
- [ ] Temporary Water Supplies
- [ ] Temporary Evacuation or Relocation of Residents
- [ ] Fencing and Sign Posting

See 310 CMR 40.0442 for limitations on the scope and type of RAMs.
See 310 CMR 40.0464 for performance standards for URAMs.

- [ ] Check here if this RAM or URAM involves the use of Innovative Technologies. DEP is interested in using this information to aid in creating an Innovative Technologies Clearinghouse.
  - Describe Technologies: _____

E. TRANSPORT OF REMEDIATION WASTE: (if Remediation Waste has been sent to an off-site facility, answer the following questions)

Name of Facility: _____

Town and State: _____

Quantity of Remediation Waste Transported to Date: _____

F. RAM PLAN:

- [ ] Check here if this RAM Plan received previous oral approval from DEP as a continuation of a Limited Removal Action (LRA).
  - Date of Oral Approval: _____
- [x] If a RAM Compliance Fee is required, check here to certify that the fee has been submitted. You **MUST** attach a photocopy of the payment. See 310 CMR 40.0444(2) to learn when a fee is not required.
- [ ] Check here if the RAM Plan is proposed for a Transition Site. If this is the case, you may need to attach an LSP Evaluation Opinion prior to undertaking the RAM, if not previously provided. See 310 CMR 40.0600 for further information about Transition Sites.

G. RAM COMPLETION STATEMENT:

- [ ] If a RAM Compliance Fee is required in connection with submission of the RAM Completion Statement, check here to certify that the fee has been submitted. You **MUST** attach a photocopy of the payment. You owe this fee when submitting a RAM Completion Statement if you received oral approval of a RAM that continued an LRA, and have NOT previously submitted a RAM Plan and accompanying fee.

If any Remediation Waste will be stored, treated, managed, recycled or reused at the site following submission of the RAM Completion Statement, you must submit a Phase IV Remedy Implementation Plan, along with the appropriate transmittal form, as an attachment to the RAM Completion Statement.

H. URAM NOTIFICATION:

Identify Location Type: (check all that apply) [ ] Public Right of Way [ ] Utility Easement [ ] Private Property

Identify Utility Type: (check all that apply) [ ] Sanitary/Combined Sewerage [ ] Water [ ] Drainage [ ] Natural Gas [ ] Telephone [ ] Steam Lines [ ] Telecommunications [ ] Electric [ ] Other Specify: _____

- [ ] Check here if you provided DEP with previous oral notification of this URAM. Date of Oral Notice: _____
- [ ] Check here if the property owner was NOT contacted prior to initiation of the URAM. If this is the case, you must attach an explanation of why the owner was not contacted, including the date and time when contact ultimately occurred.
- [ ] Check here if this URAM will occur in connection with the construction of new public utilities. If this is the case, document the nature and extent of encountered contamination, the scope and expense of necessary mitigation and the benefits amd limitations of project alternatives.

With the exception stated below, the person undertaking the URAM must provide the name and license number of an LSP engaged or employed in connection with the URAM:

LSP Name: _____ LSP License Number: _____

LSP information is not required if the URAM is limited to the excavation and/or handling of not more than 100 cubic yards of soil contaminated by Oil, or not more than 20 cubic yards of soil contaminated either by a Hazardous Material or a mixture of a Hazardous Material and Oil.

Massachusetts Department of Environmental Protection BWSC-106
Bureau of Waste Site Cleanup

COPY

RELEASE & UTILITY-RELATED ABATEMENT MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number: 3 15931

I. URAM COMPLETION STATEMENT:

☐ Check here if this URAM was limited to the excavation and/or handling of not more than 100 cubic yards of soil contaminated by Oil, or not more than 20 cubic yards of soil contaminated by either a Hazardous Material or a mixture of a Hazardous Material and Oil.

If any Remediation Waste will be stored, treated, managed, recycled or reused at the site following submission of the URAM Completion Statement, you must submit either a Release Abatement Measure (RAM) Plan or a Phase IV Remedy Implementation Plan, along with the appropriate transmittal form, as an attachment to the URAM Completion Statement.

J. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> *if Section B of this form indicates that a **Release Abatement Measure Plan** is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B of this form indicates that a **Release Abatement Measure Status Report** or a **Utility-Related Abatement Measure Status Report** is being submitted*, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B of this form indicates that a **Release Abatement Measure Completion Statement** or a **Utility-Related Abatement Measure Completion Statement** is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Keith E. Johnson LSP #: 9789 Stamp:

Telephone: 617-886-7318 Ext.: 0

FAX: (optional) 617-886-7600

Signature: Keith E Johnson

Date: 1-22-98

An LSP Opinion is not required for a Utility-Related Abatement Measure Notification.

An LSP Opinion is not required for a URAM Completion Statement if the URAM is limited to the excavation and/or handling of not more than 100 cubic yards of soil contaminated by Oil, or not more than 20 cubic yards of soil contaminated either by Hazardous Material or a mixture of Hazardous Material and Oil.

K. PERSON UNDERTAKING RAM OR URAM:

Name of Organization: President & Fellows of Harvard College (c/o Faculty of Arts & Sciences, Division of Engineering & Applied Sciences)

Name of Contact: Dr. Albert Gold Title: Associate Dean

Street: 29 Oxford Street

City/Town: Cambridge State: MA ZIP Code: 02138-0000

Telephone: 617-495-2809 Ext.: 0 FAX: (optional)

☐ Check here if there has been a change in person undertaking the RAM or URAM.

Massachusetts Department of Environmental Protection **BWSC-106**
Bureau of Waste Site Cleanup

COPY

RELEASE & UTILITY-RELATED ABATEMENT MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number: 3 15931

L. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RAM or URAM: (check one)

☑ RP or PRP Specify: ◉ Owner ○ Operator ○ Generator ○ Transporter Other RP or PRP: _____

☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ Any Other Person Undertaking RAM or URAM Specify Relationship: _____

M. CERTIFICATION OF PERSON UNDERTAKING RAM OR URAM:

I, Dr. Albert Gold., attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: _____ Title: Associate Dean
(signature)

For: President & Fellows of Harvard College (c/o Faculty of Arts & Sciences, Div. of Engineering & Applied Sciences) Date: 1/22/98
(print name of person or entity recorded in Section K)

Enter address of person providing certification, if different from address recorded in Section K:

Street: _____

City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: 0 FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

HALEY & ALDRICH

Haley & Aldrich, Inc.
Suite 2200
465 Medford Street
Boston, MA 02129-1400
Tel: 617.886.7400

StateStreet
State Street Bank and Trust Company
Boston, Massachusetts 02101

5-2
110

061052

DATE: 22-Jan-98

AMOUNT: $500.00

VOID AFTER 90 DAYS

PAY TO THE ORDER OF: FIVE HUNDRED DOLLARS
THE COMMONWEALTH OF MASSACHUSETTS

AUTHORIZED SIGNATURE

⑈061052⑈ ⑆011000028⑆ 2939 236 2⑈

Haley & Aldrich, Inc.

061052

RAM PLAN
PROPOSED MAXWELL DWORKIN BUILDING
HARVARD UNIVERSITY
CAMBRIDGE, MA.
RTN 3-15931

Appendix B

APPENDIX B

Certification of Financial Assurance

CERTIFICATION OF FINANCIAL ASSURANCE

Release Abatement Measure
Maxwell Dworkin Building
Harvard University
Cambridge, Massachusetts

I, Albert Gold, attest under the pains and penalties of perjury (i) that, based on my inquiry of those individuals immediately responsible for providing estimates of the volume of material to be excavated and the cost associated with the work to be completed, that the person/entity undertaking the Release Abatement Measure has sufficient financial resources to manage the excavated materials as required by 310 CMR 40.0030, and (ii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Albert Gold
(signature)

Title: Associate Dean

For: President and Fellows of Harvard College (c/o Faculty of Arts & Sciences, Division of Engineering & Applied Sciences)

Date: 1/21/98

F:\12056\020\RAM\CERTIFY.WPF

4

UNDERGROUND
ENGINEERING &
ENVIRONMENTAL
SOLUTIONS

Haley & Aldrich, Inc.
465 Medford Street
Suite 2200
Boston, MA 02129-1400
Tel: 617.886.7400
Fax: 617.886.7600
Email: BOS@HaleyAldrich.com

HALEY & ALDRICH

23 January 1998
File No. 12056-020

Office of the Mayor
City of Cambridge
795 Massachusetts Avenue
Cambridge, Massachusetts 02139

Attention: Ms. Sheila T. Russell, Mayor

and

Cambridge Public Health Commission
1493 Cambridge Street
Cambridge, Massachusetts 02139

Attention: Mr. John O'Brien

Subject: Massachusetts Contingency Plan Subpart N - Public Notice
Release Abatement Measure Plan
Proposed Maxwell Dworkin Building
Harvard University
Cambridge, Massachusetts
RTN 3-15931

On behalf of our client, we are notifying your offices of our intent to implement a Release Abatement Measure (RAM) Plan dated 22 January 1998. According to Subpart N of the Massachusetts Contingency Plan (MCP), notification must include information about the purpose, nature and expected duration of the RAM. This information is presented in the copy of our proposed RAM Plan, which we have provided to you along with this letter of notification. Implementation of the RAM Plan for the construction of the proposed Maxwell Dworkin Building at Harvard University is expected to begin in late February 1998 and should require approximately one year to complete.

This letter and the attached copy of our proposed RAM Plan comprise our notification as required under MCP 310 CMR 40.1403. Please call if you have questions or require additional information.

Sincerely yours,
HALEY & ALDRICH, INC.

John T. Difini
Senior Engineer

Keith E. Johnson, LSP
Senior Engineer

Bruce E. Beverly, S.V.P.
for Thomas K. Liu
Principal

Enclosure: RAM Plan dated 22 January 1998

cc: Mr. Richard Chalpin (DEP) - letter only
Dr. Albert Gold (Harvard University) - letter only
Mr. Thomas Murray (The Casali Group, Inc.) - letter only

F:\12056\020\RAM\RAMNOT.WPF

Consent communication #4 S-81

Communication was received from Haley & Aldrich, notifying the city of their intent to implement a Release Abatement Measure (RAM) Plan dated January 22, 1998 regarding the proposed Maxwell Dworkin Building, Harvard University.

In City Council February 9, 1998

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